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UNDERSTANDING FLOW EXPERIENCES IN PROFESSIONAL ATHLETES

Ali Selman Özdemir[1i],
Tebessüm Ayyıldız Durhan[2]
[1]Department of Recreation,
School of Physical Education and Sport,
Cyprus International University,
Nicosia, Cyprus
[2]Department of Recreation,
Faculty of Sports Sciences,
Gazi University,
Ankara, Turkey

Abstract:
The aim of this research is to determine the optimal mood of the professional athletes and to examine the direction of these variables. While 506 participants from different branches who are doing sports in a professional sense are selected through sampling for the purpose of the research, the data is obtained by Dispositional Flow-2 scale. The scale form is developed by Jackson and Elkund (2004), adapted by Aşçı et al (2012) in Turkish and determined by Daşdan Ada et al. (2012) through validity and reliability studies, consisted of 36 items and 9 sub-dimensions. Descriptive statistics, independent sample t test, one-way analysis of variance Anova tests were used in the analysis of the data. The internal reliability coefficient for the entire DFS-2 was determined as .94. According to the findings, significant relationships and differences were determined based on the fact that professional athletes constantly display optimal mood level at average values, sports branch, duration of doing sports, number of weekly training sessions, participation in international matches, and comparison to their previous experiences. As a result, it was determined that the professional athletes who do sports in the volleyball branch, the ones with the highest sports year, the ones who train the most a week, those who have participated in international competitions and those who find the general development levels are higher than the other professional athletes. Therefore, it can be said that successful athletes who are engaged in team sports and do sports for a longer period of time have better dispositional flow level.

Keywords: flow, dispositional flow, professional athletes, volleyball, tennis, athletics

[i] Correspondence: email ozdemiraliselman@gmail.com

1. Introduction

The concept of optimum performance emotional state (flow) was first used in 1975 to explain the reasons that push individuals to leisure activities. The optimal performance emotional state, also known as "flow state" (flow state), examines the mental and psychological situations that occur with the optimal performance experience felt in the sports or exercise environment (Aykurt, 2019). In the situation known as optimal mood or flow in literature; the action follows the action according to an internal logic that does not need the actor's conscious intervention. He experiences this as a unified flow that flows from one moment to another, in which he controls his actions, with little distinction between self and the environment, stimulus and reaction, or between past, present and future. Flow is what we call "*autotelic experience*" (Csikszentmihalyi, 1975). In activities captured in a flow state; the desire to continue that activity in individuals occurs spontaneously. Environments where flow states are experienced more frequently are valuable in terms of becoming an autotelic state (Öz, 2019). Flow is when people are so involved in an activity where nothing else matters; the experience itself is so enjoyable that people will do it even at high cost to do this (Csikszentmihalyi, 1990).

Being "in flow" is the way that some interviewees described the subjective experience of engaging just-manageable challenges by tackling a series of goals, continuously processing feedback about progress, and adjusting action based on this feedback. Under these conditions, experience seamlessly unfolds from moment to moment, and one enters a subjective state with the following characteristics:

- Intense and focused concentration on what one is doing in the present moment
- Merging of action and awareness
- Loss of reflective self-consciousness (i.e., loss of awareness of oneself as a social actor)
- A sense that one can control one's actions; that is, a sense that one can in principle deal with the situation because one knows how to respond to whatever happens next
- Distortion of temporal experience (typically, a sense that time has passed faster than normal)
- Experience of the activity as intrinsically rewarding, such that often the end goal is just an excuse for the process (Engeser and Schiepe Tiska, 2012; Eryılmaz, 2018; Nakamura and Csikszentmihalyi, 2009).

Flow; can be said that assists individuals in important issues such as experience of new skills, mastering a job, attachment to work, learning and training process, subjective well-being, increased self-confidence, life satisfaction, concentration, intrinsic motivation, coping with boredom. One of the most important contributions of flow to human life is that in every field it is experienced, the experience has the power to liberate the individual against a boring and meaningless life in a sense (Oertig, Shüler & Buchli, 2013; Öz, 2019). In this liberation process, sports activities provide a rich environment and opportunity with mental and physical difficulties for individuals to experience the flow and understand the optimal situations (Swann, 2016). Within the framework of these

opportunities, the flow motivates people to reapply, challenge and thus develop their skills and abilities through activity (Engeser, 2012). Therefore, flow and sportive performance are important intertwined elements.

Understanding the psychological factors that accompany successful athletic performance is a high priority for applied sports psychology, and a large focus is the mental links to the best performance. To advance knowledge in this area, it is important to examine certain psychological structures that are theoretically relevant to optimal performance to understand which psychological processes can contribute to performance quality (Jackson et al, 2001). Since the individual's perceptions of his/her own skills are unrealistic, it will be disproportionate with the difficulty of the chosen activity, and it will be difficult for the individual to experience flow (Öz, 2019). However, in professional athletes, this situation is expected to have a positive effect on the flow, since the reverse flow experience will be on a specialized occupation. Based on this assumption, it is aimed to constantly investigate the optimal emotional state of individuals who are engaged in professional sports in different branches and to determine the direction of certain variables.

2. Methodology

2.1 Study Sample

The aim of the study is to determine how certain variables change the Dispositional Flow Scale-2 by constantly determining the optimal emotional state of professional athletes. 506 professional athletes engaged in sports in volleyball, athletics and tennis branches selected through the purpose of the study, and descriptive statistics for the participants are given below.

Table 1: Frequency and Percentage Distributions of Demographic Variables Regarding Participants (N = 506)

	Variable	**f**	**%**
Gender	Male	266	52,6
	Female	240	47,4
Sports branch	Athletics	160	31,6
	Tennis	169	33,4
	Volleyball	177	35,0
Age of athletics	9 year or less	157	31,0
	10 to 15 years	212	41,9
	16 years and above	137	27,1
Number of weekly trainings	2 times per week or less	59	11,7
	3 times	91	18,0
	4 times	58	11,5
	5 times	72	14,2
	6 times	86	17,0
	7 times and above	140	27,7
Participating in International Competitions	Yes	307	60,7

	No	199	39,3
Development comparison	Better	239	47,2
	Same	175	34,6
	Worse	92	18,2

The majority of the participants were women (52.6%), professional volleyball athletes (35.0%), who have been doing sports for 10 to 15 years (41.9%), 7 or more trainings per week (27.7%), participated in international matches. (60.7%) and it is seen that it consists of individuals who describe their general development as better (47.2%).

2.2 Instrumentation

The data is obtained by Dispositional Flow-2 scale. The scale form is developed by Jackson and Elkund (2004), adapted by Aşçı et al (2012) in Turkish and determined by Daşdan Ada et al. (2012) through validity and reliability studies, consisted of 36 items and 9 sub-dimensions. Dispositional Flow-2 scale evaluates the individual's tendency to experience optimal performance affect/flow in general during physical activity. The individual is directed to answer by thinking how often he experienced the optimal performance affect during the activities he performed while filling this scale.

Each item in the scale is answered on a 5-point Likert scale ranging from Never Time (1) to Always (5). While the average high score (4–5 points) obtained from the scale indicates that the person has reached the optimal performance mood in the activity he participated in, the low scores mean that the person cannot experience the optimal performance/flow mood. Based on the theoretical basis of DFS-2, Csikszentmihalyi (1990), Task Difficulty (Challenge-Skill Balance), Action-Awareness Combination (Action-Awareness Merging), Clear (open) Goals (Clear Aims), Specific Feedback (Unambiguous Feedback), Focusing on Task (Total concentration on the task at hand), Sense of Control, Loss of Self-consciousness, Transformation of Time and Autotelic Experience consists of 9 sub-dimensions (Daşdan Ada et al., 2012).

2.3 Data Analysis

The data were homogenously distributed by the Kurtosis tests and parametric tests. Descriptive statistics, independent sample t test, one-way analysis of variance Anova and Tukey (HSD-LSD) tests were used in the analysis of the data. In this study, it was determined as .94 for the entire DFS-2. In addition .70 for task difficulty-skill balance, action-awareness combination and achievement of goal, .78 for clear goals, .76 for specific feedback and focus on task, .77 for sense of control, .82 for self-awareness reduction, and transformation of time. sub-dimension, .73 internal consistency coefficient was obtained.

3. Results

Table 2: Arithmetic Mean and Standard Deviation Values for Dispositional Flow-2 (N = 506)

	Min.	**Max.**	$\bar{X}$	**sd**
DFS-2	72,00	207,00	136,60	20,32
Challenge-skill	6,00	23,00	15,68	2,78
Action-Awareness Merging	8,00	22,00	15,14	2,59
Clear Goals	7,00	25,00	16,01	2,88
Unambiguous Feedback	5,00	25,00	15,57	2,96
Concentration	6,00	23,00	15,48	2,96
Sense of Control	8,00	23,00	15,59	2,82
Loss of Self-consciousness	4,00	21,00	14,30	3,62
Transformation of Time	5,00	22,00	15,81	2,94
Autotelic Experience	8,00	26,00	16,78	2,65

Participants who showed average values in total DFS-2 scores (136.60 ± 20.32); they obtained the lowest sub-dimension score in the self-awareness reduction sub-dimension (14,30 ± 3,62), and the highest sub-dimension score in the task difficulty sub-dimension (15,68 ± 2.78). Dispositional flow levels of participants are at average values in all sub-dimension.

Table 3: Independent Sample t test Results between DFS-2 and Gender Variable

	Gender	**n**	$\bar{X}$	**ss**	**t**	**p**
DFS-2	Male	266	136,17	18,65	-0,496	0,620
	Female	240	137,07	22,04		
Challenge-Skill	Male	266	15,79	2,51	0,911	0,363
	Female	240	15,57	3,06		
Action-Awareness Merging	Male	266	15,18	2,42	0,366	0,714
	Female	240	15,09	2,77		
Clear Goals	Male	266	16,01	2,73	-0,023	0,982
	Female	240	16,02	3,04		
Unambiguous Feedback	Male	266	15,55	2,76	-0,195	0,845
	Female	240	15,60	3,16		
Concentration	Male	266	15,34	2,83	-1,073	0,284
	Female	240	15,62	3,09		
Sense of Control	Male	266	15,43	2,48	-1,314	0,189
	Female	240	15,76	3,15		
Loss of Self-consciousness	Male	266	14,37	3,62	0,467	0,641
	Female	240	14,22	3,62		
Transformation of Time	Male	266	15,57	2,77	-1,960	0,051
	Female	240	16,08	3,10		
Autotelic Experience	Male	266	16,69	2,61	-0,742	0,458
	Female	240	16,87	2,71		

*P<0,05

When table 3 is examined there is no statistically significant difference between gender and DFS-2. On the other hand, it was determined that female participants achieved

higher averages than female participants in the transformation of time sub-dimension, which is the closest to significant difference.

Table 4: ANOVA Test Results between DFS-2 and Sports Branch Variable

	Sports branch	**n**	$\bar{X}$	**ss**	**F**	**p**
DFS-2	Athletics	160	133,60	19,02	11,267	0,000*
	Tennis	169	133,43	22,25		
	Volleyball	177	142,33	18,27		
	Total	506	136,60	20,32		
Challenge-Skill	Athletics	160	15,49	2,59	10,251	0,000*
	Tennis	169	15,11	3,19		
	Volleyball	177	16,41	2,36		
	Total	506	15,68	2,78		
Action-Awareness Merging	Athletics	160	15,12	2,50	3,116	0,045*
	Tennis	169	14,79	2,77		
	Volleyball	177	15,48	2,46		
	Total	506	15,14	2,593		
Clear Goals	Athletics	160	15,30	2,74	28,535	0,000*
	Tennis	169	15,38	3,12		
	Volleyball	177	17,27	2,30		
	Total	506	16,01	2,88		
Unambiguous Feedback	Athletics	160	15,18	2,79	10,696	0,000*
	Tennis	169	15,09	3,09		
	Volleyball	177	16,38	2,81		
	Total	506	15,57	2,96		
Concentration	Athletics	160	14,95	2,78	12,631	0,000*
	Tennis	169	15,05	3,15		
	Volleyball	177	16,36	2,73		
	Total	506	15,48	2,96		
Sense of Control	Athletics	160	15,10	2,42	11,168	0,000*
	Tennis	169	15,22	3,30		
	Volleyball	177	16,38	2,49		
	Total	506	15,59	2,82		
Loss of Self-consciousness	Athletics	160	14,81	3,39	2,732	0,066
	Tennis	169	13,88	3,57		
	Volleyball	177	14,25	3,82		
	Total	506	14,30	3,62		
Transformation of Time	Athletics	160	15,53	2,86	1,276	0,280
	Tennis	169	16,05	3,06		
	Volleyball	177	15,84	2,88		
	Total	506	15,81	2,94		
Autotelic Experience	Athletics	160	15,91	2,61	21,750	0,000*
	Tennis	169	16,61	2,83		
	Volleyball	177	17,72	2,18		
	Total	506	16,78	2,65		

*p<0,05

According to ANOVA analysis between sports branch and DFS-2, statistically significant differences were found between DFS-2 total scores and sub-dimensions. Accordingly, it has been determined that professional athletes in the volleyball branch shows a higher

level of DFS-2 compared to the participants in other branches. Therefore, it is possible to say that the dispositional flow levels of volleyball players are higher than the other branches.

Table 5: ANOVA Test Results between DFS-2 and Period of Sports

	Period of sports	**n**	$\bar{X}$	**ss**	**F**	**p**
DFS-2	9 years and low	157	130,89	19,50	13,150	0,000*
	10-15 years	212	136,83	21,26		
	16 years and below	137	142,78	17,85		
	Total	506	136,60	20,32		
Challenge-Skill	9 years and low	157	15,03	2,79	8,195	0,000*
	10-15 years	212	15,76	2,85		
	16 years and below	137	16,32	2,51		
	Total	506	15,68	2,78		
Action-Awareness	9 years and low	157	14,73	2,60	4,773	0,009*
Merging	10-15 years	212	15,09	2,62		
	16 years and below	137	15,66	2,46		
	Total	506	15,14	2,59		
Clear Goals	9 years and low	157	15,16	2,90	16,919	0,000*
	10-15 years	212	15,97	2,96		
	16 years and below	137	17,06	2,38		
	Total	506	16,01	2,88		
Unambiguous	9 years and low	157	14,77	2,93	15,217	0,000*
Feedback	10-15 years	212	15,50	3,06		
	16 years and below	137	16,62	2,48		
	Total	506	15,57	2,96		
Concentration	9 years and low	157	14,85	2,84	8,886	0,000*
	10-15 years	212	15,41	3,11		
	16 years and below	137	16,29	2,67		
	Total	506	15,48	2,96		
Sense of Control	9 years and low	157	14,72	2,78	13,473	0,000*
	10-15 years	212	15,73	2,87		
	16 years and below	137	16,37	2,53		
	Total	506	15,59	2,82		
Loss of	9 years and low	157	13,73	3,76	3,700	0,025*
Self-consciousness	10-15 years	212	14,37	3,57		
	16 years and below	137	14,86	3,43		
	Total	506	14,30	3,62		
Transformation	9 years and low	157	15,59	2,90	1,192	0,305
of	10-15 years	212	15,78	3,02		
Time	16 years and below	137	17,33	2,33		
	Total	506	15,81	2,94		
Autotelic	9 years and low	157	16,10	2,69	8,560	0,000*
Experience	10-15 years	212	16,92	2,73		
	16 years and below	137	17,33	2,33		
	Total	506	16,78	2,65		

*p<0,05

Significant differences were found in all sub-dimensions and total scores, except for the transformation of time sub-dimension, according to the results of the analysis in which

the response of the athletes to the time they spent in their branches was compared with the dispositional flow. Accordingly, it was determined that the participants, who stated that they spent 16 years and below in all significant differences, had a higher dispositional flow, compared to other participants. Therefore, in the light of the finding, it can be said that as the time spent on sports increases, the level of dispositional flow increases.

Table 6: ANOVA Test Results between DFS-2 and Weekly Training Variable

	Number of weekly training	**n**	$\bar{x}$	**ss**	**F**	**p**
DFS-2	2	59	135,49	23,54	6,971	0,000*
	3	91	127,10	22,23		
	4	58	137,48	14,76		
	5	72	136,01	19,79		
	6	86	137,39	18,98		
	7	140	142,69	18,46		
	Total	506	136,60	20,32		
Challenge-Skill	2	59	15,76	2,83	5,407	0,000*
	3	91	14,41	3,01		
	4	58	15,81	2,22		
	5	72	15,76	2,71		
	6	86	15,87	2,71		
	7	140	16,28	2,69		
	Total	506	15,68	2,78		
Action-Awareness	2	59	15,30	2,81		
Merging	3	91	14,46	2,60		
	4	58	15,27	2,19	2,601	0,025*
	5	72	15,02	2,66		
	6	86	14,91	2,61		
	7	140	15,65	2,51		
	Total	506	15,14	2,59		
Clear Goals	2	59	15,61	3,05		
	3	91	14,39	3,34		
	4	58	15,93	2,24		
	5	72	15,65	2,79	12,307	0,000*
	6	86	16,54	2,76		
	7	140	17,14	2,24		
	Total	506	16,01	2,88		
Unambiguous Feedback	2	59	15,64	2,99		
	3	91	14,17	3,16		
	4	58	15,41	2,52	8,236	0,000*
	5	72	15,25	3,07		
	6	86	15,73	3,01		
	7	140	16,60	2,48		
	Total	506	15,57	2,96		
Concentration	2	59	15,08	3,18		
	3	91	14,34	3,32	6,487	0,000*
	4	58	15,39	2,42		
	5	72	15,34	3,04		
	6	86	15,48	2,76		
	7	140	16,48	2,61		

	Total	506	15,48	2,96		
Sense of Control	2	59	14,77	3,26	11,649	0,000*
	3	91	14,00	3,31		
	4	58	15,96	2,39		
	5	72	15,83	2,38		
	6	86	15,77	2,61		
	7	140	16,57	2,22		
	Total	506	15,59	2,82		
Loss of Self-consciousness	2	59	14,27	3,25	1,178	0,319
	3	91	13,52	4,02		
	4	58	14,63	3,22		
	5	72	14,50	3,52		
	6	86	14,29	3,21		
	7	140	14,60	3,90		
	Total	506	14,30	3,62		
Transformation of Time	2	59	15,98	3,58	0,596	0,703
	3	91	15,54	3,11		
	4	58	16,29	2,51		
	5	72	15,61	2,91		
	6	86	15,72	2,85		
	7	140	15,89	2,78		
	Total	506	15,81	2,94		
Autotelic Experience	2	59	16,91	2,77	3,207	0,007*
	3	91	15,90	2,82		
	4	58	16,63	2,53		
	5	72	16,93	2,37		
	6	86	16,76	2,74		
	7	140	17,29	2,52		
	Total	506	16,78	2,65		

*p<0,05

According to the ANOVA test results between the number of weekly training sessions and measurement tool, there were significant relationships between the measurement tools and the variable. Accordingly, as the number of weekly trainings increases, the level of DFS-2 also increases. It is observed that the significant difference observed between all sub-dimensions except for the transformation of time sub-dimension is in favor of the participants, who stated that they did 7 times or more training in a week in in-group comparisons.

Table 7: Independent Sample t test Results between DFS-2 and Participation in İnternational Competitions Variable

	Participating in international competition	**n**	$\bar{X}$	**ss**	**t**	**p**
DFS-2	Yes	307	138,73	20,77	2,951	0,003*
	No	199	133,31	19,19		
Challenge-Skill	Yes	307	15,91	2,92	2,237	0,026*
	No	199	15,34	2,52		

Action-Awareness Merging	Yes	307	15,31	2,66	1,862	0,063
	No	199	14,87	2,46		
Clear Goals	Yes	307	16,41	2,84	0,878	0,000*
	No	199	15,40	2,83		
Unambiguous Feedback	Yes	307	16,05	2,90	0,529	0,000*
	No	199	14,83	2,89		
Concentration	Yes	307	15,85	2,86	0,468	0,000*
	No	199	14,90	3,03		
Sense of Control	Yes	307	15,97	2,76	0,637	0,000*
	No	199	15,01	2,82		
Loss of Self-consciousness	Yes	307	14,50	3,63	0,767	0,129
	No	199	14,00	3,57		
Transformation of Time	Yes	307	15,59	2,94	0,444	0,035*
	No	199	16,16	2,91		
Autotelic Experience	Yes	307	16,86	2,69	0,928	0,379
	No	199	16,65	2,59		

*p<0,05

A statistically significant relationship was found in favor of those who participated in international competitions in almost all sub-dimensions of dispositional flow scale and in total scores, except DFS's self-awareness reduction and achievement of goal sub-dimensions. Therefore, participating in international competitions can be said to change the DFS-2 level statistically significantly.

Table 8: ANOVA Results between DFS-2 and Development Comparision Variable

	Development comparision	**n**	$\overline{X}$	**ss**	**F**	**p**
DFS-2	Better	239	141,83	20,10	15,929	0,000*
	Same	175	132,08	19,47		
	Worse	92	131,60	19,32		
	Total	506	136,60	20,32		
Challenge-Skill	Better	239	16,30	2,69	11,547	0,000*
	Same	175	15,10	2,77		
	Worse	92	15,20	2,74		
	Total	506	15,68	2,78		
Action-Awareness Merging	Better	239	15,39	2,70	2,240	0,108
	Same	175	14,90	2,47		
	Worse	92	14,92	2,47		
	Total	506	15,14	2,59		
Clear Goals	Better	239	16,82	2,60	18,928	0,000*
	Same	175	15,37	2,96		
	Worse	92	15,16	2,91		
	Total	506	16,01	2,88		
Unambiguous Feedback	Better	239	16,19	2,84	10,325	0,000*
	Same	175	15,10	2,90		
	Worse	92	14,88	3,06		
	Total	506	15,57	2,96		
Concentration	Better	239	16,27	2,77	17,663	0,000*
	Same	175	14,86	2,70		
	Worse	92	14,58	3,39		

	Total	506	15,48	2,96		
Sense of Control	Better	239	16,21	2,80	12,022	0,000*
	Same	175	15,15	2,63		
	Worse	92	14,80	2,91		
	Total	506	15,59	2,82		
Loss of Self-consciousness	Better	239	14,99	3,75	8,335	0,000*
	Same	175	13,65	3,36		
	Worse	92	13,77	3,43		
	Total	506	14,30	3,62		
Transformation of Time	Better	239	16,13	2,86	2,962	0,053
	Same	175	15,42	2,97		
	Worse	92	15,73	3,04		
	Total	506	15,81	2,94		
Autotelic Experience	Better	239	17,31	2,63	9,735	0,000*
	Same	175	16,22	2,70		
	Worse	92	16,45	2,38		
	Total	506	16,78	2,65		

*p<0,05

When the ANOVA test results between the development comparision and DFS-2; A statistically significant difference was determined in favor of the participants who stated that they showed a better development than the participants who were asked how they see their current development compared to their previous experiences with the dispositional flow scale.

4. Discussion and Conclusion

Within the scope of the research, in which the professional athletes constantly determined their dispositional flow states by determining the specific variables and how they changed this situation, 506 professional athletes were included in the study and it was observed that they displayed an dispositional flow level at average values. Significant relationships and differences were determined based on the sports branch, the duration of doing sports, the number of weekly trainings, the status of participating in international competitions and the comparison of development.

In the current research sample of volleyball, tennis and athletics athletes, the participants showed an average level of dispositional flow. Another study revealed that young tennis players exhibit a high level of optimal mood. It is thought that young athletes having different emotional experiences during training or competition positively affect their motivation for success. It can be said that they developed their motivation both internally and externally in a positive way with the different emotional states they gained at a young age. Therefore, it was revealed that they show a high level of dispositional flow unlike the research findings (Yanar, Kırandı and Çimen, 2017). As a different flow case study, the scale was applied to 146 volunteer participants who came to watch the theater play at the end of the game. The findings showed that the audience experienced a high level of flow during the theater play (Demirutku & Ağaoğlu, 2018). It is possible that different activities have different effects on the flow experience.

There is no statistically significant relationship was found as a result of the analyzes performed between the professional athletes in the sample group and the dispositional flow scale and gender variable. Therefore, it was determined that gender does not constantly change the dispositional flow. In another study, in which similar findings were revealed and it was aimed to examine the dispositional flow according to gender and exercise behavior parameters, it was determined that 74 male and 160 male participants did not reveal a significant relationship according to gender (Altıntaş, Aşçı and Çağlar, 2010). In another study, the relationship between the athletes competing in university league variables according to certain variables and personality characteristics and dispositional flow was investigated and no significant difference was found according to gender (Ceviker et al., 2020). Aykurt (2019) tested similar research on 236 athletes of kite surfers and did not find any significant difference by gender. Many other studies have found similar findings (Bayköse, 2014; Seleciler, 2019; Sharp et al, 2007; Koehn, 2007; Murcia, Gimeno and Coll, 2008; Yanar, Kırandı and Çimen, 2017).

There are also studies indicating that the flow experience of men engaged in professional extreme sports is higher than girls (Chang, 2017). Ersöz (2011) stated that boys show a higher dispositional flow level than girls. Kaya, Metin, Akoğlan Kozak (2015) stated that women show a higher dispositional flow level than men. In the research conducted by Gönülateş, Çebi and İmamoğlu (2019) on tennis players, it was determined that tennis players showed a statistically significant relationship in some of the sub-dimensions of dispositional flow scale. However, it is observed in the literature that gender is not effective in constantly changing the dispositional flow.

Within the scope of the research, it was determined that the participants with higher sports duration were dispositional flow level compared to other participants. Similar research was carried out with the aim of comparing the pre-service teachers' flow, anxiety, and cognitive load levels in the robotic programming process according to their experienced-inexperienced status, and the flow levels were found to be significantly higher when the prospective teachers were experienced (Şişman & Küçük, 2018). Therefore, it can be said that the participants who have performed more sports duration compared to the dispositional flow have consistently found a parallel finding with the finding that the dispositional flow levels are higher than the other participants. In another study, it was determined that the participants, who described the level of doing sports as a master, showed a higher dispositional flow level in all sub-dimensions and total scores, except for the decrease in action-awareness merging and clear goal (Aykurt, 2019). On the other hand, Sümer (2019) stated that as the duration of sports increased, the levels of dispositional flow were constantly decreasing. In the study conducted by Altıntaş, Aşçı and Çağlar (2010), it was shown that the participants who participated in the exercise over 5 years had higher scores on the optimal performance mood scores of those who participated in the exercise for five years and less. It is possible to say that those who have participated in the exercise for more than five years are more experienced and have higher skill levels. It can be explained by the fact that the scores of those who participated in the exercise for more than five years were higher than those who participated in the exercise for five years or less, they were more experienced than others and their skill

levels were higher. Therefore, similar to the findings of the research, it is supported by the literature that the dispositional flow constantly increases as the duration of sports increases.

Statistically significant differences were determined between the number of weekly trainings and the dispositional flow. Accordingly, it was found that the participants who expressed the number of weekly trainings as 7 or more showed a higher dispositional flow level compared to the athletes with other weekly trainings. Ceviker (2020) conducted another study that determined the difference between the duration of training and the dispositional flow. However, contrary to the research findings, it was determined that the athletes whose training number is 1 to 2 per week are in dispositional flow. In the comparison made within the scope of the research, it is thought that this result was obtained because the numerical ratio was in favor of the group with significant differences. On the other hand, Altıntaş, Aşçı and Çağlar (2010) stated that the frequency of exercise constantly changes the dispositional flow. Another study revealed that the increase in the number of weekly trainings constantly decreases the dispositional flow (Sümer, 2019). Aykurt (2019), on the other hand, averages of the participants who said that they are training every day, were found to be much higher than those who have other training frequency. By finding similar findings, Kaya, Metin, and Akoğlan Kozak (2015) stated that the high number of training constantly changes the dispositional flow. According to the findings, those who train 5-6 times a week displayed much higher dispositional flow level averages than those who train 1 to 2 times a week. It is seen that the findings of the studies in the literature overlap with the findings of the research.

When the relationship between participation in international competitions and dispositional flow level is evaluated, a significant relationship has been determined to a large extent. In addition to the research findings in which individuals participating in international competitions display a higher continuous dispositional flow level, there was no significant difference between the competitiveness level variable evaluated in two sub-categories as school or club and the dispositional flow sub-dimensions (Seleciler, 2019). As it contains many features such as participating in competitions, feeling of belonging to the branch, connecting with the work done and commitment, it is a finding that is expected to positively affect the dispositional flow. In addition to all these findings; In the literature, it is possible to find the research in which the dispositional flow, in other words the flow state is examined from many different perspectives (Arıcı and Güdek, 2019; Asakawa, 2010; Arslan Ayazlar, 2015; Filep, 2008; Guo and Poole, 2009; Kurtuluş and Eryılmaz, 2017; Nielsen and Cleal, 2010; Nowak, Hoffman and Duhachek, 2003; Ullén et al, 2012; Yeşiltaş and Türk, 2017; Yanık, 2014). In the literature, it is considered important to look at the dispositional flow from different aspects in terms of the interaction of multidisciplinary fields.

As a result, it has been determined that professional athletes who do sports in the volleyball branch, those with the highest number of sports years, those who practice the most in a week, those who have participated in international competitions, who find better development than their previous experience, have a higher level of dispositional flow compared to other professional athletes. Therefore, it can be said that successful

athletes who are engaged in team sports and do sports for a longer period of time have better dispositional flow level. Testing the dispositional flow on different sample groups will contribute to the field. In subsequent studies, the relation between dispositional flow and different measurement tools should be tested through different variables. It is recommended to examine the flow, which is an important psychological parameter on different groups of athletes and different activities.

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