

Research Article

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Examining the Optimal Performance Emotional States of Individual Athletes

Ayhan Kayabasi^{ID}, Hüseyin Eroglu^{ID}

Abstract

Background/purpose. In today's sports world, elite athletes and recreational participants can sustain their activities, enhance performance, and remain competitive not only through talent but also through training and psychosocial states. Individuals actively engaged in sports require innovative psychosocial support to achieve their desired outcomes successfully and satisfactorily. Achieving a state of "optimal performance" during athletic activity is considered crucial for completing the activity in a healthy way. The primary objective of this study is to examine the optimal performance emotional states of athletes involved in individual sports disciplines.

Materials/methods. The study used the "Personal Information Form" and the "Optimal Performance State Scale" as data collection tools. The study population consisted of 3,598 individuals actively engaged in individual sports disciplines in the provinces of Hatay, Kahramanmaraş, and Osmaniye, which fall under the Ministry of Development's TR63 regional plan. The sample comprised 356 athletes from this population who met the eligibility criteria. The data were analyzed using SPSS; descriptive statistics (frequency, percentage, mean, and standard deviation) and relational statistics—specifically the t-test and one-way analysis of variance (ANOVA) — were used.

Results. The study found that athletes in individual sports have high levels of self-confidence based on both aptitude and skill. Male athletes showed a clearer understanding of their intentions and desired achievements than female athletes, and they focused on their goals more effectively. Furthermore, the study found that athletes' sports disciplines, years of experience, and status as national team members positively influence the state of mind associated with optimal performance.

Conclusion. This research emphasizes the need to conduct mental training more inclusively and to account for individual differences. It highlights the necessity for rigorous, high-quality research that elucidates athletes' psychosocial levels as well as their situational and trait-like emotional states.

1. Introduction

The recent surge in sports psychology research involving elite athletes and recreational sports participants has highlighted the importance of a positive psychology approach to athletic performance. One key reason for this is the realization that physical capacity alone is not enough to achieve specific athletic goals; psychological factors also play a vital role in improving and maintaining performance, and ultimately achieving success (Weinberg & Gould, 2024). Athletes with high mental toughness can maintain optimal performance under pressure for longer, gaining a competitive advantage over rivals and supporting psychological well-being alongside athletic success. National and international studies show that, beyond physical competencies, psychological variables play a significant role in sustaining exercise participation and enhancing athletic performance. In particular, factors such as a consistent state of optimal performance, motivation and mental toughness significantly affect athletes' performance levels and achievements (Jackson et al., 1998).

Sport is a phenomenon of considerable breadth and diversity in scope and practice, encompassing numerous disciplines such as football, basketball, wrestling, karate, mountaineering, swimming, and sailing. Based on their objectives and modes of practice, sports activities can be classified into performance sports, exhibition sports and events, recreational sports, sports and activities for individuals with disabilities, and sports activities that promote healthy living (Grupe, 1994). Today, sport is regarded as a phenomenon with multifaceted functions at both individual and societal levels. In addition to providing happiness, pleasure, entertainment, play experiences, physical fitness, and performance improvement, sport contributes significantly to health maintenance and quality of life. Furthermore, sport is recognized as a significant social phenomenon that contributes to the development of an individual's body image, the strengthening of their sense of self-efficacy, and the formation of their social identity. Societal modernization, technological advancement, economic structures, and globalization play a decisive role in sport's societal position and in individuals' perspectives on it. Furthermore, the emphasis on physical appearance and growing awareness of healthy living further enhance the value of sport in both individual and societal life (Voigt & Atalay, 1998).

Since the earliest periods of human history, individual physical activities have formed the foundation of sporting activities. Humans engaged in various activities to build physical strength to sustain their lives, meet their nutritional needs, and adapt to environmental conditions. Accordingly, the need to remain physically strong and healthy has been a primary source of motivation for individuals to turn to sporting activities. Over time, these activities ceased to be merely a necessity for survival; they evolved into activities that support individual development, boost self-confidence, and foster a competitive spirit (Doşylmaz & Kayabasi, 2021).

As the modern approach to sports has evolved, athletic activities are generally categorized into two main groups: team sports and individual sports. While both types aim to foster an individual's physical, psychological, and social development, they cultivate distinct psychological, cognitive, and behavioral traits in athletes depending on the sport practiced. The growing impact of sports on individual and societal life today has further highlighted the importance of the relationship between the sports individuals choose and their psychological characteristics (Yıldız et al., 2015). Motivation is a key concept influencing performance in sports psychology. Hagger and Chatzisarantis (2007) define motivation as the psychological process that initiates an individual's behavior, directs it toward a specific goal, and sustains it. Highly motivated individuals participate more actively in sports, sustain their performance longer, and cope more effectively with the challenges they encounter. One prominent concept in explaining the psychological dimension of athletic performance is the flow experience, also known as the optimal performance state (flow state). This state is defined as a psychological condition in which an individual directs full attention to the task at hand during a sporting activity or exercise, is minimally affected by environmental stimuli, experiences an enhanced

sense of control, and performs at the highest level. For this reason, flow is recognized as a fundamental concept for explaining the psychological determinants of performance in sport and exercise psychology. The psychological experiences encountered during athletic activities—and the behavioral outcomes of these experiences—by both individuals exercising for various purposes and performance-oriented athletes constitute significant subjects of research in this field. Such studies show that variables such as the emotional state associated with optimal performance, as well as motivation, mental toughness, and psychological well-being, play a crucial role in enhancing and maintaining athletic performance (Altıntaş et al., 2013; Bayraktar & Kurtoğlu, 2009).

The concept of an optimal performance state was first introduced by Mihaly Csikszentmihalyi in his 1975 work "Beyond Boredom and Anxiety" to explain individuals' participation in leisure activities and the psychological experiences derived from them (Kivikangas, 2006). Csikszentmihalyi defined this experience as "flow" and described it as a psychological state in which the individual is fully focused on the activity being performed, completely immersed in the task, experiences heightened cognitive efficiency, and derives intrinsic pleasure from the activity. According to flow theory, the likelihood of a flow experience increases when an individual's skill level balances the difficulty of the task they are consciously engaged in. In other words, an activity that is challenging to a degree commensurate with the individual's skill level is a key determinant of an optimal performance state (Moneta, 2004). In the context of sports, Csikszentmihalyi views optimal performance as a mental process that results from a balance among athletes' skills, their perceived psychological state, environmental conditions, and the performance demands they encounter (Jackson & Eklund, 2004). During this process, the athlete focuses fully on the task at hand, maintains performance without conscious effort, and develops a strong sense of control over the activity. Furthermore, optimal performance is not merely an indicator of physical output; it also encompasses intrinsic satisfaction and enjoyment that arise when an individual has prepared adequately, possesses the necessary technical and tactical skills, and has developed the competence to meet the performance demands they face. Particularly among elite athletes, combining a high skill level with challenging, complex tasks contributes to a more intense, high-quality state of optimal performance (Moneta, 2004).

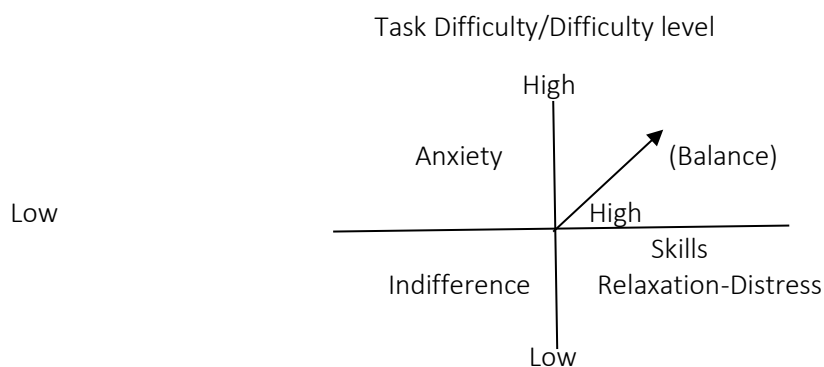


Figure 1. Model for Optimal Performance Emotional State (Jackson & Eklund, 2004)

To achieve optimal performance, there must be a balance between the activity's difficulty and the individual's skills and capacity to perform. According to flow theory, aligning the perceived difficulty of the task with the individual's level of personal competence is key to optimal performance. If this balance is not achieved, various psychological reactions may arise. Perceiving a task as exceeding one's skill level can lead to anxiety, stress, and feelings of inadequacy, while perceiving it as less demanding can lead to negative emotions such as apathy, monotony, and boredom. However, when the task's difficulty balances the individual's skill level, they can focus fully on the activity, experience high intrinsic motivation, and reach a state of optimal performance. Thus, an individual's capacity to perform well and experience 'flow' hinges on balancing the task's perceived difficulty with their skills and performance capacity (Jackson & Eklund, 2004). Research on the flow experience

shows that this concept offers significant theoretical and applied contributions to positive psychology. In particular, flow experience is a fundamental concept that explains how an individual can make their life more meaningful and fulfilling, and how they can experience complete focus and full participation in an activity (Hager, 2015). Flow is a significant psychological process that enables an individual to execute tasks—arising from both internal and environmental demands with minimal error and at peak performance levels. During this process, the individual can fully focus on the task at hand, be less distracted by environmental stimuli, and sustain performance effectively. The emergence of the flow experience depends on proper planning, effective time management, continuous feedback, clear, understandable goals, and the individual's ability to accurately assess the gap between current performance and the desired objective. Studies in the literature indicate that the flow experience contributes not only to enhanced performance but also to the development of creative thinking, the strengthening of problem-solving skills, and the emergence of innovative approaches. Furthermore, the flow experience encourages participation in sports activities, bolsters psychological well-being, improves physical performance, and enhances skill acquisition through experience (Kee & John Wang, 2008).

This study examined the relationships between individual athletes' sustained optimal performance states and various demographic and sports-related variables. The research hypotheses are presented below.

H1: There is a significant difference in continuous optimal performance mood among individual athletes based on gender.

H2: There is a significant difference in the continuous optimal performance mood among individual athletes based on whether they are national team members in their respective sports.

H3: There is a significant difference in the continuous optimal performance mood among individual athletes based on the city variable.

H4: There is a significant difference in the continuous optimal performance mood among individual athletes based on the achievement level in their sport.

2. Method

This study tested an original theoretical model developed to examine the states of optimal performance consistently experienced by individual athletes. The study used a descriptive research method based on the relational survey model. Survey models describe a situation, event, or behavioral pattern, past or present, within its existing conditions without altering it in any way (Karasar, 2017). The study evaluated the quantitative data using descriptive and relational statistical analysis techniques. The IBM SPSS statistical software package was used to analyze the data and present the research findings.

2.1. Population and Sample

The TR63 Region Regional Strategic Plan (covering the years 2014–2023), prepared under the coordination of the Eastern Mediterranean Development Agency (DOĞAKA), was developed to identify the resources and potential of the provinces of Kahramanmaraş, Osmaniye, and Hatay; to analyze the opportunities and threats associated with these resources; and to formulate strategies for regional development. In this context, the study population consisted of individual athletes aged 18 and older who had been actively engaged in sports for at least one year in sports clubs affiliated with the Provincial Directorates of Youth and Sports within the provinces of the TR63 Region, an area characterized by cultural and geographical similarities. The study included athletes active in individual sports disciplines such as wrestling, judo, boxing, badminton, tennis, swimming, cycling, and athletics. As of October 26, 2021, the study population was 3,598 athletes. To minimize the risk of error in

determining the sample size, the researchers considered variables such as athletes' education level, age, status, marital status, and sports discipline. According to the sample size table developed by Coşkun et al. (cited in Güllü, 2018) for social science research, the appropriate sample size for a population of 4,000 individuals is 351. Accordingly, the researchers recruited 356 individual athletes, and this sample size was deemed sufficient for the study's validity and reliability.

The study began after receiving ethics committee approval, in accordance with Decision No. 05 of meeting 2021/28, held by the KSÜ Faculty of Medicine Clinical Research Ethics Committee on August 31, 2021.

2.2. Data Collection Tools

A literature review was first conducted to gain comprehensive insight into the research topic, and measurement tools to assess relevant concepts were identified. These tools, which comprised a personal information form and a selected scale questionnaire, were then administered to a sample group drawn from the defined population. The Personal Information Form was used to determine the participants' demographic characteristics, and the Optimal Performance State Scale was used to assess optimal performance states. Data were collected via a five-point Likert-type rating scale; accordingly, participants' views on the scale's statements were evaluated based on the following options: '1. Strongly Disagree', '2. Disagree', '3. Undecided', '4. Agree', and '5. Strongly Agree'.

The form, developed from the literature review, includes questions designed to identify participants' demographic and athletic characteristics. Accordingly, the form considered variables such as gender, region, national athlete status, and the highest ranking athletes achieved in competitions. The researchers asked participants questions to determine the socio-demographic characteristics (gender, city, national athlete status, and highest ranking achieved in competitions) of the individual athletes in the study sample. Based on the data obtained, the researchers conducted a frequency analysis of the sample group's characteristics. The descriptive statistical findings resulting from this analysis are presented in the table below.

Table 1. Descriptive Statistics Regarding the Socio-Demographic Characteristics of the Participants

Demographic Characteristics		Number	Percentage %
City	Kahramanmaras	168	47.2
	Hatay	122	34.3
	Osmaniye	66	18.5
Gender	Male	297	83.4
	Female	59	16.6
National Team Status	Yes	134	37.6
	No	222	62.4
Degree	Province	72	20.2
	Region	74	20.8
	National (Turkey)	98	27.5
	International	112	31.5

Table 1 presents the frequency and percentage distributions regarding the socio-demographic characteristics of athletes actively participating in individual sports activities in the provinces of Hatay, Kahramanmaras, and Osmaniye. These provinces are included in the TR63 Regional Plan, prepared by the Ministry of Development to ensure more effective use of the Eastern Mediterranean Region's economic and social resources for 2014–2023. Of the 356 athletes in the study, 83.4% (n=297) were male, while 16.6% (n=59) were female. The findings indicate that the proportion of male athletes in the study sample was higher than that of female athletes.

Studies evaluating optimal performance mood in sports and physical activity have developed over time. In this context, Jackson and Marsh (1996) developed a measurement tool based on qualitative data from athletes to identify the optimal performance emotional states athletes experience during physical activity and sports performance. The developed scale consists of two different forms to evaluate the optimal performance emotional states of athletes and individuals participating in physical activity. The first form of the scale, the State Optimal Performance Emotional State Scale, assesses the momentary emotional state an individual experiences during sports or physical activity. The second form, the Trait Optimal Performance Emotional State Scale, was designed to determine the individual's trait optimal performance emotional state within the general process following sports or physical activity (Jackson & Marsh, 1996). Subsequently, Jackson and Eklund (2004) identified certain conceptual ambiguities and statistical limitations in existing scales; they revised the scale items—removing some and adding others—to develop the State and Trait Optimal Performance State Scales. Aşçı et al. (2007) adapted these revised scales into Turkish and conducted validity and reliability studies. The Trait Optimal Performance State Scale comprises nine sub-dimensions that assess various aspects of an individual's flow experience. Descriptions of these sub-dimensions are provided below.

- Sense of control
- Task focus
- Specific feedback
- Clear goals
- Merging of action and awareness
- Balance between task difficulty and skill
- Experience of goal achievement
- Transformation of time
- Loss of self-awareness

Before analyzing the research data, the reliability levels of the data obtained from the administered scale were examined. Reliability is defined as the extent to which a measurement tool consistently and stably measures the attribute it is intended to assess. In other words, if the same measurement tool yields similar results when administered to different sample groups or at different times under similar conditions, the tool is reliable. Accordingly, reliability is a fundamental evaluation criterion representing the consistency of a scale's measurement results (Sencan, 2005).

Table 2. Reliability Analysis Results for the Scales Used in the Study

Scales Used and Their Sub-dimensions	Number of	Cronbach's Alpha
<i>Optimal Performance Mood Scale Overall Average</i>	36	0.934
Balance between Task Difficulty and Skill	4	0,801
Merging of Action and Awareness	4	0,758
Clear Goals	4	0,860
Immediate Feedback	4	0,726
Focus on the Task	4	0,854
Sense of Control	4	0,846
Loss of Self-Consciousness	4	0,836
Transformation of Time	4	0,800
Experience of Goal Achievement	4	0,676

Table 2 presents the internal consistency coefficients for the scales used in the study. A review of the existing literature in the social sciences reveals that specific acceptable ranges are used to evaluate the internal consistency levels of scales. Accordingly, the internal consistency coefficients obtained in this study will be evaluated based on the ranges specified below, in line with the criteria established in the literature:

- 0.00 $\leq$ α < 0.40: the scale is not reliable,
- 0.40 $\leq$ α < 0.60: the scale has low reliability,
- 0.60 $\leq$ α < 0.80: the scale is quite reliable,
- 0.80 $\leq$ α < 1.00: the scale is highly reliable.

An examination of the analysis results regarding the scale used in the study revealed that the internal consistency coefficient (Cronbach's alpha, α) of the 36-item Optimal Performance Mood State scale was calculated as 0.934. This value indicates that the scale is a highly reliable measurement tool.

After determining the reliability coefficients, the study examined the data's distributional characteristics to select appropriate statistical analysis methods. In this context, the study assessed data homogeneity and tested whether the data followed a normal distribution.

Table 3. Findings regarding Kolmogorov-Smirnov and Shapiro-Wilk normality tests

Balance between Task Difficulty and Skill	Statistic	df	p
Optimal Performance State Scale	.063	356	.002
Task Difficulty-Skill Balance	,838	356	,000
Merging of Action and Awareness	,858	356	,000
Clear Goals	,887	356	,000
Specific Feedback	,933	356	,000
Task Focus	,901	356	,000
Sense of Control	,879	356	,000
Loss of Self-Consciousness	,901	356	,000
Transformation of Time	,871	356	,000
Experience of Goal Achievement	,890	356	,000

As shown in Table 3, the normality test results indicate that the significance (p) values for the Kolmogorov-Smirnov and Shapiro-Wilk tests are below 0.05. This result demonstrates that the data obtained from the scale used in the study do not meet the assumption of normal distribution. A significant normality test result ($p < 0.05$) indicates that the scale scores and its sub-dimensions do not follow a normal distribution.

Accordingly, because the assumption of normal distribution, a prerequisite for parametric tests, was not met, the study employed non-parametric analysis methods. The data were evaluated based on a significance level of $\alpha=0.05$. Accordingly, instead of parametric tests such as the independent samples t-test and one-way analysis of variance (ANOVA), the Mann-Whitney U test was used to compare two independent groups, and the Kruskal-Wallis test was used to compare more than two independent groups.

3. Findings

This section presents the analysis results from the surveys conducted within the scope of the research topic, the findings derived from these data, and the evaluations of these findings.

Table 5. Mann-Whitney U Test Results for the Research Group According to the Gender Variable

Gender		N	Row Average	RankSum	U	p
Balance Between Task Difficulty and Skill	Male	297	175.42	52101.0	7848.0	0.198
	Female	59	193.98	11445.0		
Merging of Action and Awareness	Male	297	177.62	52752.0	8499.0	0.710
	Female	59	182.95	10794.0		
Clear Goals	Male	297	184.20	54708.0	7068.0	0.018*
	Female	59	149.80	8838.0		
Specific Feedback	Male	297	182.36	54161.0	7615.0	0.109
	Female	59	159.07	9385.0		
Focus on the Task	Male	297	184.86	54904.5	6871.5	0.008*
	Female	59	146.47	8641.5		
Sense of Control	Male	297	177.83	52815.5	8562.5	0.779
	Female	59	181.87	10730.5		
Loss of Self-Consciousness	Male	297	186.98	55533.5	6242.5	0.000*
	Female	59	135.81	8012.5		
Transformation of Time	Male	297	177.17	52618.5	8365.5	0.580
	Female	59	185.21	10927.5		
Experience of Goal Achievement	Male	297	177.32	52665.0	8412.0	0.624
	Female	59	184.42	10881.0		

*p< .05

Table 5 presents the results of the Mann-Whitney U test used to determine gender differences in optimal performance emotional state in sports, mental toughness in sports, and the coach-athlete relationship. The findings showed statistically significant gender differences in the following sub-dimensions of the optimal performance emotional state in sports scale: Clear Goals (U=7068.0; p<0.05), Task Focus (U=6871.5; p<0.05), and Reduced Self-Awareness (U=6242.5; p<0.05). When the mean ranks of the groups were analyzed to determine the direction of these differences, the significant differences favored male individuals. Accordingly, the study partially supported H1.

Table 6. Mann-Whitney U Results According to the National Team Status Variable

National Team Status		N	Average	Total	U	p
Balance Between Task Difficulty and Skill	Yes	134	170.29	22819.5	13774.5	0.234
	No	222	183.45	40726.5		
Merging of Action and Awareness	Yes	134	167.31	22419.0	13374.0	0.103
	No	222	185.26	41127.0		
Clear Goals	Yes	134	186.30	24964.0	13829.0	0.261
	No	222	173.79	38582.0		
Specific Feedback	Yes	134	194.56	26070.5	12722.5	0.021*
	No	222	168.81	37475.5		
Focus on the Task	Yes	134	180.29	24158.5	14634.5	0.797
	No	222	177.42	39387.5		
Sense of Control	Yes	134	179.91	24108.0	14685.0	0.838
	No	222	177.65	39438.0		
Loss of Self-Consciousness	Yes	134	197.86	26513.0	12280.0	0.005*
	No	222	166.82	37033.0		

Transformation of Time	Yes	134	181.89	24373.0	14420.0	0.627
	No	222	176.45	39173.0		
Experience of Goal Achievement	Evet	134	174.40	23370.0	14325.0	0.555
	Hayır	222	180.97	40176.0		

*p< .05

Table 6 presents the results of the Mann-Whitney U test used to determine differences in optimal performance emotional state in sports, mental toughness in sports, and the coach-athlete relationship by national team status in the respective sports discipline. The analysis revealed statistically significant differences based on national team status in the "Specific Feedback" (U=12722.5; p<0.05) and "Reduced Self-Awareness" (U=12280.0; p<0.05) sub-dimensions of the optimal performance emotional state in sports scale. An examination of the group mean ranks to determine the direction of these significant differences showed that the differences favored individuals who had achieved national team status. The study partially supported hypothesis H2.

Table 7. Kruskal-Wallis Test of the Research Group According to the City Variable

City		N	Mean	Sd.	X ²	p	Fark U
Balance Between Task Difficulty and Skill	1)Kahramanmaras	168	4.18	.77	18.88	0.000 *	2>1 3>1
	2)Hatay	122	4.51	.48			
	3)Osmaniye	66	4.58	.45			
Merging of Action and Awareness	1)Kahramanmaras	168	4.27	.75	4.25	0.119	
	2)Hatay	122	4.36	.63			
	3)Osmaniye	66	4.49	.59			
Clear Goals	1)Kahramanmaras	168	4.27	.75	5.53	0.063	
	2)Hatay	122	4.36	.63			
	3)Osmaniye	66	4.18	.74			
Specific Feedback	1)Kahramanmaras	168	4.14	.62	1.90	0.386	
	2)Hatay	122	4.21	.70			
	3)Osmaniye	66	4.21	.47			
Focus on the Task	1)Kahramanmaras	168	4.09	.78	1.56	0.457	
	2)Hatay	122	4.19	.78			
	3)Osmaniye	66	4.14	.82			
Sense of Control	1)Kahramanmaras	168	4.23	.73	5.83	0.054	
	2)Hatay	122	4.43	.59			
	3)Osmaniye	66	4.31	.51			
Loss of Self-Consciousness	1)Kahramanmaras	168	3.94	.89	1.88	0.389	
	2)Hatay	122	4.03	1.00			
	3)Osmaniye	66	3.99	.86			
Transformation of Time	1)Kahramanmaras	168	4.02	.73	5.00	0.082	
	2)Hatay	122	4.13	.92			
	3)Osmaniye	66	3.89	1.13			
Experience of Achieving the Goal	1)Kahramanmaras	168	4.19	.71	2.99	0.224	
	2)Hatay	122	4.36	.57			
	3)Osmaniye	66	4.31	.50			

*p< .05

Table 7 presents the results of the Kruskal-Wallis H test and the Dunn-Bonferroni test, conducted to determine levels of optimal performance emotional states in sports based on the province where the research group participated in sports activities. The analysis revealed a statistically significant difference in the "Task Difficulty-Skill Balance" sub-dimension of the Optimal Performance Emotional State in Sports Scale ($\chi^2=18.88$; $p<0.05$) by province of participation. According to the Dunn-Bonferroni test, which identified the groups between which the difference occurred, a statistically significant difference was found in the "Task Difficulty-Skill Balance" sub-dimension between individuals engaging in sports in Kahramanmaraş ($\bar{X}=4.18$) and those in Hatay ($\bar{X}=4.51$). An examination of the group means revealed that this difference favored the individuals engaging in sports in Hatay. Furthermore, a statistically significant difference was identified between individuals engaging in sports in Kahramanmaraş ($\bar{X}=4.18$) and those in Osmaniye ($\bar{X}=4.58$), with the difference favoring the individuals in Osmaniye. Based on these results, the province where sports activities take place was found to create a significant difference in the state of optimal performance in sports, and the study's H3 hypothesis was partially supported.

Table 8. Kruskal-Wallis Test Results for the Research Group Based on the Degree Status Variable

Degree		N	Mean	Sd.	χ^2	p	Fark U
Balance Between Task Difficulty and Skill	1) Provincial	72	4.34	.46	6.24	1.10	
	2) Regional	74	4.55	.43			
	3) National	98	4.39	.67			
	4) International	112	4.25	.83			
Merging of Action and Awareness	1) Provincial	72	4.47	.64	8.45	0.037*	1>4 2>4
	2) Regional	74	4.45	.58			
	3) National	98	4.29	.72			
	4) International	112	4.22	.73			
Clear Goals	1) Provincial	72	3.88	.81	13.43	0.004*	3>1 4>1
	2) Regional	74	4.09	.79			
	3) National	98	4.20	.83			
	4) International	112	4.29	.70			
Specific Feedback	1) Provincial	72	4.03	.58	14.73	0.002*	3>1 4>1 3>2 4>2
	2) Regional	74	4.02	.59			
	3) National	98	4.23	.73			
	4) International	112	4.31	.54			
Focus on the Task	1) Provincial	72	3.96	.81	5.041	0.169	
	2) Regional	74	4.22	.63			
	3) National	98	4.23	.75			
	4) International	112	4.11	.88			
Sense of Control	1) Provincial	72	4.20	.65	10.33	0.016*	3>1 3>2 4>2
	2) Regional	74	4.19	.64			
	3) National	98	4.43	.62			
	4) International	112	4.37	.67			
Loss of Self-Consciousness	1) Provincial	72	3.69	1.02	10.65	0.014*	2>1 4>1
	2) Regional	74	4.00	1.09			
	3) National	98	3.95	.89			
	4) International	112	4.18	.70			

Transformation of Time	1) Provincial	72	3.69	1.04	13.79	0.003*	2>1
	2) Regional	74	4.07	.93			3>1
	3) National	98	4.20	.80			4>1
	4) International	112	4.09	.77			
Experience of Achieving the Goal	1) Provincial	72	4.31	.47	0.231	0.972	
	2) Regional	74	4.29	.56			
	3) National	98	4.24	.73			
	4) International	112	4.26	.68			

*p< .05

Table 8 presents the results of the Kruskal-Wallis H test and the Dunn-Bonferroni multiple comparison test, conducted to determine differences in levels of optimal performance state, mental toughness, and the coach-athlete relationship based on the highest ranking achieved by the research group in sports competitions.

A statistically significant difference was found in the "Action-Awareness Merging" sub-dimension of the Optimal Performance State in Sport Scale ($\chi^2=8.45$; $p<0.05$) based on athletes' ranking. The results of the Dunn-Bonferroni multiple comparison test, conducted to determine between which groups this difference existed, are as follows:

The Dunn-Bonferroni test results for the "Action-Awareness Integration" sub-dimension showed a statistically significant difference between athletes who placed first at the provincial level ($\bar{X}=4.47$) and those with international rankings ($\bar{X}=4.22$). An evaluation of the group means indicated that this difference favored athletes who placed first at the provincial level. Furthermore, a statistically significant difference was found between athletes who achieved regional rankings ($\bar{X}=4.45$) and those who achieved international rankings ($\bar{X}=4.22$); the analysis of means showed that this difference favored athletes who achieved regional rankings.

The Dunn-Bonferroni test results for the "Clear (Specific) Goals" sub-dimension revealed a statistically significant difference between athletes who achieved first place at the provincial level ($\bar{X}=3.81$) and those who achieved first place at the national level ($\bar{X}=4.20$). An evaluation of the group means indicated that this difference favored the athletes who achieved first place at the national level. Furthermore, a statistically significant difference was found between athletes who achieved first place at the provincial level ($\bar{X} = 3.81$) and those who achieved international rankings ($\bar{X} = 4.29$). Mean analysis showed that this difference favored athletes who achieved international rankings.

The Dunn-Bonferroni test results for the "Specific Feedback" sub-dimension revealed a statistically significant difference between athletes who placed first at the provincial level ($\bar{X} = 4.03$) and those who placed first at the national level ($\bar{X} = 4.23$). An evaluation of the group means indicated that this difference favored the athletes who achieved first place at the national level. Furthermore, a statistically significant difference was found between athletes who placed first at the provincial level ($\bar{X} = 4.03$) and those with international rankings ($\bar{X} = 4.31$); the means indicated that this difference favored athletes with international rankings. Additionally, a statistically significant difference was observed between athletes who achieved regional rankings ($\bar{X}=4.02$) and those who placed first nationally ($\bar{X}=4.23$), favoring the latter group. A significant difference was also found between athletes who achieved regional rankings ($\bar{X}=4.02$) and those who achieved international rankings ($\bar{X}=4.31$), with the means indicating that this difference favored athletes with international rankings.

Examining the Dunn-Bonferroni test results regarding the "Sense of Control" sub-dimension revealed a statistically significant difference between athletes who achieved first place at the provincial level ($\bar{X}=4.20$) and those who achieved first place at the national level ($\bar{X}=4.31$); an evaluation of the group means indicated that this difference favored the athletes who achieved first

place at the national level. Furthermore, a statistically significant difference was found between athletes who achieved first place at the regional level ($\bar{X}=4.19$) and those who achieved first place at the national level ($\bar{X}=4.43$), with the difference again favoring the athletes who achieved first place at the national level. Additionally, a statistically significant difference was observed between athletes who achieved first place at the regional level ($\bar{X}=4.19$) and those who achieved international rankings ($\bar{X}=4.37$); the group means showed that this difference favored athletes who achieved international rankings.

Dunn-Bonferroni test results for the "Reduced Self-Awareness" sub-dimension revealed a statistically significant difference between athletes who placed first at the provincial level ($\bar{X}=3.69$) and those who placed first at the regional level ($\bar{X}=4.00$). An evaluation of the group means indicated that this difference favored athletes who placed first at the regional level. Furthermore, a statistically significant difference was identified between athletes who achieved first place at the provincial level ($\bar{X}=3.69$) and those who achieved international rankings ($\bar{X}=4.18$); the analysis of means showed that this difference favored athletes who achieved international rankings.

The Dunn-Bonferroni test results for the "Transformation of Time" sub-dimension revealed a statistically significant difference between athletes who placed first at the provincial level ($\bar{X}=3.69$) and those who placed first at the regional level ($\bar{X}=4.07$). An evaluation of the group means indicated that this difference favored athletes who placed first at the regional level. Furthermore, a statistically significant difference was found between athletes who placed first at the provincial level ($\bar{X}=3.69$) and those who placed first at the national level ($\bar{X}=4.20$), favoring the national-level winners. Additionally, a statistically significant difference was found between athletes who placed first at the provincial level ($\bar{X}=3.69$) and those with international rankings ($\bar{X}=4.09$); the group means showed that this difference favored athletes with international rankings. Based on these findings, the athletes' achieved ranking was found to create a significant difference in the "Transformation of Time" sub-dimension, and hypothesis H4 was partially supported.

4. Discussion and Conclusion

Based on the research findings, individual athletes participating in the study had high mean scores on the Optimal Performance State Scale. These results indicate that athletes competing in individual sports have high self-confidence in their abilities and skills. Furthermore, the findings reveal that, beyond their perceptions of their own skills and competencies, feedback from their environment and their perceptions of how others evaluate them play a significant role in athletes' performance processes. This factor can influence athletes' optimal performance experiences, either positively or negatively.

When the mean rank scores of the "Optimal Performance State" levels among the individual athletes participating in the study were evaluated based on gender, statistically significant differences were found in the sub-dimensions of Clear Goals, Task Focus, and Reduced Self-Awareness. An examination of the mean ranks revealed that these differences favored male athletes. Based on the results, male athletes appear better able to define their goals during performance and are more determined and self-assured about their objectives than female athletes. Furthermore, male athletes appear to focus more intensely on their sporting activities and maintain their attention on the task at hand more effectively. Additionally, male athletes place less importance on others' thoughts and evaluations, which positively influences their experience of the optimal performance state.

A review of the literature on the evaluation of the optimal performance emotional state based on gender reveals findings that both align with and differ from the results of the current study. Regarding studies that support the current findings, research titled "The Effect of Elite Athletes' Optimal Performance Emotional States on Their Life Satisfaction"—conducted on athletes across various sports disciplines determined that the optimal performance emotional state differed

significantly according to gender, with the difference favoring male athletes (Yıldız et al., 2015). Similarly, a study of elite-level male and female volleyball players found that the sub-dimensions of the optimal performance emotional state varied by gender (Kelebek et al., 2010). Furthermore, research with elite-level wrestlers identified significant gender-based differences in certain sub-dimensions of the optimal performance emotional state scale, again favoring male athletes (Kesler, 2020). These results appear consistent with the current study's findings. However, other studies have yielded results that differ from those of the present research. A study examining the trait optimal performance emotional state and exercise behaviors of individuals engaging in recreational exercise found no significant gender differences (Altıntaş et al., 2010). Conversely, a study investigating the optimal performance emotional state and leisure satisfaction levels of individuals swimming for leisure purposes found significant gender-based differences in the sub-dimensions of the optimal performance emotional state, favoring male athletes (Hadi & Denктаş, 2023). This difference may stem from the fact that recreational sports activities use individuals' leisure time and are voluntary. In this context, the purpose of participation, the athlete's skill level, and performance expectations may lead to variations in the effects on the optimal performance emotional state by gender.

When athletes' national team status was used to examine levels of the "State of Constant Optimal Performance" in their respective individual sports, statistically significant differences emerged in the sub-dimensions of "Specific Feedback" and "Reduced Self-Awareness." An analysis of mean ranks and group means showed that these differences favored national-level athletes. This result may be attributed to national-level athletes internalizing their sports disciplines more deeply, maintaining greater awareness of their performance during training and competition, and evaluating performance-related feedback more effectively. Furthermore, national-level athletes appear less influenced by external evaluations and opinions than non-national athletes, which positively affects their experiences of optimal performance.

The study examined the 'state of optimal performance' levels of athletes in different ranking categories (provincial, regional, national or international) and identified statistically significant differences in the sub-dimensions of action-awareness merging, clear goals, unambiguous feedback, sense of control, transformation of time and loss of self-consciousness. These differences favored athletes with higher levels of sporting success. This indicates that an athlete's level of success significantly influences their state of optimal performance. Indeed, achieving high rankings in a sport requires athletes to have greater physical capacity, psychological resilience, technical skill, and experience than their competitors. Consequently, athletes with higher levels of sporting success are believed to have a greater sense of control during performance, set clearer goals, and experience the optimal performance state more intensely. These findings also support research on national team status.

A literature review found only a limited number of investigations examining the "optimal performance state" in relation to whether athletes had achieved national team status in their respective sports; no study directly addressed this variable. However, one key factor influencing the optimal performance state is athletes' level of physical and psychological readiness and their subjective sense of readiness during athletic competition (Jackson et al., 1998). A study examining the optimal performance state experiences of college-level athletes and non-athletes found that experiencing optimal performance positively influenced individuals' participation in sports activities outside of school (Cervelló et al., 2006). Similarly, a study of individuals aged 12–18, both athletes and non-athletes, showed that when the type and level of sports activity are appropriately determined, individuals experience the optimal performance state more effectively (Álvarez et al., 2017). When the current study's findings are evaluated in terms of athletes' success levels in their active sports disciplines, individuals with higher athletic success exhibited higher levels of the optimal performance state. This result may be attributed to athletes with high success levels having

advantages in physical competence, psychological readiness, and experience. Accordingly, the findings align with existing literature, which links experience with optimal performance to the athlete's level of proficiency (Kayabasi, 2023). To enhance athletes' mindfulness-based sports performance (involving both self-assessment and assessment by the coach), it has been observed that it supports athlete health by fostering improvements in outcomes related to the individual's psychological performance, including mindfulness, emotional regulation, and increased psychological resilience, as well as reduced anxiety and depression (Gardner & Moore, 2007).

When examining "Continuous Optimal Performance State" levels by province within the TR63 Regional Plan (Hatay, Kahramanmaraş, and Osmaniye), a statistically significant difference was found only in the "Task Difficulty-Skill Balance" sub-dimension. This difference favored provinces with more athletes and higher population density. Specifically, a significant difference was identified between individuals engaging in sports in Kahramanmaraş and Hatay and those in Osmaniye. This difference may be related to the provinces' athlete potential, competitive environment, and sports facilities. It is thought that the increase in the number of athletes, along with higher population density, raises the level of competition, potentially serving as a significant source of motivation for individuals to improve themselves.

Furthermore, Kahramanmaraş and Hatay's metropolitan status—implying more developed sports facilities, infrastructure, and opportunities for sporting events than Osmaniye—may influence athletes' performance experiences. Accordingly, athletes' perceptions of the balance between task difficulty and their own skills may be influenced by the sports facilities and competitive environment of the province in which they are located (Kayabasi, 2023). This research emphasizes the need to conduct mental training more inclusively, taking individual differences into account. It highlights the necessity for rigorous, high-quality research that elucidates athletes' psychosocial levels as well as their situational and trait-like emotional states.

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Ethical Approval. In this study, we observed all rules stipulated in the "Directive on Scientific Research and Publication Ethics for Higher Education Institutions." None of the actions listed under the directive's second section, titled "Actions Contrary to Scientific Research and Publication Ethics," have been committed.

Data Availability Statement: Sharing of data and materials is not relevant, as the study did not involve the creation or analysis of new data.

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REFERENCES

- Altıntaş, A., Aşçı, F. H., & Çağlar, E. (2010). Sürekli Optimal Performans, Duygu Durumu ve Egzersiz Davranışı. *Spor Bilimleri Dergisi*, 21(2), 71–78.
- Altıntaş, A., Keleş, S., & Aşçı, F. H. (2013). Elit Sporcularda Durumsal Gündünlük ve Optimal Performans ile Duygu Durumu Arasındaki İlişki. *Pamukkale Journal of Sport Sciences*, 4(4), 14–21.

- Aşçı, F. H., Çağlar, E., Eklund, R. C., Altıntaş, A., & Jackson, S. A. (2007). Durumluk ve Sürekli Optimal Performans Duygu Durumu-2 Ölçeklerinin Uyarlama Çalışması. *Spor Bilimleri Dergisi*, 18(4), 182–196.
- Bayraktar, B., & Kurtoglu, M. (2009). Sporda Performans: Etkili Faktörler, Değerlendirilmesi Ve Artırılması. *Klinik Gelişim Dergisi*, 22(1), 16–24.
- Cervelló, E. M., Villodre, N. A., Moreno, J. A., & Iglesias, D. (2006). Goal Orientation, Motivational Climate, And Dispositional Flow of High School Students Engaged In Extracurricular Physical Activity. *Perceptual And Motor Skills*, 102(1), 87–92. <https://doi.org/10.2466/pms.102.1.87-92>
- Döşyılmaz, E., & Kayabaşı, A. (2021). Investigation Of Teachers' Level of Life Satisfaction And Perceptions of Individual Innovation In The COVID-19 Pandemic Process. *Pakistan Journal of Medical and Health Sciences*, 15(11), 3196–3201.
- Franco, E., Coterón, J., Gómez, V., & Pérez-Tejero, J. (2017). The Role of Dispositional Flow's Dimensions In The Prediction of Intention To Be Physically Active In Adolescents. *Universitas Psychologica*, 16(4), 1–11. <https://doi.org/10.11144/Javeriana.Upsy16-4.Rdfd>
- Gardner, F. L., & Moore, Z. E. (2007). *The Psychology of Enhancing Human Performance: The Mindfulness-Acceptance-Commitment (MAC) Approach*. Springer Publishing Company.
- Grupe, O. (1994). Sport and culture: The culture of sport. *Journal of Japan Society of Sports Industry*, 4(1), 39–53.
- Güllü, S. (2018). Sporcuların Antrenör-Sporcu İlişkisi İle Sportmenlik Yönelimleri Üzerine Bir Araştırma. *Spormetre Beden Eğitimi ve Spor Bilimleri Dergisi*, 16(4), 190–204. <https://doi.org/10.33689/spormetre.482295>
- Hadi, G. E., & Denктаş, M. (2023). Rekreasyon Amaçlı Yüzen Bireylerin Optimal Performans Duygu Durumu Ve Serbest Zaman Doyum Düzeylerinin İncelenmesi. *Düzce Üniversitesi Spor Bilimleri Dergisi*, 3(1), 28–36.
- Hagger, M. S., & Chatzisarantis, N. L. D. (2007). *Intrinsic Motivation and Self-Determination In Exercise And Sport*. Human Kinetics.
- Hager, P. L. (2015). *Flow And The Five-Factor Model (FFM) Of Personality Characteristics* [Doktora Tezi, University Of Missouri–Kansas City].
- Jackson, S. A., & Eklund, R. C. (2004). *The Flow Scales Manual*. Fitness Information Technology.
- Jackson, S. A., & Marsh, H. W. (1996). Development And Validation of A Scale to Measure Optimal Experience: The Flow State Scale. *Journal of Sport and Exercise Psychology*, 18(1), 17–35. <https://doi.org/10.1123/jsep.18.1.17>
- Jackson, S. A., Ford, S. K., Kimiecik, J. C., & Marsh, H. W. (1998). Psychological Correlates of Flow In Sport. *Journal of Sport And Exercise Psychology*, 20(4), 358–378. <https://doi.org/10.1123/jsep.20.4.358>
- Karasar, N. (2017). *Bilimsel Araştırma Yöntemi* (32. baskı). Nobel Akademik Yayıncılık.
- Kayabaşı, A. (2023). *Bireysel Sporcularda Optimal Performans Duygu Durumu İle Zihinsel Dayanıklılık Arasındaki İlişkide Antrenör-Sporcu İlişkisinin Aracı Rolü: TR63 Bölgesinde Bir Uygulama* [Yayımlanmamış doktora tezi]. [Kahramanmaraş Sütçü İmam Üniversitesi].
- Kee, Y. H., & Wang, C. K. J. (2008). Relationships Between Mindfulness, Flow Dispositions And Mental Skills Adoption: A Cluster Analytic Approach. *Psychology of Sport And Exercise*, 9(4), 393–411. <https://doi.org/10.1016/J.Psychsport.2007.07.001>

- Kelecek, S., Aşçı, F. H., & Altıntaş, A. (2010). Elit Erkek ve Kadın Voleybolcuların Algıladıkları Gündüsel İklimin, Gündüsel Yönelimlerini ve Optimal Performans Duygu Durumlarını Belirlemedeki Rolü. *Gazi Beden Eğitimi Ve Spor Bilimleri Dergisi*, 15(4), 35–47.
- Kesler, E. (2020). *Elit Güreşçilerde Bilinçli Farkındalık, Sürekli Optimal Performans Duygu Durumu, Spora Katılım Motivasyonu ve Stres Düzeylerinin İncelenmesi* [Yüksek lisans Tezi, Sakarya Uygulamalı Bilimler Üniversitesi].
- Kivikangas, J. M. (2006). *Psychophysiology of Flow Experience: An Explorative Study* [Yüksek lisans tezi, University of Helsinki].
- Moneta, G. B. (2004). The Flow Experience Across Cultures. *Journal Of Happiness Studies*, 5(2), 115–121. <https://doi.org/10.1023/B:JOHS.0000035913.65762.b5>
- Şencan, H. (2005). *Sosyal ve Davranışsal Ölçümlerde Güvenilirlik ve Geçerlilik*. Seçkin Yayıncılık.
- Voigt, D., & Atalay, A. (1998). *Spor Sosyolojisi*. Alkım Yayınları.
- Weinberg, R. S., & Gould, D. (2024). *Foundations of Sport and Exercise Psychology* (8. baskı, s. 17–22). Human Kinetics.
- Yıldız, A. B., Gülşen, D. B. A., & Yılmaz, B. (2015). Sporcuların Optimal Performans Duygu Durumunun Yaşam Tatminleri Üzerindeki Etkisi. *Niğde Üniversitesi Beden Eğitimi ve Spor Bilimleri Dergisi*, 9(Özel Sayı), 58–64.

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