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An Examination of the Relationship Between Combat Athletes' Leisure Involvement and Recreational Flow Experiences

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ABSTRACT

The aim of this study is to examine the relationship between combat athletes' leisure involvement and their recreational flow experiences.

The research population consists of combat athletes who actively participate in sports clubs in Kocaeli province. The sample includes a total of 100 combat athletes, 73 males and 27 females.

As data collection tools, a Personal Information Form developed by the researchers, the Leisure Involvement Scale, and the Recreational Flow Experience Scale were used. The data obtained were analyzed using the SPSS (Statistical Package for the Social Sciences) for Windows 25.0 software. The suitability of the data for normal distribution was tested using the Kolmogorov-Smirnov test. Correlation analysis was conducted to determine the relationship between athletes' leisure involvement and flow experiences. In addition, regression analysis was applied to determine the effect of leisure involvement on flow experiences.

According to the findings of the study, a strong positive correlation was found between the subdimensions of the leisure involvement scale—attraction (r =.818**), centrality (r = .847**), self-expression (r = .786**), and recreational flow experience (r = .735**, $p < 0.05$). The results of the regression analysis showed that athletes' leisure involvement alone explained 67% of the variance in flow experiences (βFlow=1.056;$p<0.001$).

Based on these results, it can be concluded that as athletes' levels of leisure involvement increase, they experience a more intense flow state.

KEYWORDS: Combat Sports, Leisure Involvement, Recreational Flow Experience.

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INTRODUCTION

Investigating the relationship between combat athletes' leisure involvement and their recreational flow experiences is significant for understanding not only their leisure time experiences but also their physical, sociological, and psychological well-being as well as emotions such as focus and enjoyment during activities. Leisure involvement plays a critical role in strengthening athletes' social relationships, enhancing personal meaning, and increasing overall life satisfaction (1–3), while recreational flow experiences offer important opportunities for self-expression, coping with stress, and improving overall mental health (4–7).

Martial arts and combat sports are athletic disciplines performed within a framework of specific rules, involving techniques such as striking, kicking, and/or throwing. These sports aim to physically overcome opponents while avoiding defeat (8–10). Characterized by sudden environmental changes requiring constant adaptation, they involve intense one-on-one confrontations where the primary goal is often to strike the opponent with maximum force and power (11–12).

For combat athletes, leisure involvement refers to a subjective state of commitment that promotes participation and continuity in activities (13), while also serving as a motivational factor (14). It is associated with athletes' interest in a particular activity, their level of commitment, and the satisfaction they derive from it (15,16). This involvement plays a vital role in strengthening athletes' social relationships and personal meaning (17,18). Their commitment to leisure activities is closely tied to feelings of pleasure, enjoyment, and participation (19,20), and represents a necessary connection for achieving personal and social satisfaction (21). Moreover, it serves as an opportunity for athletes to express themselves (22–24), and it has a significant impact on their psychological well-being and physical health (25–27). Therefore, leisure involvement is crucial for enhancing social ties, personal awareness, and overall life satisfaction. The sustainability of athletes' leisure experiences relies significantly on the flow experience.

Flow refers to an athlete's complete immersion in an experience, with full attention directed toward the activity and a sense of intrinsic enjoyment. According to flow theory, when athletes are fully engaged in an activity, it positively influences their

subjective well-being and motivation (28). The theory explains how athletes achieve a state of intense focus and enjoyment (29). When in flow, athletes feel highly concentrated, motivated, and fully absorbed in the activity. Additionally, recreational flow experiences provide essential opportunities for self-expression, stress management, and improving overall mental health.

In light of this information, numerous studies have indicated that leisure involvement facilitates the experience of flow (19,30,31). The findings in the literature support the positive effects of leisure activities on flow experiences, revealing that these activities benefit athletes both individually and socially (24,32). In this context, the nature of leisure activities and the frequency of athletes' participation play an important role in achieving effective flow experiences (33). During recreational flow experiences, athletes intensely focus on the activity, disconnect from environmental distractions, and develop high intrinsic motivation throughout the process (34,67). Cheng & Lu (35) found that individuals with higher levels of leisure involvement experience flow more frequently, contributing positively to their overall well-being. This is especially evident in combat sports, where not only physical performance but also mental resilience is crucial (36,37,66). For instance, Kocaer (38) emphasized that increased frequency of participation in leisure activities leads to higher levels of recreational benefit. Similarly, Tuncer & Arslan (39) reported a significant increase in happiness levels among individuals who regularly participated in recreational activities. Paggi, Jopp & Hertzog (26) also noted the positive effects of physical activity on physical health and general well-being. In the context of combat athletes, these findings suggest that leisure involvement and recreational flow experiences may enhance both athletic performance and overall life satisfaction.

Therefore, examining the relationship between leisure involvement and recreational flow experiences in combat athletes may contribute to the development of strategies aimed at improving athletes' performance and quality of life. This study seeks to fill this important gap in the literature by revealing how combat athletes' involvement in leisure activities influences their recreational flow experiences. Accordingly, it aims to investigate how their commitment to leisure activities affects their experiences of recreational flow.

CONCEPTUAL FRAMEWORK

2.1. Relationship Between Leisure Involvement and Flow

The relationship between leisure involvement and flow experience is a multifaceted research area that has attracted significant interest in psychological and sociological studies. Flow, a concept introduced by Csikszentmihalyi (28), refers to a state of complete immersion and engagement in an activity, leading to high levels of enjoyment and intrinsic motivation. This state is often facilitated by leisure activities, which provide a framework that is highly conducive to experiencing flow and, consequently, enhancing overall well-being.

Research has demonstrated that participation in leisure activities increases flow experiences, contributing to psychological resilience and well-being. Denovan and Macaskill (40) emphasize that leisure activities can facilitate feelings of flow and absorption, which in turn help alleviate problems such as stress-related rumination. Wu and Wu (37) argue that flow enhances the benefits derived from leisure activities, stating that the positive emotions arising during flow experiences can broaden cognitive capacities and strengthen social relationships. Furthermore, high levels of leisure involvement have been shown to be associated with stronger flow experiences across various recreational activities (23,35,36,41). Flow, characterized by a balance between high challenge and skill levels, is considered an optimal experience that enhances subjective vitality, particularly among older adults (42).

The mediating role of flow in the relationship between leisure participation and satisfaction has been confirmed in several studies. For instance, a study conducted on university students revealed that situational engagement in leisure activities is significantly associated with flow experiences, which in turn influence leisure satisfaction (43). Ahn and Song (44) demonstrated that there is a link between leisure identity and flow, suggesting that a strong identification with leisure activities increases the likelihood of experiencing flow and satisfaction. The interaction between leisure activities and flow is also evident in the context of emotional regulation and coping strategies. Freire and Teixeira (25) examined how leisure attitudes and satisfaction influence positive functioning in adolescents, highlighting the critical role of flow in this dynamic. Kim and Lee (45) emphasized that both casual and serious leisure activities can lead to changes in stress levels and that flow is a key factor in managing psychological and physiological stress.

The relationship between leisure involvement and flow experience can be influenced by multiple factors. Although generally positive, the nature of this relationship may vary depending on the type of activity, individual characteristics, and personal motivations. Understanding these dynamics can aid in the design of more effective recreational programs and environments that promote flow experiences and enhance overall well-being (35,36,46). Future research can explore the role of environmental factors and social interactions in shaping leisure experiences and emotions, thereby offering a more comprehensive understanding of the relationship between leisure involvement and flow (33).

2.2. Leisure Involvement and Flow Experience Among Combat Athletes

The relationship between leisure involvement and flow experiences among combat athletes is a multidimensional topic encompassing psychological, physiological, and social aspects. Flow experience, defined as a state of complete immersion and optimal engagement in an activity, has been shown in various studies to be particularly important in the context of combat sports, where athletes frequently face intense physical and mental challenges.

Leisure involvement has been found to have a direct positive effect on flow experiences. Athletes with a high level of expertise and participation have been shown to experience more intense flow than those with lower levels of participation (47). This

suggests that combat athletes who actively engage in leisure pursuits are more likely to experience flow, which may, in turn, enhance their performance during competitions. Similarly, Tao et al. (36) demonstrated that leisure participation not only directly influences flow experiences but also contributes to place attachment, indicating that emotional bonds formed through leisure activities can foster deeper engagement and satisfaction. They also emphasized the psychological dimensions of leisure participation in understanding flow experiences.

Wu and Wu (37) highlighted the mediating role of leisure participation in the relationship between emotional contagion and leisure benefits, suggesting that athletes' emotional states during leisure activities significantly affect their flow experiences. This is particularly relevant for combat athletes, who frequently encounter high-pressure situations requiring intense focus and emotional regulation. The ability to achieve flow may serve as a coping mechanism that enables athletes to manage stress and enhance their performance.

Research has shown that leisure participation significantly increases flow experiences, which in turn positively affects both performance and overall satisfaction in combat sports. In the literature, it has been emphasized that in structured disciplines, such as combat sports, athletes with higher levels of leisure involvement tend to experience more intense flow.

In line with this, the following hypotheses have been developed:

Hypothesis 1: There is a positive relationship between combat athletes' leisure involvement and their flow experiences.

Hypothesis 2: Combat athletes' leisure involvement has a significant effect on their flow experiences.

METHOD

3.1. Research Group

The study population consisted of combat athletes who actively participated in sports clubs in the province of Kocaeli. The sample was determined using a purposive sampling method based on voluntariness, comprising a total of 100 athletes (48). Of these, 73% were male (n = 73) and 27% were female (n = 27). The research group was structured to represent the demographic and experiential characteristics of athletes actively involved in combat sports.

3.2. Data Collection Tools

To collect demographic data, a personal information form created by the researcher and administered via Google Forms was used. The form consisted of five questions aimed at gathering information about participants' gender, age, sports background, the specific combat sport they were involved in, the duration of their involvement, and their competitive level.

3.2.1. Leisure Involvement

To measure the level of leisure involvement among combat athletes, the Leisure Involvement Scale, originally developed by Beaton et al. (49) and adapted to Turkish culture by Eskiler (50), was used. The scale consists of 12 items and employs a 5-point Likert format (1 = Strongly Disagree, 5 = Strongly Agree). It includes three sub-dimensions: Attraction, Centrality, and Self-expression. The overall reliability coefficients (Cronbach's α) for the scale and its subdimensions were reported to range between 0.89 and 0.96 in previous studies by Eskiler (50) and Soyer (51). In the current study, the overall Cronbach's α of the Leisure Involvement Scale was found to be 0.97. Specifically, the α coefficients were 0.95 for Attraction, 0.92 for Centrality, and 0.95 for Self-expression.

3.2.2. Flow Experience Scale

To evaluate the flow experiences perceived by combat athletes during recreational activities, the Recreational Flow Experience Scale (RFES) developed by Ayhan et al. (52) was employed. This scale consists of 9 items in a single-factor structure and is rated on a 7-point Likert scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (7). In the scale development study, the Cronbach's alpha was reported as 0.94, and the test-retest item correlation coefficient was 0.81. In the current research, the Cronbach's α for the RFES was found to be 0.99, indicating very high reliability.

3.3. Data Collection

An online questionnaire was distributed to athletes actively participating in combat sports via gyms, boxing clubs, and taekwondo clubs located in Kocaeli. The aim was to reach a targeted subset of combat athletes. A total of 102 responses were received, of which 100 were deemed valid and included in the analysis.

3.4. Data Analysis

The data were analyzed using the SPSS version 25.0 statistical software package. A correlation analysis was conducted to examine the relationship between leisure involvement and flow experiences of combat athletes. Additionally, regression analysis was performed to determine the effect of leisure involvement on flow experiences. The level of significance for this study was set at $p < 0.05$.

FINDINGS

Table 1. Distribution of Demographic Characteristics of Combat Athletes

		n	%
Gender	Kadın	27	27
	Erkek	73	73
Age	17-20 age	66	66

	21-25 age	24	24
	26-30 age	4	4
	31+ age	6	6
Sport Branch	Boxing	56	56
	Taekwondo	25	25
	Kickboxing	19	19
Years of Sports Participation	1-3 Years	42	42
	4-6 Years	25	25
	7-9 Years	13	13
	10 years and above	20	20
License Level	National athlete	13	13
	Licensed athlete	87	87
	Total	100	100

Table 1 presents the demographic characteristics and sports backgrounds of the participating athletes in detail. In terms of gender distribution, 27% of the participants were female (n = 27), while 73% were male (n = 73), indicating that the participant group was predominantly composed of male athletes.

When age groups are analyzed, 66.0% of the athletes were between 17 and 20 years old (n = 66), 24.0% between 21 and 25 years old (n = 24), 4.0% between 26 and 30 years old (n = 4), and 6.0% were aged 31 and above (n = 6). These results suggest that the majority of participants belonged to a younger age group.

Regarding the distribution by sport disciplines, 56.0% of participants practiced boxing (n = 56), 25.0% taekwondo (n = 25), and 19.0% kickboxing (n = 19). Boxing emerged as the most represented sport among the participants.

In terms of years of experience, 42.0% of the athletes had 1–3 years of experience (n = 42), 25.0% had 4–6 years (n = 25), 13.0% had 7–9 years (n = 13), and 20.0% had 10 or more years of experience (n = 20). These findings indicate that most of the athletes were at a beginner to intermediate experience level.

An analysis of national athlete status revealed that 13.0% of participants were national athletes (n = 13), while 87.0% were licensed athletes (n = 87), showing that the majority of the sample consisted of licensed athletes.

Table 2. Correlation Analysis Results of Combat Athletes' Leisure Involvement and Recreational Flow Experience Scale

		Çekicilik cazibe	Merkeziyet	Kendini ifade etme	Serbest zaman ilgilenimi	Rekreasyonel akış deneyimi
Recreational flow experience	r	,847**	,786**	,735**	,818**	1,00
	p	,000	,000	,000	,000	

Upon examining Table 2, a strong positive correlation was found between the dimensions of the Leisure Involvement Scale—Attraction, Centrality, and Self-expression—and the Recreational Flow Experience. The correlation coefficients were: Attraction (r = .818**), Centrality (r = .847**), Self-expression (r = .786**), and the overall Recreational Flow Experience (r = .735**), with statistical significance at ($p < 0.05$).

A high-level positive correlation was identified between Attraction and Recreational Flow Experience ($r = .847$, $p < 0.001$). This finding indicates that increases in athletes' perception of attraction positively influence their recreational flow experiences.
A significant positive correlation was found between Centrality and Recreational Flow Experience ($r = .786$, $p < 0.001$), suggesting that centrality is an important factor in athletes' experience of flow.

A moderate positive relationship was observed between Self-expression and Recreational Flow Experience ($r = .735$, $p < 0.001$). This relationship indicates that athletes' self-expression abilities positively impact their flow experiences during recreational activities.

The correlation between overall Leisure Involvement and Recreational Flow Experience was found to be particularly strong ($r = .818$, $p < 0.001$). This demonstrates a close connection between athletes' interest in leisure activities and the intensity of flow experiences they undergo during such activities.

In conclusion, recreational flow experience appears to be strongly associated with various psychological and social characteristics of combat athletes. In particular, leisure involvement and perceived attraction have a significant impact on flow experiences.

Table 3. Regression Analysis Results of Combat Athletes' Leisure Involvement and Flow Experience Scale

	R	R Square	Adjusted R Square	B	Std. Error	B	F
Akış deneyim	,818a	,670	,666	1,056	,075	,818	198,808

P<0,001

VIF=1
Durbin Watson=2,134

To investigate the main focus of the study—leisure involvement—participants were selected based on their engagement in combat sports, assuming that the flow experiences they encountered during their specific sport would influence their sense of involvement. To explore this relationship, a regression analysis was conducted (Table 3).

The results of the regression analysis revealed that athletes' leisure involvement, alone, explained 67% of the variance in flow experiences (βFlow = 1.056; $p < 0.001$).

These findings highlight the importance of examining leisure involvement and flow experiences together in combat athletes. It can be concluded that as athletes' engagement in activities increases, their flow experiences are similarly enhanced.

DISCUSSION

Martial arts and combat sports are disciplines that allow participants to develop both physical and mental skills. Participation in these sports has significant effects on athletes' leisure involvement and recreational flow experiences. While leisure involvement refers to the degree of interest and commitment athletes demonstrate toward certain activities during their free time, recreational flow experience is defined as a state of deep focus and satisfaction in which athletes lose track of time while engaging in an activity.

In this study, the relationship between combat athletes' leisure involvement and their recreational flow experiences was examined, and the subdimensions of the Leisure Involvement Scale, Attraction, Centrality, and Self-expression, were considered. Havitz and Dimanche (53) identified three key dimensions of leisure involvement: attraction, centrality, and self-expression. *Attraction* refers to the importance and enjoyment of leisure activities, *centrality* reflects the value of the activity in relation to other areas of life, and *self-expression* represents the ability to express identity through participation. Similarly, McIntyre and Pigram (54) and Laurent and Kapferer (55) conceptualized involvement in these three dimensions.

In this study, a high-level positive relationship was found between attraction and recreational flow experience ($r = 0.847$, $p < 0.001$). This indicates that as athletes' perceptions of attraction increase, their focus and satisfaction during activities improve, enhancing their flow experience. Attraction reflects the extent to which athletes find an activity meaningful and valuable, acting as a foundational factor that deepens the flow experience.

Recreational participation is associated with psychological states such as feelings, motives, and excitement triggered by specific stimuli or contexts during leisure activities. The concept of attraction is directly related to the emotional meaning and satisfaction derived from these activities (15). Studies in the United States have reported that the attraction subdimension positively influences life satisfaction. For example, Kyle, Graefe, and Manning (56) found that the attraction dimension of leisure involvement had a positive effect on satisfaction among long-distance hikers. Similarly, findings by Dai et al. (57) showed that attraction positively influenced divers' commitment and lifestyle through joy, relaxation, and the sharing of experiences.

Individuals who take their leisure seriously are more likely to feel engaged in those activities, making the individuals more attractive and contributing to positive psychological states (58). These studies suggest that finding an activity attractive increases intrinsic motivation and leads to greater participation and more intense flow experiences.

The literature also highlights a strong connection between the attraction dimension and hedonic value, which refers to the pleasure and enjoyment individuals derive from an activity (24, 28). Tao, Zhou, Tian, and Zhu (36) support these findings. In a study on professional extreme sports, Chang (23) found that participants who experienced intense pleasure reported losing track of time, satisfaction with their sport choice, and enjoyment derived from the activity. McIntyre and Pigram (54) in their study on camping suggested that attraction can be conceptualized in terms of the perceived importance and pleasure of the activity.

In the context of combat sports, it is evident that leisure activities are not only about entertainment but also serve as a means for achieving physical and emotional fulfillment. Thus, attraction emerges as a key antecedent to enhancing flow. Tsaur et al. (7) concluded that attraction increases happiness and strengthens commitment to activities. Individuals with high levels of involvement have been shown to experience greater satisfaction and academic success (59). For combat athletes, the perceived attractiveness of activities leads to greater time and energy investment, promoting deeper focus and satisfaction during recreational engagement (21).

The study also found a significant positive correlation between centrality and recreational flow experience ($r = 0.786$, $p < 0.001$), suggesting that athletes develop stronger commitment to activities that hold central importance in their lives, thereby enhancing flow. This finding aligns with numerous studies in the literature. The centrality style reflects the link between participants' lifestyle and/or social networks and their leisure activities. In particular, the centrality dimension refers to how much an activity is at the core of an individual's life.

Self-expression, on the other hand, is a symbolic dimension that refers to the image individuals wish to convey through their leisure participation, (23). Centrality has been defined as the degree to which individuals place an activity at the center of their lives (15, 56, 60). For example, Dai et al. (57) noted that centrality among divers reflected how their recreational activities played a central role in their lives. Meaningful activities go beyond mere entertainment and also contribute to identity construction.

In extreme sports, individuals not only seek pleasure but also use the activity as a tool for self-expression and consider it a central part of their lives (53). Mountain hikers with high leisure involvement recognized the importance of hiking, expressed strong interest, devoted more time to it, and saw it as a central part of their lifestyle (24, 56). The present study supports these views, showing that, when combat athletes perceive leisure activities as central to their lives, they are more likely to experience deeper flow.

A moderate positive correlation was also identified between self-expression and recreational flow experience ($r = 0.735$, $p < 0.001$), indicating that athletes' ability to express themselves enhances their focus, satisfaction, and motivation during participation, influencing flow. Self-expression refers to the process of externalizing one's personal identity and values and is closely linked with the flow experience.

Self-expression allows individuals to demonstrate authenticity in recreational activities (61). An, Sato, and Harada (62), in a study on amateur triathletes in Japan, found a positive correlation between the subdimensions of attraction and self-expression, and satisfaction. Kim and Lee (45) emphasized that individuals who experience flow during recreational activities not only engage in exercise but also achieve self-development, reduce social alienation, improve mental and physical health, and enhance creative expression.

For combat athletes, enhanced self-expression skills help establish emotional bonds with activities, deepening the flow experience. Self-expression boosts self-confidence and increases satisfaction derived from activities (21).

This study found a particularly strong correlation between leisure involvement and recreational flow experience ($r = 0.818$, $p < 0.001$). This suggests that athletes' interest in leisure activities is a crucial factor that enriches their flow experiences and contributes to their psychological well-being. Leisure involvement expresses emotional and cognitive commitment, enhancing both satisfaction and focus during the activity.

In the literature, leisure involvement is considered an antecedent to flow, as it enhances individuals' commitment and promotes higher levels of focus and enjoyment (63). Havitz and Dimanche (53) argued that leisure interest increases motivation and intrinsic satisfaction, leading to more intense flow experiences. As participants regularly engage in an activity over time, they develop greater skills and knowledge, leading to advanced recreational specialization (64). Research has shown that the participation level of recreational surfers significantly and positively affects their flow experience (35).

Similarly, studies on hikers and park visitors found a significant positive relationship between leisure involvement and flow (36, 41). Individuals with high leisure involvement are more likely to experience intense flow during activities (21, 65). Participants in extreme sports with high leisure involvement also demonstrated a stronger tendency to enter flow states (19). Demirel, Varol, Bozoğlu, Kaya, and Aksu (30) also reported a significant and positive relationship between leisure involvement and flow.

Leisure involvement contributes to both psychological and social well-being. Tsaur, Yen, and Hsiao (7) found that high interest in leisure activities reduces stress and increases happiness. Similarly, the flow experiences of recreational surfers were found to positively impact well-being (35,68). In a study on hikers, psychological commitment was shown to have a positive effect on flow (41).

In the context of combat athletes, high levels of leisure involvement facilitate greater focus on activities, enabling both physical and emotional satisfaction. This in turn increases enjoyment derived from recreational experiences and contributes to overall quality of life.

CONCLUSION

This study examined the relationship between combat athletes' leisure involvement and their recreational flow experiences by exploring how the subdimensions of leisure involvement—attraction, centrality, and self-expression—relate to flow experiences. The findings indicate that as athletes' levels of leisure involvement increase, they tend to experience more intense flow states.
An increase in athletes' perception of attraction significantly enhances key components of the flow experience, such as focus, sense of control, and intrinsic satisfaction during activities. Higher attraction perceptions strengthen athletes' interest and motivation to participate, suggesting that the altered perception of time during the activity is a critical element reinforcing the flow experience.

Centrality was also found to significantly influence athletes' satisfaction and concentration levels during activities. The results show that when athletes perceive an activity as central to their lives, they experience higher levels of flow, positively contributing to their psychological and social well-being.

Self-expression is identified as a fundamental factor supporting flow by enhancing athletes' levels of satisfaction and happiness in both psychological and social contexts. The findings suggest that creating environments that foster athletes' self-expression can lead to more profound flow experiences during recreational activities.

6.1. Theoretical and Practical Implications

From a theoretical perspective, the findings of this study align with leisure theory and flow theory, demonstrating that the subdimensions of attraction, centrality, and self-expression directly contribute to athletes' psychological well-being. Attraction enhances athletes' intrinsic motivation by making an activity feel meaningful and valuable, while centrality strengthens athletes'

commitment to the activities they engage in. The self-expression dimension increases athletes' emotional connection to the activity, boosting their satisfaction and motivation levels, and deepening their flow experiences.

To increase athletes' interest and involvement, training processes should be structured in a way that supports motivation and satisfaction. Social interaction opportunities and group activities should be encouraged to enhance athletes' engagement in leisure activities. Specifically for combat athletes, creating opportunities for self-expression—such as competitions, performance showcases, and psychological support programs—can be particularly beneficial.

Incorporating recreational components into training programs can improve combat athletes' motivation and satisfaction, thereby strengthening their recreational flow experiences. In this context, training programs should not solely focus on physical performance but should also be enriched with elements that promote athletes' leisure involvement. Factors that make an activity feel meaningful and attractive—such as fun activities, social spaces, and group events—can be integrated into training to increase engagement. As a result, athletes may experience higher levels of focus, satisfaction, and intrinsic motivation during training.
In the context of combat sports, such practices may enhance athletes' commitment to training processes and contribute to more sustained participation in recreational activities over time.

Encouraging athletes' participation in competitions and performance-based events can also strengthen their emotional connection to activities, increasing their level of recreational satisfaction.

Raising coaches' and trainers' awareness of the relationship between leisure involvement and flow experience may help athletes experience greater satisfaction and motivation during training.

Finally, developing personalized training programs that take into account athletes' levels of involvement could support long-term engagement in recreational activities.

Author Contributions
This manuscript is the result of a collaborative effort between two authors, both of whom have reviewed and approved the final version. The specific contributions of each author are as follows: H.A: Responsible for conceptualization, data curation, formal analysis, investigation, methodology, visualization, drafting of the original manuscript, and critical revision and editing. G.S: Contributed to conceptualization, formal analysis, methodology, supervision, and critical revision and editing of the manuscript.

Ethics Approval And Consent To Participate
Ethical approval for this study was granted by the Social and Human Sciences Ethics Committee of Kocaeli University, as indicated in the official letter dated November 18, 2023, with reference number E.487477. All participants took part in the study voluntarily.

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Conflict Of Interest
The authors declare that there are no conflicts of interest related to this study.

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