

Determination of the psychological resilience levels of handball coaches according to various variables

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Abstract. *Study Objectives:* The study aimed to determine the psychological resilience levels of handball coaches in terms of various variables. *Methods:* The research group consisted of 114 volunteer coaches (51 women - 63 men) who were in Turkey Handball Federation 2017-2018 season in the national team and displacement handball. In the study, a personal information form, the "Resilience Scale" developed by Friborg et al. (2005) and adapted into Turkish by Çetin and Basım (2011) were used to determine the psychological resilience levels of the participants. Independent Sample t-test and One-way ANOVA analysis were used in the analysis of the data through the SPSS package program. *Results:* According to the result of the study, a statistically significant difference was found in the social resources sub-dimension according to the level of the coaches and their working time. *Conclusion:* It was observed that social resources increased depending on the increase in the time spent in coaching and the degree of rank held.

Keywords: Handball, Coach, Psychological Resilience

Introduction

Psychological resilience is one of the most important issues in sports life, as in many areas of our lives. The need for sports arising due to people living in a social and communal framework; Shaping and evaluating the human and sportive performance relationships of managers, athletes, and coaches, the situation which is transformed into a systematic for sports management and organizational needs have revealed the concept of resilience as an important professional value for coaches, managers, and athletes. In the physical and psychological structure of the handball branch, coaches and athletes may sometimes face various challenging factors (sportive performance, intense managerial and fan pressure, and competition) during matches and training. As the name suggests, competition and sporting performance is the ability to struggle against one or more factors. One of these factors is the psychological dimension. For the coaches to apply their athletes'

sportive performances at the highest level, they must be able to cope with the situations that will negatively affect psychologically.

Psychological resilience is a noteworthy concept in positive psychology studies and the field of preventive mental health in recent years. When we look at the researches, it is seen that there have been studies investigating the negative psychological characteristics of individuals and describing them and seeking solutions (1-4). Positive psychology has come to the fore with the process that processes the individual to be healthy and happy and to maintain this situation (5,6). Positive psychology is a science that researches for individuals to adapt to life in the best possible way. It is a field that tries to protect individuals' psychological health through practices that improve individuals' positive aspects, experience, and increase their well-being (7). Positive psychology is a science-based of positive traits in psychology. It focuses on the strengths of individuals (8).

Many individuals need to be strong against life, to be able to overcome difficulties and to continue where they left off. While some individuals have innate psychological resilience, some may acquire this feature later. Coping with adverse events in childhood and making an effort for this increases the psychological resilience of the individual (9). The concept of resilience, defined in various ways in the literature, is derived from the word “resilience”, which is a Latin word meaning to be flexible and elastic. As a concept that is especially concerned with positive psychology, “resilience” in western languages is translated into Turkish in different ways. It has been seen that the word is conceptually used for resilience, self-recovery, psychological resilience, mental resilience, and similar ways (10).

American Psychological Association defined psychological resilience as the adaptation process of people against sources of stress such as distress, trauma, tragedy, and threat. Luthar and Cicchetti (2000) stated that psychological resilience is a process of self-regulation, adaptation to the developing situation, and change despite the stress, distress, and traumas (unexpected situations) experienced by emphasizing the adaptation and changing process (11).

While Southwick et al. (2014) defined the concept of resilience as a general process of success and adaptation in their study (12), Luthans et al. (2007) defined psychological resilience as a person's ability to cope with obstacles, difficulties, uncertainty, and many other negative situations and to be successful (13). In addition, psychological resilience in terms of positive organizational behaviour is defined as the positive psychological capacity of an individual to recover from uncertainty, setbacks, conflict, failure, and increasing responsibility (14). In another definition, resilience is the successful harmonization of processes, capacities, and results despite difficulties and threats (15,16).

Psychological resilience is a way of expressing oneself as a result of situations against positive or negative events for coaches such as club management, training, match performance, athletes and fans, etc. In other words, it is the development of the ability of the coaches to adapt to the negativities brought about by the risky environment and to achieve positive results. In their studies, Ülker Tümlü and Receptoğlu (2013) explained that psychological resilience is the state of

individuals to show a good development despite high-risk situations, to maintain their competence even under stress, and to come out easily from trauma (5). Şahin and Güçlü (2020) expressed psychological resilience in sports as a set of cognitive assessment and behavioural responses. Psychological resilience defined as the love for the work done, keeping the situation under control, eliminating the risks that develop as a result of positive approaches and continuing on the road, which occurs at unexpected moments within a business, a being, and a process, that negatively affects the individual. Moreover, they defined individuals with high psychological resilience as individuals who can look at life more positively, accept conditions and struggle, have a sense of success, and do not give up easily (17).

The understanding of resilience contributes to the formation of behaviours in a way that helps both to identify events and to produce solutions for problems. As a result, psychological resilience can also be explained as a personality trait that emerges as a source of resistance when faced with stressful life events (18).

Considering the above definitions, resilience for coaches can be explained by the following three independent variables:

- To be able to show good development and stance despite high-risk situations for social life, club management, training and sports performance in matches,
- Maintaining competence and control even under stress,
- To have the ability to easily remove the team and himself/herself from trauma in the face of negative events, especially according to the results of matches and training.

When studies on psychological resilience were evaluated, different studies were found on the development of scales and sub-dimensions, and different dimensions were revealed in these studies (19, 20). In their studies, Florian et al. (1995) considered resilience in three dimensions: the presence of risk factors in social life and attachment, control, and challenge. In this study, attachment is defined as an individual's tendency to evaluate and deal with various aspects of life and in different dimensions, while control corresponds to the belief that it can change and affect various situations in

an individual's life (19). Finally, the challenge dimension refers to the individual's sense of change rather than being static and monotonous (18).

The situation of shaping and evaluating the relationships that arise due to individuals living in a social framework and transforming these into a systematic centring on human needs have stated by Friberg et al. (2003), in their research psychological resilience has 5 dimensions, personal strength, structural style, social competence, family harmony and social resources (21).

Coaches with high psychological resilience are people who are aware of their behavioural responsibilities, and who think that they have control over the areas they can change in life and direct themselves to areas where they can be active. The psychological resilience of a coach who runs a team in a sports club consists of six sub-dimensions that work in an interrelated manner. If we briefly explain these dimensions, self-perception; It refers to a person's awareness of himself/herself and basically his/her thoughts about who he/she is. Future perception; In addition to pointing out the individual's perspective towards the future, a positive perspective towards the future plays an important role in the process of resilience (22). While social competence expresses the individual's social adaptation, extroversion, and willingness to engage in social activities, structural style is about the ability of the individual to continue, plan, and organize their daily work. Family harmony, on the other hand, indicates the support that the individual receives from his/her family. Finally, social resources show the social relationships that a person has (23). Besides, dedicated coaches to the team they work with, thanks to their control beliefs, can both direct their team planning and give importance to the goals they can reach. Coaches who have high beliefs that they can change some situations within the team adopt an optimistic and self-confident approach to the ability to overcome problems. One of the factors that make up psychological resilience is dedication (24). These attitudes of individuals towards themselves will cause them to feel stronger and more resilient in stressful situations. For the trained team, the psychologically resilient coaches see change as an opportunity, so they see stress as valuable experiences for their individual development, not threatening their safety. After the events, the behavioural attitudes

followed by the coaches who do not look for guilty in the team and believe that they can create influence and control over the events develop more actively and purposefully. In this way, it can be thought that they will be able to turn to actions that can also affect team practices (technical-tactical) and the course of events. Resistant coaches with these skills have allowed themselves to turn stressful events into opportunities for their own lives.

Psychological resilience has been recognized as one of the most important psychological qualities for achieving perfect performance by coaches who will train men's and women's teams in the national team and displacement handball leagues. It has been concluded that the measurement of psychological resilience is an important value in evaluating and improving the psychological performance of sportspeople in our country. In this context, the psychological resilience levels and psychological resilience of Handball coaches are of great importance in terms of athlete performance. This importance adds a separate dimension to the research in terms of structuring peak performance in sports. In this context, the purpose of this study is to determine the psychological resilience levels of handball coaches in terms of various variables.

Material and Method

Research Model

The study was conducted in a scanning model. Scanning models are a research method designed to examine the past or present in the sample group selected from the universe containing large groups.

Participants

The research group consisted of 262 people, who were active in Turkey Handball Federation 2017-2018 season in the national team handball leagues and displacement of men and women involved in the team that require the participation of coaches I. "Coach Development and Undergraduate Renewal Seminar 29 June - 2 July 2017 - Ankara" (180 persons) / II. "Coach Development and License Renewal Seminar

25 - 27 August 2017 - Ankara" (82 people). During the data collection process in the study, the survey was given to 262 handball coaches voluntarily, and feedback was received from 131 of the given survey forms. The research was conducted on a total of 114 surveys (51 Female - 63 Male), excluding 17 survey forms that were considered to be incomplete and/or erroneous and had extreme values from the data set.

Data Collection Tool

Personal Information Form: Information about gender, age, coaching level, working time, and gender of the training team are given below (Table 1).

Resilience Scale for Adults: The psychological resilience levels of the participants were determined with the 33-statement "Resilience Scale" developed by Friberg et al. (2005). Scale consisted of 6 sub-dimensions: "Self-perception", "Future perception",

"structural style", "social competence", "family harmony" and "social resources" (20). The test-retest reliability and internal consistency of the "Resilience Scale for Adults", which was adapted to Turkish by Çetin and Basım (2011), was investigated, and criterion-dependent validity and confirmatory factor analysis were performed for its validity (22). As a result of the factor analysis, the six-factor structure that coincides with the original scale and includes the dimensions of 'Self-perception', 'Future perception', 'Structural style', 'Social competence', 'Family Harmony' and 'Social resources' has been verified ($\chi^2=1104$, $df=480$, $\chi^2/df=2.3$; $RMSEA=0.055$; $TLI=0.90$; $CFI=0.91$). Social Comparison Scale and Locus of Control Scale were used for criterion validity. It was found that the internal consistency coefficients of the sub-dimensions of the scale varied between 0.66 and 0.81, and test-retest reliability ranged from 0.68 to 0.81.

Table 1. Descriptive statistics related to demographic variables

Variables	Category	n	%
Gender	Female	22	19.3
	Male	92	80.7
Age	18-25	10	8.8
	26-35	26	22.8
	36-45	47	41.2
	46+	31	27.2
Coaching level	1.Level	26	22.8
	2. Level	42	36.8
	3. Level	24	21.1
	4. Level	18	15.8
	5. Level	2	1.8
Working time (Years)	Master Coach	2	1.8
	1-4	26	22.8
	5-9	29	25.4
	10-14	24	21.1
	15-19	17	14.9
Gender of the training team	20-30	12	10.5
	30+	6	5.3
	Female	51	44.7
	Male	63	55.3

Table 2. Normality analysis for the scale and its sub-dimensions

Variables	n	Mode	Median	\bar{X}	SD	Skewness	Kurtosis
PRS Total	114	97.00	98.00	98.16	5.33	0.06	0.14
Self-perception	114	18.00	18.00	17.82	1.88	-0.02	0.99
Future Perception	114	12.00	12.00	11.64	1.28	-0.91	1.13
Structural Style	114	12.00	12.00	11.89	1.88	0.07	0.74
Social Competence	114	18.00	18.00	18.61	2.42	-0.19	1.56
Family Harmony	114	22.00	19.00	19.16	2.63	-0.58	-0.41
Social Resources	114	19.00	19.00	19.04	2.22	0.30	1.53

Statistical Analysis

SPSS 25.0 package program was used to analyse the data obtained in the study. Skewness and kurtosis values were checked to determine whether the data showed normal distribution. These values were checked and evaluated between +2 and -2 (25) (Table 2). As a result of this evaluation, it was seen that the data showed a normal distribution. Accordingly, The Independent Sample t-test was used for two groups and One-way ANOVA analysis was used for comparing more than two groups.

Results

In this section, the analysis results regarding whether there was a statistically significant difference between the gender, age, coaching level, working time and gender of the trained team and psychological resilience sub-dimensions of the coaches participating in the study were given (Table 3, 4, 5, 6, 7).

When Table 3 was examined, it was found that the mean scores of the handball coaches got from the sub-dimensions of the psychological resilience scale did not show a significant difference in terms of gender variable ($p > 0.05$).

When Table 4 was examined, it was found that the mean scores of the handball coaches from the sub-dimensions of the psychological resilience scale were not statistically significant according to the age of the coaches ($p > 0.05$).

When Table 5 was examined, it was determined that there was a statistically significant difference

between the coaching level variable of handball coaches and the level of social resources, which was one of the sub-dimensions of psychological resilience ($F=3.441$; $p=0.006$; $p < 0.05$). It was observed that this difference was between those who had 5th level coaching and those who were master coaching level.

When Table 6 was examined, it was determined that there was a statistically significant difference between the working time variable of handball coaches and the level of social resources, which was one of the sub-dimensions of psychological resilience ($F=2.912$; $p=0.017$; $p < 0.05$). It was observed that this difference was between coaches with a working period of 1-4 years and those with a working period of 31 years and above.

When Table 7 was examined, it was determined that there was a statistically significant difference between the gender variable of the national team that handball coaches trained and the level of self-perception, which was one of the sub-dimensions of psychological resilience ($t= -2.359$; $p=0.020$; $p < 0.05$). Accordingly, it was found that self-perception levels of those whose gender of the team was female ($\bar{x}=17.37$) were lower than those who were male ($\bar{x}=19.19$).

Discussion

In this study, which was conducted to determine whether there is a significant difference between the psychological resilience levels of handball coaches in terms of gender, age, coaching level, working time and the gender of the trained team, and a statistically significant difference was found in the social resources

Table 3. T test results of handball coaches' psychological resilience sub-dimensions according to gender variable

Variables	Gender	n	\bar{X}	SD	t	p
Self-perception	Female	22	17.68	1.67	-0.395	0.693
	Male	92	17.86	1.93		
Future Perception	Female	22	11.86	1.32	0.907	0.366
	Male	92	11.59	1.28		
Structural Style	Female	22	11.64	1.97	-0.715	0.476
	Male	92	11.96	1.87		
Social Competence	Female	22	18.82	3.13	1.409	0.647
	Male	92	18.55	2.23		
Family Harmony	Female	22	19.86	2.08	0.459	0.161
	Male	92	18.99	2.72		
Social Resources	Female	22	18.64	2.24	-0.936	0.351
	Male	92	19.13	2.22		

Table 4. ANOVA results of handball coaches' psychological resilience sub-dimensions by age variable

	Age	n	\bar{X}	SD	F	p
Self-perception	18-25	10	17.70	2.00	0.248	0.862
	26-35	26	17.77	1.42		
	36-45	47	18.00	2.15		
	46 and above	31	17.65	1.80		
Future Perception	18-25	10	11.50	1.43	0.061	0.98
	26-35	26	11.69	1.29		
	36-45	47	11.66	1.18		
	46 and above	31	11.61	1.43		
Structural Style	18-25	10	12.30	2.98	0.627	0.599
	26-35	26	11.54	1.84		
	36-45	47	11.85	1.64		
	46 and above	31	12.13	1.88		
Social Competence	18-25	10	18.50	2.27	0.643	0.589
	26-35	26	18.96	2.52		
	36-45	47	18.74	2.17		
	46 and above	31	18.13	2.74		
Family Harmony	18-25	10	18.30	3.34	1.094	0.355
	26-35	26	19.69	2.38		
	36-45	47	19.34	2.43		
	46 and above	31	18.71	2.84		
Social Resources	18-25	10	19.00	4.22	0.184	0.907
	26-35	26	19.04	2.14		
	36-45	47	19.19	1.96		
	46 and above	31	18.81	1.85		

Table 5. ANOVA results of handball coaches' psychological resilience sub-dimensions according to the coaching level variable

Variables	Coaching Level	n	\bar{X}	SD	F	p	Tukey
Self-perception	1st Level	26	17.42	1.90	0.855	0.514	-
	2nd Level	42	17.86	1.82			
	3rd Level	24	17.83	2.04			
	4th Level	18	18.50	1.79			
	5th Level	2	17.00	0.00			
	Master Coach	2	17.00	2.83			
Future Perception	1st Level	26	11.58	1.33	0.828	0.532	-
	2nd Level	42	11.55	1.40			
	3rd Level	24	11.63	1.21			
	4th Level	18	12.00	0.84			
	5th Level	2	12.50	2.12			
	Master Coach	2	10.50	2.12			
Structural Style	1st Level	26	11.62	2.19	0.527	0.756	-
	2nd Level	42	11.81	1.77			
	3rd Level	24	12.29	1.60			
	4th Level	18	11.78	2.10			
	5th Level	2	13.00	2.83			
	Master Coach	2	12.50	0.71			
Social Competence	1st Level	26	19.19	2.37	0.972	0.438	-
	2nd Level	42	18.48	2.41			
	3rd Level	24	18.83	2.33			
	4th Level	18	17.83	2.66			
	5th Level	2	17.00	1.41			
	Master Coach	2	19.50	2.12			
Family Harmony	1st Level	26	19.08	2.92	0.333	0.892	-
	2nd Level	42	19.21	2.39			
	3rd Level	24	18.96	2.73			
	4th Level	18	19.06	2.88			
	5th Level	2	21.00	1.41			
	Master Coach	2	20.50	2.12			
Social Resources	1st Level ^A	26	18.42	2.87	3.441	0.006*	E>F
	2nd Level ^B	42	19.38	1.85			
	3rd Level ^C	24	18.83	2.06			
	4th Level ^D	18	18.78	1.40			
	5th Level ^E	2	24.50	2.12			
	Master Coach ^F	2	19.00	0.00			

* $p < 0.05$

Table 6. ANOVA results on the psychological resilience sub-dimensions of handball coaches according to the variable working time

Variables	Working time (Years)	n	\bar{X}	SD	F	p	Tukey
Self-perception	1-4	26	17.77	1.45	0.141	0.982	-
	5-9	29	17.79	2.04			
	10-14	24	17.63	2.18			
	15-19	17	18.00	1.94			
	20-30	12	18.08	1.68			
	31 and above	6	18.00	2.28			
Future Perception	1-4	26	11.65	1.13	0.527	0.756	-
	5-9	29	11.52	1.35			
	10-14	24	11.54	1.53			
	15-19	17	11.53	1.12			
	20-30	12	12.17	1.03			
	31 and above	6	11.83	1.60			
Structural Style	1-4	26	12.12	1.73	0.50	0.776	-
	5-9	29	11.90	1.88			
	10-14	24	11.79	1.61			
	15-19	17	11.41	1.58			
	20-30	12	12.42	2.43			
	31 and above	6	11.67	3.27			
Social Competence	1-4	26	18.81	2.26	0.773	0.572	-
	5-9	29	19.14	2.37			
	10-14	24	18.25	2.42			
	15-19	17	18.47	1.81			
	20-30	12	18.42	3.78			
	31 and above	6	17.33	1.21			
Family Harmony	1-4	26	19.04	2.71	0.926	0.467	-
	5-9	29	19.41	2.43			
	10-14	24	18.63	2.73			
	15-19	17	20.00	2.74			
	20-30	12	19.33	2.19			
	31 and above	6	17.83	3.31			
Social Resources	1-4	26	18.27	2.29	2.912	0.017*	F>A
	5-9	29	18.90	2.18			
	10-14	24	19.67	2.04			
	15-19	17	18.41	1.00			
	20-30	12	19.50	1.98			
	31 and above	6	21.33	3.83			

* $p < 0.05$

Table 7. ANOVA results of psychological resilience sub-dimensions according to the variable of national team gender trained by handball coaches

Variables	Trained National Team Gender	n	\bar{X}	SS	t	p
Self-perception	Female	51	17.37	1.67	-2.359	0.020*
	Male	63	18.19	1.97		
Future Perception	Female	51	11.86	1.23	1.677	0.096
	Male	63	11.46	1.31		
Structural Style	Female	51	11.84	1.98	-0.262	0.794
	Male	63	11.94	1.81		
Social Competence	Female	51	19.02	2.50	1.661	0.100
	Male	63	18.27	2.31		
Family Harmony	Female	51	19.06	2.87	-0.361	0.719
	Male	63	19.24	2.43		
Social Resources	Female	51	18.71	2.31	-1.430	0.156
	Male	63	19.30	2.13		

*p<0.05

sub-dimension according to the level and working time of the coaches but there was no statistically significant difference was detected among other variables. In the level variable of the coaches, a statistically significant difference was found between the coach with the 5th level and the coaches whose level was the master coach, and this difference was found to be in favour of the coaches with the 5th level. Moreover, it was observed that the more working time increases, the more social resources of the coaches' increase. This situation was thought to be due to the coaches had positive relationships in their social environment and that their communication was positive. Social resources show the social relations that a person had. Experience in coaching was expressed as an inner focus and a commitment to rise above difficulties when faced with challenges. Psychological resilience enabled the experience of the events encountered with experience in handball sport, better social relations, future planning, and better adaptation to group dynamics. This was seen as one of the most valuable psychological features in determining success in sports.

When different studies conducted in the literature on research variables were examined, Rottensteiner et al. (2015) stated that in another study with the 15-16 age group athletes found that the psychological

resilience levels of coaches and the level of relationship between athletes and coaches were influential in their continuing sports and better in their training (26). In this direction, it was thought that training of youth athletes with high psychological resilience would affect the future performances of the athletes.

There was a need to reconsider the psychometric properties of resilience studies in sample groups of different ages and sports branches. While the social support provided by the athletes to their teammates in team sports positively affects the psychological resilience, the athletes had to provide this themselves in individual branches (27). In future studies, it should be thought that the development of different measurement tools that consider the psychological resilience conceptual framework of individual and team athletes separately may contribute to the literature. Conducting research examining the relationship between the psychological resilience of athletes and other factors (flow, goal orientation, motivation, self-efficacy, etc.) affecting mental performance will improve the literature.

Based on the averages, it was thought that as the professional experiences of the coaches' increase, it enabled them to have a better social relation, to plan for the future, and to adapt better to group dynamics.

Luszkı (1982) stated that successful performance consisted of four fundamentals and these were; physical well-being, skill, experience, and psychological resilience, and mentioned that these fundamentals work together during the performance (28).

As a result of their research, Sarı et al. (2012) claimed that there was a positive relationship between the coaches' positive feedback, social support, training, and behaviour models and the communication skills of the athletes (29). Stornes and Bru (2002) in their research stated that athletes working with coaches with high psychological resilience were positively associated with their prosocial behaviour (30). In this sense, in the relationship between manager, coaches, and athlete, coaches need to have a high level of psychological resilience skills in terms of managing this relationship and advancing it in the right direction. It was probably that this situation would positively affect the performances of the athletes both in terms of team and individual.

Erdoğan (2016) stated in his study that psychological resilience was a mental ability that enabled coaches to cope with the difficulties they encounter during their performances, to control their motivation, concentration, self-confidence, emotions, and thoughts, and to maintain them positively (31). It was thought that clubs and athletes working with coaches with high psychological resilience would make significant contributions to the structuring and efficiency of sportive performance.

This study was the basic starting point of determining the psychological resilience levels of handball coaches were that the coaches have one or more negative experiences in team management and structuring the sportive performance, or the risk factors related to these experiences are side by side with the protective factors and the process of adaptation to the new situation. Measuring the psychological resilience of the coaches, evaluating, and improving mental performance was an important element for the handball branch.

One of the reasons for failure in terms of sports was that the psychological resilience of the athletes was not evaluated sufficiently could be shown as a demonstrable factor. Sports psychologists, coaches, athletes, and fans had also started to gather on a common

denominator about the importance of psychological resilience (32). It was understood from the concepts of psychological resilience in sports that had started to be used frequently in sports media and among sports technical teams (33). The coach was an important role model for an athlete and an effective trigger for her/his development. The success of the athletes who can communicate - relate with their coach at a level that would contribute to sports career and personal development is also increasing. The importance of psychological resilience should not be forgotten from the first years of sportsmanship, especially since the attitudes and behaviours learned at younger ages are also reflected in future years as a habit. In this context, by paying attention to the harmony between the athlete and the coaches, psychological resilience should be one of the behaviours adopted for the athletes as well as the coaches.

The concept of psychological resilience in sports was one of the psychological factors accepted by sports sciences that determine and affect performance in sports. The psychological resilience of the coaches was an important element in the development of in-team sportive performance and at the same time, it was one of the behaviours that affect or hinder the sportive performance. The concept of psychological resilience in sports had a history that had been studied for many years. For the coaches to perform their duties with a high level of performance, their psychological resilience must be at a high level. Psychological resilience was a mental ability that enables coaches and athletes to cope with the difficulties they face during their performances, to control their motivation, concentration, self-confidence, emotions, and thoughts, and to maintain them in a positive way (31).

Gucciardi et al. (2008) conducted a study with Australian elite coaches and experienced athletes in their study they define resilience as "It is a collection of values, attitudes, behaviours, and emotions that allow you to persevere and overcome when faced with any obstacle, difficulty or pressure, as well as maintaining concentration and motivation as things go along to achieve goals consistently" (34). Besides, many researchers thought that resilience was a conceptual framework that included other psychological characteristics that affect sportive performance (35,36).

It was observed that during the training and matches, the athletes learn through interaction with their coach and sports practices and that what they learn to form their sportive performance by interacting with their teammates and practices. Madrigal et al. (2013) stated that psychological resilience, which expressed an internal focus of coaches and their commitment to overcome difficulties when they encounter challenges, was one of the most important psychological characteristics in determining success in sports. However, there was little consensus in coaches about the essential components of psychological resilience. While coaches focused more on elite athletes in training and matches, the current measures taken for sportive efficiency differ a vast scale in training and matches (27).

In a similar study conducted by Terzi (2008) on the determination of the psychological resilience levels of university students according to their gender, the psychological resilience scores of the students did not differ significantly according to gender, and significant positive correlations were obtained between psychological resilience scores and optimism, self-efficacy and problem solving coping strategy scores in the total group, girls and boys. Moreover, it was found that optimism, self-efficacy, and problem-solving-focused coping strategy variables were significant predictors on psychological resilience in the total group, boys and girls (18). It was considered as a normal result for the handball teams in the clubs to jointly structure the goal and target behaviours in terms of sportive performance and efficiency, and it was considered as a normal result that psychological resilience levels did not differ according to gender.

As a result, among the limitations of this study, it was determined that the psychological resilience levels of handball coaches were at a moderate level. It was thought that the psychological level of handball coaches would be an important variable both in reducing the effect of stress and in the effective use of stress coping methods. Coaches with a high level of psychological resilience can recover more quickly from adverse events and return to their social lives with ease. It was thought that the high level of psychological resilience would give the coaches in the handball branch the strength to resilience and fight against the difficulties experienced in social life, training, and matches.

Conclusion

The results obtained from the study, which the psychological resilience levels of the coaches working handball teams were determined; would contribute to academics, federations, sports clubs, sports psychologists and related people working in the basic field of sports sciences; In this way, it was thought that it would make important contributions to the protection and development of the psychological resilience of the coaches and athletes and also to improve their sportive performance. With this study, both players, coaches, and clubs can be informed, and thus, awareness can be raised about the concept of psychological resilience that affects performance. The recommendations developed based on the results of the research were presented below:

- Federations and Sports Training Office should be added to the concept of psychological resilience and developmental practices to the curriculum in Coaches courses, promotion, in-service development seminars, and training programs.
- In the beginning levels of the coaching (1st Stage) courses, psychological resilience levels should be determined and medium and high-level coaches should be preferred. The scope of issues related to resilience should be enriched, especially in the training programs of ground-work coaches.
- All coaches should be informed about psychological resilience in development seminars held at regular intervals for efficiency in training and matches.
- Federations should also include lectures and topics on the concept of resilience and its development in referee training and courses or seminars. Especially, appointments of referees with high psychological resistance in referee appointments in matches with high stress levels by the central referee board will affect the smooth conclusion of the matches. At the same time, the fact that national or international referees perform psychological resilience tests at certain periods will affect the completion of that season without incident and trouble. Referees with low

psychological resilience should be supported with in-service development seminars during the season.

- When athletes work with coaches with high psychological resilience, research should be done on their perceptions of positive contributions to their performance and psychological support. The knowledge and understanding levels of the athletes should be taken into consideration in the studies.

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