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"The Water's Very Nice, Come On!": The Mediating Role of Event Satisfaction in the Relationship Between Flow Experience and Personal Well-Being

Mehmet DOĞAN*[1] Ali SEVİLMİŞ[2]

[1]*Physical Education and Sports Department, School of Foreign Languages, National Defense University, İstanbul, Türkiye*
[2]*Department of Sport Management, Sports Science Faculty, Karamanoğlu Mehmetbey University, Karaman, Türkiye*

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* **Corresponding Author**:
Mehmet DOĞAN
E-mail Address:
mdogannet@gmail.com

ABSTRACT

The study aimed to investigate the mediating role of event satisfaction in the relationship between recreational flow experience and personal well-being in a sample participating in swimming events. A total of 301 volunteers participated in this research, comprising 139 females (46.2%) and 162 males (53.8%). The ages of participants varied from 18-60 years ($Mean_{age}$ = 35.44±7.84). As data collection tools, the Recreational Flow Experience Scale (RFES), Event Satisfaction Scale (ESS), and Personal Well-Being Index-Adult (PWBI-A) were used. In accordance with the basic aim of the study, mediation analysis was performed using the PROCESS macro for data analysis. When the correlation coefficients related to the scales were investigated, statistically moderate and high levels of positive significant correlations were identified between the mean scores for recreational flow experience, event satisfaction, and personal well-being among individuals participating in swimming events ($p < 0.01$). The analysis results indicate that recreational flow experience had a positive and direct significant effect on personal well-being ($\beta = 0.22$; $p < 0.01$). Additionally, event satisfaction was confirmed to play a mediating role in the relationship between recreational flow experience and personal well-being ($\beta = 0.21$; $p < 0.01$). The results show that individuals regularly participating in swimming events will have increased personal well-being mediated by the satisfaction they obtain from the event by experiencing flow. The study emphasizes the potential of flow experiences and event satisfaction to contribute to the well-being of individuals.

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INTRODUCTION

Leisure is time remaining after mandatory work and responsibilities that individuals may use freely (Roberts, 2018). During this time, individuals may relax physically or mentally and participate in activities to help develop themselves (Chick et al., 2016; Koçak & Gürbüz, 2024). Home-based activities, outdoor activities, cultural, artistic, social, and touristic activities, and physical activity-based events offer a variety of choices for individuals to pass their leisure time (Gürbüz, 2017; Kelly, 2019; Stebbins, 1992). Leisure activities, encompassing a broad range of choices such as home-based, outdoor, cultural, and physical pursuits, are crucial in enhancing individuals' overall well-being (Chick et al., 2022; Doğan, 2021). Within this diverse spectrum, physical activity-based options stand out, offering unique opportunities for both health and enjoyment, among which water sports hold a special place.

From this perspective, water sports are among important physical activity-based recreational activities supporting bodily health and ensuring mental relaxation for individuals (Choi & Park, 2021). Water-based activities like swimming, canoeing, and surfing offer the opportunity to spend leisure more productively and satisfyingly. Activities completed in aqueous environments offer a different experience to individuals compared to sporting activities on land due to the unique physical properties of water. For example, swimming improves general fitness by lessening the pressure on joints and supports cardiovascular health (Tanaka, 2009). Cumming (2017) stated that regular swimming improved cardiac and vascular health and lowered blood pressure. Additionally, movements against water resistance increase muscle strength and benefit joint health, and these features make it ideal for individuals with joint disorders (Silva et al., 2020). According to research, swimming does not just offer physical benefits; at the same time, it supports general psychological well-being by improving the mental state of individuals (Overbury et al., 2023; Sheard & Golby, 2006). Research shows that swimming reduces levels of stress, anxiety, and burnout with this psychologically relaxing effect (Sukur et al., 2023). The positive effects of water on mental health become more pronounced for water-based activities like swimming. This effect is largely related to the relaxing feeling created by water on the body, and regular swimming is associated with increasing endorphin production (Carrasco et al., 2007). Endorphins reduce stress, making individuals feel happier and improving general psychological health (Özant, 2024; Sran et al., 2021). Due to water activities like swimming, individuals experience flow, an area of study in positive psychology (Chen & Meggs, 2021). Flow is frequently observed

during repetitive and rhythmic activities like swimming. While swimming, individuals focus on bodily movements, are removed from external stimuli, and only feel within the water, which may trigger flow.

In recent years, recreational flow experience has emerged as a prominent research topic, particularly in terms of the intense focus and satisfaction individuals experience during their leisure activities (Ahn & Song, 2024; Er & Cengiz, 2023; Sevim et al., 2022). However, studies examining the impact of flow experience on event satisfaction remain relatively limited (Armbrecht & Andersson, 2020; Ding et al., 2023). Investigating the relationship between recreational flow experience and event satisfaction, especially in from swimming activities. Activities like swimming, which require intense focus, can uniquely affect individuals' physical and psychological well-being. This study aims to explore the relationship between recreational flow experience and event satisfaction in the context of swimming, thereby addressing gaps in the literature and offering unique contributions to understanding individuals' well-being.

Recreational flow results from positive or negative evaluation of general life satisfaction with personal well-being when an individual focuses on recreational activities, shaped by the feelings and emotions obtained from these activities (Sidorová, 2015). Individuals with high-flow experiences participate intensely in recreational activities and greatly benefit from this process (Akçakese et al., 2024). This contributes to individuals experiencing positive feelings by keeping them from negative feelings (Cheng & Lu, 2015). In this context, the specific features of the flow experience, such as concentration (Marty-Dugas & Smilek, 2019), intrinsic motivation (Mehta & Vyas, 2022), and a sense of control (Wu et al., 2020), may positively influence personal well-being through the mediation of event satisfaction.

Theoretical Framework and Hypotheses

Relationship Between Recreational Flow Experience and Event Satisfaction

Flow is a psychological state characterized by internal motivation when individuals fully concentrate on an activity and feel deep satisfaction (Csikszentmihalyi & Larson, 2014). This concept was first proposed by Mihaly Csikszentmihalyi and was defined as an individual's perception of time being lost during an activity when they focus intensely and achieve enjoyment (Csikszentmihalyi, 2013). Flow ensures individuals are fully caught up in an activity by creating a balance between the capabilities of the individuals and the level of difficulty of the activity. Among the basic features of flow are the individual focusing on the

activity at a high level, feeling time passing quickly, internal satisfaction obtained from the activity, dealing with difficult but doable tasks, and feeling in full control of the activity (Csikszentmihalyi, 2020). Flow may be observed in a variety of areas like sports, art, music, games, and work life, generally (Nakamura & Csikszentmihalyi, 2002). In this context, the flow experienced by individuals during swimming ensures the opportunity to understand the psychological effects of this activity more deeply. Swimming is an activity with features triggering flow because individuals perform continuous repetitive movements and physically adjust to the resistance provided by the water while swimming; they enter a certain rhythm. This situation allows the person the opportunity to fully focus, both physically and mentally, on the swimming activity. Smith (2021) stated that swimming is strongly associated with the flow experience, enabling individuals to connect deeply with water and their surroundings. Swimming in a state of flow enhances individuals' physical performance and increases their ecological awareness and sensitivity. This experience emerges at a point where the individual's capabilities are tested but not overwhelmed, and this situation may ensure that the individual obtains satisfaction from swimming.

Event satisfaction is a psychological concept representing the satisfaction experienced by individuals during a certain event. This concept measures the degree of general satisfaction obtained by individuals from an event and involves the emotional and cognitive responses of the individual to the event (Funk et al., 2011). This concept is related to factors like the enjoyment a person receives from the event generally, the level to which the event meets expectations and general attitudes about the event (Ragheb & Beard, 1982). Event satisfaction may be affected by a variety of factors. For example, the compatibility of the event with the individual's interest and capabilities has a significant effect on the levels of enjoyment and satisfaction obtained from the event (Beard & Ragheb, 1980). Additionally, the balance between the difficulty level of the event and the individual's abilities is another factor affecting event satisfaction. Compatibility between difficulty and ability ensures a high degree of satisfaction is experienced by individuals during the event (Csikszentmihalyi, 2020). Cater et al. (2021) examined the causal relationship between flow experience and satisfaction in diving activities. The study found that flow experience plays a role in increasing satisfaction and that the flow experienced during diving directly impacts participants' satisfaction levels. Recreational flow experience and event satisfaction are closely interconnected (deMatos et al., 2024; Kim, 2022), as the immersive and enjoyable nature of flow not only enhances individuals' engagement with the activity but also significantly contributes to their overall satisfaction with

the event, creating a more meaningful and memorable experience. In light of this knowledge, we propose the following hypothesis.

Hypothesis 1: Recreational flow experience will have a direct positive effect on event satisfaction.

Relationship Between Recreational Flow Experience and Personal Well-Being

Personal well-being is a comprehensive concept related to the long-term life satisfaction of individuals and not just a temporary mood (Diener, 1984). This concept is not limited to the presence of positive emotions and the absence of negative emotions in the life of individuals; it involves cognitive assessments and general satisfaction levels of individuals about their lives (Diener et al., 2018). This broad definition of personal well-being offers an in-depth approach to understanding how individuals assess their own satisfaction by considering all aspects of their lives (Andrews & Robinson, 1991; Angner, 2010). Personal well-being is affected by a variety of factors in the individual's life. Among these are social relationships and activities, physical health, economic status, and personal success (Bortes et al., 2021; Buecker et al., 2021; Cooper et al., 1992; Goswami, 2012; Lamu & Olsen, 2016). Social relationships play a critical role in increasing the personal well-being of individuals because strong bonds formed between individuals and their close surroundings provide psychological and emotional support (Diener et al., 2018). Similarly, protecting physical health increases the satisfaction a person receives from life and positively impacts the general well-being levels of individuals (Cross et al., 2018; Dobewall et al., 2018). Especially when the difficulty level is consistent with the individual's abilities, individuals experience higher personal satisfaction and well-being as they feel competent and successful (Csikszentmihalyi, 2020; Fong et al., 2015). Recreational flow, defined as a process where the individual focuses intensely on an activity and experiences full participation, emerges as a strong factor positively affecting the personal well-being levels of individuals (Shen et al., 2022). Flow does not just affect the enjoyment and satisfaction an individual feels during an activity; at the same time, it leads to positive outcomes for personal development, self-efficacy, and psychological well-being after the activity (Jackson et al., 2004). Zou et al. (2024) revealed that the flow experienced during physical activities increased the personal well-being of students, and this contributed to mental and emotional health. The study emphasized that a supportive exercise atmosphere, especially, assisted in strengthening this relationship by providing the necessary conditions for flow. Individuals experiencing flow in the business world especially were more creative and productive and were more satisfied with their work, and this satisfaction was reflected in

general life happiness (Salanova et al., 2006). A study by Chang (2017) stated that risk-taking skills increased when individuals experienced flow in extreme sports, while contrary to this, well-being was positively impacted. Flow, improving individuals' general quality of life by increasing productivity in work life and work satisfaction, is associated with high performance, satisfaction and well-being during recreational activities. In line with this information, we propose the following hypothesis.

Hypothesis 2: Recreational flow experience will have direct positive effect on personal well-being.

Relationship Between Event Satisfaction and Personal Well-Being

In the literature, though a direct correlation was not identified between event satisfaction and personal well-being, there is information that personal well-being is closely associated with leisure satisfaction (Argan et al., 2018; Liu, 2014). Hribernik and Mussap (2010) stated that individuals' satisfaction from leisure activities significantly increases their general life satisfaction and subjective well-being levels. Individuals spending their leisure time doing enjoyable, meaningful, and valuable activities were observed to have higher levels of psychological health. The results of another study identified that when students developed positive attitudes toward leisure activities, they obtained higher levels of satisfaction from these activities, and this satisfaction significantly impacted their psychological well-being levels (Kim et al., 2015). In this context, the relationship between event satisfaction and personal well-being highlights the significant impact that individuals' event experiences have on their emotional, psychological, and physical states of well-being (Theodorakis et al., 2015). Event satisfaction is related to how individuals' satisfaction with an activity increases their personal well-being levels through emotional fulfillment and meaningful experiences. In a study by Kuykendall et al. (2018), it was found that leisure activities play a significant role in personal well-being. The research shows that leisure activities improve individuals' overall well-being by creating positive effects on dimensions such as emotional satisfaction, stress reduction, and overall life satisfaction. In line with this information, we propose the following hypothesis.

Hypothesis 3: Event satisfaction will have a direct positive effect on personal well-being.

Mediating Role of Event Satisfaction

Flow emerges when there is the balance between an individual's skills and the degree of difficulty of an activity and involves the individual being fully caught up in the activity (Nakamura & Csikszentmihalyi, 2002). In this situation, the individual derives maximum

satisfaction from the activity. Doğan and Ünal (2024) found that individuals experiencing flow during physical activity obtained more satisfaction. Especially for water-based activities like swimming, it was observed that individuals may more easily achieve flow due to the comforting and focus-enhancing effects of the water (Swann, 2016). Event satisfaction is the level of satisfaction an individual obtains from an activity, and this satisfaction is directly related to the individual's general happiness and life satisfaction (Funk et al., 2011). Within the self-determination theory of Ryan and Deci (2000), the satisfaction an individual feels from activities done with internal motivation increases their general personal well-being level. In other words, when an individual obtains high levels of satisfaction from an event, the satisfaction obtained from life in general, happiness, and personal well-being increase (Doğan, 2021; Kuykendall et al., 2015; Mouratidis, 2021). This correlation is supported by studies about recreational activities (Doğan & Ünal, 2024; Xu & Choi, 2023). Personal well-being means an individual feels satisfaction from life, experiences positive emotions, and feels negative emotions at a minimum level (Buecker et al., 2023). Personal well-being is directly connected to the satisfaction individuals obtain from life events (Diener et al., 2018). In research, Liu and Yu (2015) concluded that individuals experiencing high levels of satisfaction during leisure had higher general personal well-being levels. This result supports the outcome that experiencing flow increases the satisfaction individuals obtain from activities and increases personal well-being (Csikszentmihalyi, 1990). In research about recreational runners, Aydın (2022b) identified that event satisfaction played a partial mediating role in the relationship between leisure involvement and life satisfaction. In the research, as the involvement of individuals in leisure events increased, their satisfaction obtained from these events increased, and they concluded that this satisfaction was positively reflected in life satisfaction. Flow experience enables individuals to fully engage in activities and experience a sense of satisfaction, while event satisfaction makes it possible for this process to effectively enhance personal well-being. In this context, recreational physical events that individuals participate in during leisure are very important, especially for preserving and enhancing physical and mental health (Godbey, 2009; Lee, 2020). In line with this information, we propose the following hypothesis.

Hypothesis 4: Event satisfaction has a mediating role in the effect of flow on personal well-being. Accordingly, experiencing flow will increase personal well-being by elevating event satisfaction.

The type of activity is important when individuals fully focus on physical activities they participate in during leisure and achieving flow, and in supporting the personal well-being process by obtaining satisfaction. Swimming is very important in the context of these factors. Swimming developed as a natural survival skill in various cultures during the history of humanity and became professional over time. Swimming is an important leisure activity, ensuring progression of the body within water due to certain movements. Swimming is a common leisure activity performed for recreational purposes in water parks, pools or open water. Humans swim as a sporting and recreational activity, forming a basis for physical and mental health. It is important to research the flow, event satisfaction and personal well-being levels of individuals who regularly participate in swimming based on the rehabilitative power of water for humans.

In accordance with the current literature, we will investigate the mediating role of event satisfaction on flow experienced during swimming events affecting personal well-being. As stated differently, event satisfaction will increase with the increase in flow, and personal well-being will increase with the increase in event satisfaction. In the literature, there is no research focusing on these three variables simultaneously. Our model, aimed at filling this gap, seeks to analyze the effects of swimming activities on individuals' psychological well-being more comprehensively. Additionally, our study contributes to the existing literature by establishing deeper connections between event satisfaction and personal well-being in the context of individuals experiencing the rehabilitative power of water. We believe the model we create will contribute to understanding the nature of these variables and their prediction of each other.

METHODS

Participants

The sample for the study comprised a total of 301 individuals, 139 females and 162 males, regularly swimming in open and indoor swimming pools and the Sea of Marmara according to seasonal conditions in the İstanbul metropolis. Ages of participants varied from 18-60 years ($Mean_{age}$ = 35.44±7.84). When the marital status of participants are investigated, 175 were single and 126 were married. According to educational level, 28 had graduated from primary school-high school, 234 were university graduates and 39 had a master's or doctoral degree. In terms of welfare, 60 participants had welfare below average, 195 had welfare at average levels and 46 had welfare above average. According to the weekly number of days of

swimming, 113 participants swam 1-2 days per week, 161 swam 3-4 days per week, and 27 swam five or more days per week. The demographic information for participants is shown in Table 1.

The study was conducted following the principles outlined in the Declaration of Helsinki. The ethical suitability of the research was reviewed and approved by the Scientific Research and Publications Ethics Committee of the National Defense University Rectorate (20.06.2023/E-54589112-824.99-2484357).

Table 1
Demographic Characteristics of Participants

Demographic variables	**N**	%
Gender		
Female	139	46.2
Male	162	53.8
Age (years)		
18-30	90	29.9
31-40	139	46.2
41-50	57	18.9
51-60	15	5
Marital status		
Single	175	58.1
Married	126	41.9
Education		
Primary school-high school	28	9.3
University	234	77.7
Master-doctorate	39	13
Income		
Below average	60	20
Average	195	64.8
Above average	46	15.2
Days swimming per week		
1-2 days	113	37.5
3-4 days	161	53.5
5 or more days	27	9
Total	301	100

Data Collection Procedure

The study was conducted following the principles outlined in the Declaration of Helsinki. The ethical suitability of the research was reviewed and approved by the Scientific Research and Publications Ethics Committee of the National Defense University Rectorate (20.06.2023/E-54589112-824.99-2484357).

This study was completed using a cross-sectional design and quantitative research method. The relational survey model investigated the mediating effect of event satisfaction in the relationship between flow experience and personal well-being levels of individuals

regularly participating in swimming events in a recreational context. The relational survey model, explaining the relationship between two or more variables and the degree of variation between these variables (Karasar, 2016), was chosen as a suitable model for the research. In the data collection process, the convenience sampling method was used for accessibility of participants and to practically complete the research (Büyüköztürk, 2018). Convenience sampling, or haphazard or accidental sampling, is a non-probability sampling method in which individuals from the target population are selected based on practical considerations. These may include factors such as accessibility, geographical proximity, availability during the data collection period, or willingness to participate in the study (Dornyei, 2007).

Research data were collected from members of health and fitness clubs with open or indoor swimming pools and individuals swimming in the Sea of Marmara in İstanbul in July and August of 2023 after receiving ethics committee permission. The data collection process was completed after receiving the necessary consent from participants and during face-to-face interviews after the swimming event was completed. Under the aim of the research, individuals participating in swimming events at least one day per week and spending at least 20-30 minutes being active in the water were included in the research. As the research has the quality of being a general assessment, it was emphasized that participants did not need to give any information stating their identities. Only individuals volunteering to participate were included in the research; the data collection process lasted an average of seven minutes. The participants in the study responded to questions from the Recreational Flow Experience Scale (RFES), the Event Satisfaction Scale (ESS), and the Personal Wellbeing Index-Adult (PWI-A).

Data Collection Tools

Recreational Flow Experience Scale (RFES)

The Recreational Flow Experience Scale developed by Ayhan et al. (2020) comprises nine items and was designed as a 7-point Likert scale rated from 1 (strongly disagree) to 7 (strongly agree). The structure of the scale was tested with confirmatory factor analysis (CFA) and analysis results revealed the model had good fit ($\chi 2/sd$ = 1.80, GFI = 0.94, CFI = 0.98, NNFI = 0.97, SRMR = 0.03, RMSEA = 0.07). Additionally, the scale's Cronbach alpha internal consistency coefficient was calculated as 0.93. In our study, the internal consistency coefficient for the scale was found to be 0.90.

Event Satisfaction Scale (ESS)

The Event Satisfaction Scale developed by Funk et al. (2011) includes statements to measure the satisfaction individuals participating in recreational events obtain from these events. Adaptation of the scale to Turkish was completed by Aydın (2022a) and it comprises a single dimension and a total of three items. For this 7-point Likert scale, individuals respond by rating statements from (1) definitely not true of me to (7) definitely true of me. The structure of the scale was tested with CFA and the analysis results revealed the model had good fit ($\chi 2/sd = 1.68$, CFI = 0.99, NFI = 0.99, SRMR = 0.00, RMSEA = 0.04, RMR = 0.02). Additionally, the scale's Cronbach alpha internal consistency coefficient was calculated as 0.91. In this study, the internal consistency coefficient for the scale was found to be 0.94.

Personal Wellbeing Index-Adult (PWI-A)

The Personal Well-Being Index was developed for adults and is a scale tool based on self-report containing eight items. Individuals rate their well-being levels on an 11-point Likert rating from 0 (Very unsatisfied) to 10 (Very satisfied; International Wellbeing Group, 2006). The study, which adapted the scale to Turkish, determined that the internal consistency reliability coefficient was 0.86 (Meral, 2014). The structure of the scale was tested with CFA and analysis results revealed the model had good fit ($\chi 2/sd = 1.75$, AGFI = 0.93, GFI = 0.97, CFI = 0.99, NFI = 0.98, RMSEA = 0.05). Additionally, the scale's Cronbach alpha internal consistency coefficient was calculated as 0.91. In the present study, the internal consistency coefficient for the scale was found to be 0.76.

Data Analysis

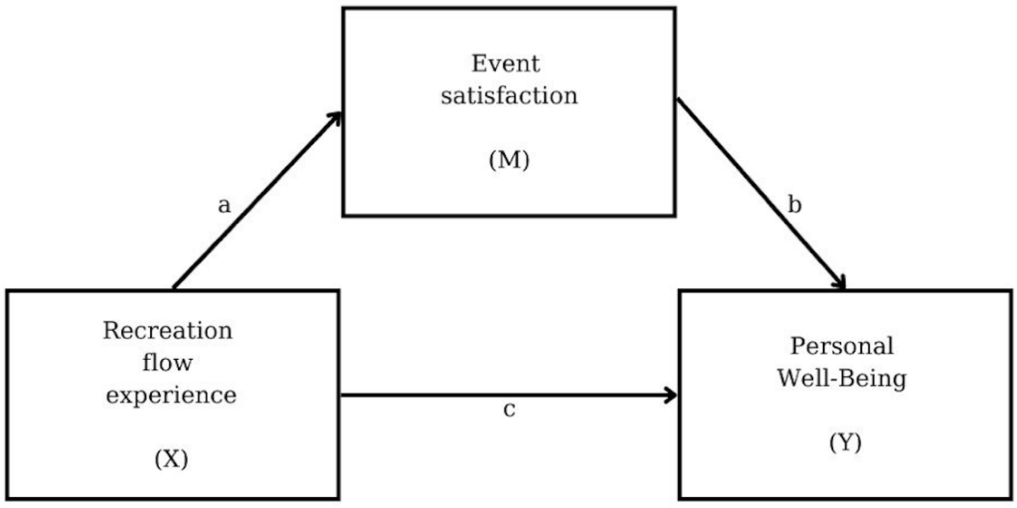
IBM SPSS and AMOS Graphics (version 21) software packages were used for data analysis. Descriptive statistics related to the sociodemographic variables of the sample group were first calculated to conduct the statistical analysis of the collected data. The skewness and kurtosis values for variables related to the research were investigated and these values were in the ±2 interval; hence, the assumption of normality was met (George & Mallery, 2016). To evaluate the reliability of the scales, the Cronbach alpha reliability method was used. The reliability coefficients were as follows: 0.90 for the Recreational Flow Experience Scale, 0.94 for the Event Satisfaction Scale, and 0.76 for the Personal Well-Being Index. To investigate correlations between research variables, the Pearson moment multiplication correlation coefficient analysis was completed.

Subsequently, confirmatory factor analysis (CFA) was conducted for the recreational flow experience, event satisfaction, and personal well-being items. The average variance extracted (AVE) values were also calculated for convergent validity. To establish convergent validity, the Composite Reliability (CR) values must be higher than the Average Variance Extracted (AVE) values (CR > AVE). This indicates that the indicators rather than measurement errors explain a larger portion of the variance in the construct. Furthermore, AVE values should be greater than 0.50 (Fornell & Larcker, 1981).

With the aim of creating a regression model and testing the mediation hypothesis, the PROCESS v.3.3 macro developed by Andrew Hayes for the SPSS program was used. The PROCESS macro has the ability to test complex models and analysis is not only based on the p value. Confidence intervals were calculated using the bootstrap method, which does not require normal distribution. As the calculated confidence intervals (BootLLCI and BootULCI) did not contain zero, the direct and indirect effects in the analysis results were accepted as statistically significant (Hayes & Preacher, 2014).

Within the scope of the research, Model 4, as recommended by Hayes (2013), was used. In this model, recreational flow experience was determined to be the independent variable, personal well-being was the dependent variable, and event satisfaction was included as the mediating variable. The significance of the indirect effects in the analysis was evaluated with resampling of 5000 using the bootstrapping method in the 95% confidence interval. In this model, the variables are coded as independent variable (X), dependent variable (Y) and mediating variable (M) with paths a, b and c (Figure 1).

Figure 1
Research Model



RESULTS

This section presents findings related to the correlations between recreational flow experience, event satisfaction, and participants' personal well-being levels. According to Table 2, the standardized factor loadings for each scale in the CFA exceed 0.50 and are significant. Items with factor loadings below 0.50 and non-significant values were removed from the model. The factor loadings exceeding the 0.50 threshold provide evidence that each item appropriately represents its corresponding factor (Hair et al., 2017). The goodness-of-fit statistic, chi-square to degrees of freedom ratio, was found to be 260.32/87 = 2.99. The fit index values were determined as RMSEA = 0.081, GFI = 0.90, CFI = 0.97, and IFI = 0.97. It can be stated that all fit indices align with the data (Anderson & Gerbing, 1988). CFA allows for testing the measurement model's reliability, convergent validity, and discriminant validity; composite reliability (CR) and average variance extracted (AVE) were calculated and examined. All constructs exhibited acceptable CR coefficients, exceeding 0.7 (Bagozzi & Yi, 1988). Fornell and Larcker (1981) recommended calculating AVE for a construct to indicate convergent and discriminant validity. Except for personal well-being, the AVE values for other constructs exceeded 0.50. Fornell & Larcker (1981) emphasized that CR coefficients greater than 0.70 and AVE values below 0.50 are acceptable. Therefore, convergent validity was achieved for all study constructs. Additionally, to provide complementary evidence of the adequacy of discriminant validity, the square root of the AVE for each construct was compared with the squared correlations between each construct. A sufficient discriminant validity criterion is that the square root of the AVE should exceed the squared correlations for all construct pairs (Fornell & Larcker, 1981; Hair et al., 2006). Based on all reliability and validity analyses, the construct scales exhibit sufficient measurement characteristics.

Table 2
The Factor Loadings, AVE, and CR Value of the Measurement Model

Variable and Item	Factor Loading	CR	AVE
Recreational flow experience			
Swimming enhances my self-confidence.	0.59	0.90	0.54
I focus all my attention while swimming.	0.65		
Swimming allows me to have an enjoyable experience.	0.87		
I feel that I have a positive experience through swimming.	0.83		
Swimming makes me feel highly motivated.	0.78		
Swimming makes me happy.	0.83		
I lose track of time while swimming.	0.64		
Swimming is enjoyable.	0.67		

Table 3 (Continued)

Variable and Item	Factor Loading	CR	AVE
Event satisfaction			
I am satisfied with my decision to participate in the swimming activity.	0.90	0.94	0.84
I am happy about participating in the swimming activity.	0.95		
I made the right decision by participating in the swimming activity.	0.90		
Personal well-being			
How satisfied are you with your achievements in life?	0.62	0.75	0.45
How satisfied are you with your relationships with other people?	0.74		
How secure do you feel?	0.63		
How satisfied are you with being part of society?	0.66		

When the skewness (-1.10 to -0.51) and kurtosis (-0.37 to 0.26) values for scores obtained from the scales are investigated in Table 3, the data appear to abide by normal distribution. When the mean scores are investigated, participants had scores of 5.88 for recreational flow experience, 6.29 for event satisfaction and 7.85 for personal well-being. Additionally, all correlations related to the variables were statistically significant. The strongest correlation was identified between recreational flow experience and event satisfaction ($r = 0.71$, $p < 0.01$). Contrary to this, there were moderate positive correlations observed between personal well-being with recreational flow experience ($r = 0.27$, $p < 0.05$) and between personal well-being with event satisfaction ($r = 0.31$, $p < 0.05$; Table 3).

Table 4
Correlations and Descriptive Statistics

Variables	Correlation		Descriptive statistics and reliability				
	1	2	*Mean*	*Sd*	Skewness	Kurtosis	α
1. Flow experience	-	-	5.88	0.97	-0.82	0.26	0.90
2. Event satisfaction	0.71**	-	6.29	0.90	-1.10	0.23	0.94
3. Personal well-being	0.27**	0.31**	7.85	1.42	-0.51	-0.37	0.76

Note. **p < 0.01

When the analysis results are investigated, recreational flow experience was identified to be a significant predictor of event satisfaction ($a = (\beta = 0.66)$, $t(299) = 17.48$, $p < 0.01$). In this correlation, flow experience explained 51% of the variance ($F(1,299) = 305.69$, $p < 0.01$). This finding supports the first hypothesis (H1) in the research. Secondly, both event satisfaction ($b = (\beta = 0.31)$, $t(298) = 2.90$, $p < 0.01$) and recreational flow experience ($c = (\beta = 0.22)$, $t(298) = 2.21$, $p < 0.01$) significantly predict personal well-being. The recreational flow experience and event satisfaction together explain 13% of the variance ($F(2,298) = 22.71$, $p < 0.01$). These findings support the research's second and third hypotheses (H2 and H3; Table 4).

Table 5
Mediation Analysis Results for Event Satisfaction Between Flow Experience and Personal Well-Being

Predictive Variables	Outcome Variables			
	Event Satisfaction		Personal Well-Being	
	β	*SH*	*β*	*SH*
(Constant)	2.401	0.22	4.326	0.50
Flow Experience	0.66	0.03	0.22	0.10
Event Satisfaction			0.31	0.11
	$R^2 = 0.51$		$R^2 = 0.13$	
	F (1, 299) = 305.69, p < 0.01		F (2, 298) = 22.71, p < 0.01	

Note. X = Recreational flow experience, M = Event satisfaction, Y = Personal well-being

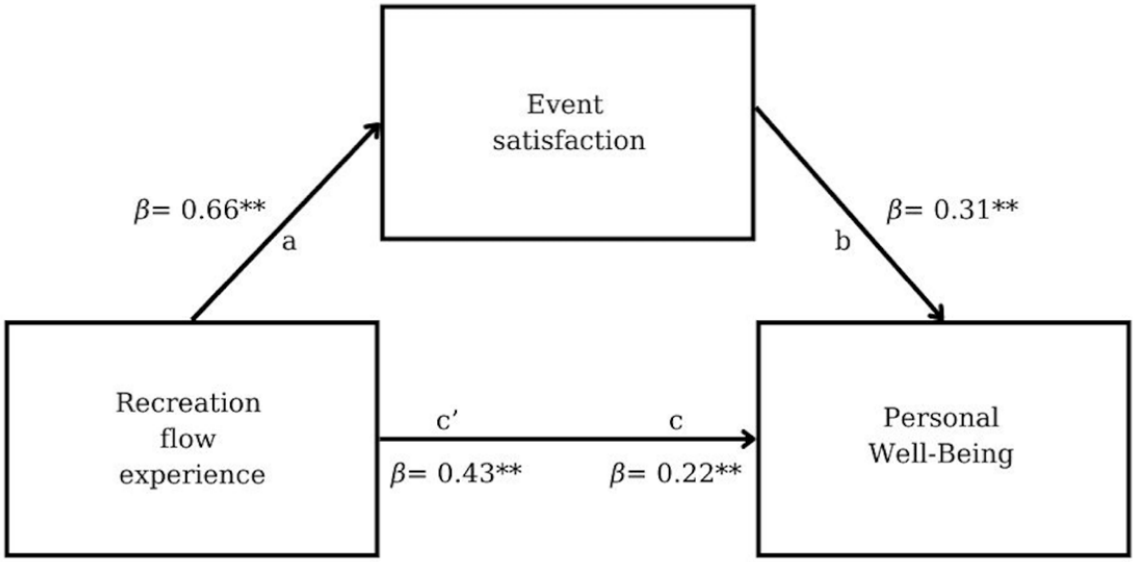
With the aim of investigating the indirect effect within the scope of the research, bootstrap analysis was performed with 5000 samples using the PROCESS macro developed by Hayes (2013; Hayes & Preacher, 2014). When the predictive power of recreational flow for personal well-being was investigated by controlling for the mediating variable of event satisfaction, a significance variation was caused (F (1,299) = 36.12, p< 0.01) and it appeared the explained variance fell to 11% *β*= 0.21, t(299) = 6.01, p< 0.01). This result indicated that event satisfaction had mediating role in the relationship between recreational flow experience and personal well-being. As a result, the fourth hypothesis (H4) was accepted and the model was confirmed. The results showed the direct and indirect effects were significant. The indirect standardized mediation effect in the model had 95% CI values interval from LLCI=0.06 to ULCI=0.35. The total effect (c'; *β*= 0.43) is found by combining the direct effect of flow experience on personal well-being (*β*= 0.22) and the mediating effect of event satisfaction (*β*= 0.21; Table 5).

Table 6
Direct and Indirect Effects Related to the Research Model

Correlations Between Variables	Coefficient	95% CI	
		LL	UL
Flow Experience → Event Satisfaction	0.66**	0.58	0.73
Flow Experience → Personal Well-Being	0.22**	0.02	0.42
Event Satisfaction → Personal Well-Being	0.31**	0.10	0.52
Flow Experience → Event Satisfaction → Personal Well-Being	0.21**	0.06	0.35
Total Effect	0.43**	0.29	0.57

Note. **p < 0.01

Figure 2
Mediation Analysis Results for Event Satisfaction Between Recreational Flow Experience and Personal Well-Being



DISCUSSION

The basic aim of this study was to test the mediating effect of event satisfaction in the relationship between recreational flow experience and personal well-being for individuals regularly participating in swimming events. When the research findings were investigated, positive and significant correlations were found between recreational flow experience, event satisfaction, and personal well-being (Figure 2).

Recreational Flow Experience → Event Satisfaction (H1)

Recreational flow experience was determined to have a positive and significant effect on event satisfaction. This result supports the first hypothesis (H1). This finding overlaps with the results of previous studies. Csikszentmihalyi (1990) stated that flow allowed individuals to be fully caught up in an activity and experience high happiness levels in this process, increasing the satisfaction obtained from this activity. A study by Kim (2022) investigated the effect of fitness content presented in the digital environment on flow experience and satisfaction. The study results showed that experiencing flow in the digital environment significantly increased the satisfaction levels of participants. This situation is related to flow experience being a process where the individual fully focuses on online fitness content, does not notice how time passes, and enjoys interaction with the content at high levels. The results of a study by Cater et al. (2021) revealed there was the strong causal relationship between flow

experience and satisfaction. Primarily, individuals who dive experienced flow during activities and found that the satisfaction they obtained from this experience significantly increased.

All these results are similar to the results of our hypothesis. The basis of the relationship between satisfaction and flow is the nature of flow, which directs the mental and emotional resources of the individual toward the activity. During flow individuals experience a continuously enjoyable state by feeling both challenged and successful due to the balance between the difficulty level and their skills. This state of psychological equilibrium, when the individual has the opportunity to concentrate their attention on the activity, reduces the effects of external negative factors and contributes to experiencing higher levels of satisfaction after the activity. In activities like swimming, this equilibrium is particularly pronounced due to the immersive nature of the environment. The sensory isolation provided by water, combined with the rhythmic and repetitive movements involved in swimming, enhances focus and minimizes external distractions. This creates an optimal environment for flow, allowing individuals to fully engage with the activity, feel a sense of mastery over their performance, and achieve a deep sense of post-activity satisfaction.

Recreational Flow Experience → Personal Well-Being (H2)

Recreational flow experience was found to have a positive and significant effect on personal well-being. This result supports the second hypothesis (H2). The findings of a study by Cheng and Lu (2015) of individuals participating in surfing events showed that recreational participation was directly and positively affected by flow experience. This flow significantly increased the well-being levels of individuals. Similarly, according to research findings by Heo et al. (2010), when elderly individuals regularly participated in serious leisure events, they experienced flow more frequently. This flow experience positively affected their personal well-being levels. The study emphasized that with flow during serious leisure events, there were contributions to the psychological well-being of the elderly individuals. The basic mechanism underlying this relationship was that flow fully directs the individual's mental resources toward the event and thus, ensures strengthening of positive emotional experiences. Suppose the individual achieves a balance between challenge and skill during flow. In that case, the enjoyment obtained from the activity reaches maximum levels, which increases the personal well-being of the individual. This flow feature contributes to the individual feeling happier, satisfied and balanced from a mental perspective both during and after the activity.

Event Satisfaction → Personal Well-Being (H3)

Event satisfaction was identified to have a positive and significant effect on personal well-being. This result supports the third hypothesis (H3). This result is consistent with previous research and supports the positive effect of event satisfaction on psychological and emotional health of the individual (Diener & Seligman, 2002; Sirgy et al., 2010). The satisfaction obtained from events, especially, increases the general life satisfaction of individuals, and this contributes to personal well-being levels of the individual. The study by Armbrecht and Andersson'un (2020) showed that participation in sports events was associated with hedonic (instantaneous pleasure) and eudaimonic (meaning of life and personal development) satisfaction and this satisfaction positively affected subjective well-being. Kim et al. (2015) obtained results that positive leisure involvement increased the satisfaction from leisure activities and positively contributed to students' psychological well-being levels. The basis of this relationship between event satisfaction and personal well-being includes positive emotional processes the individual experiences during the activity. An event providing satisfaction causes the individual to experience positive emotions, meeting their psychological needs. According to the self-determination theory of Deci and Ryan (2000), meeting the basic psychological needs of individuals, like autonomy, competence, and relatedness, increases their motivation, and this elevates the satisfaction felt from activities. This process causes the individuals to feel happier and satisfied; as a result, it contributes to general personal well-being. Ryan and Deci (2001) stated that meeting these needs did not just increase the momentary happiness of the individual, but increased long-term well-being.

Recreational Flow Experience → Event Satisfaction →Personal Well-Being (H4)

Event satisfaction was found to play a mediating role in the relationship between recreational flow experience and personal well-being. This result, forming the basic aim of the study, supports the fourth hypothesis (H4). No studies investigated the relationships of these concepts found in the literature. However, Aydın (2022b) in research with recreational runners identified that event satisfaction mediated the effect of leisure involvement on life satisfaction. Research by Sato et al. (2017) identified that the event satisfaction of individuals participating in walking activities positively affected general life satisfaction. The study showed that event satisfaction increased life satisfaction mediated by satisfaction in different areas of the individuals' lives. Theodorakis et al. (2015) investigated the effects of event service quality and event satisfaction on happiness among runners participating in regularly-held sports events.

The research revealed that high service quality increased the satisfaction participants felt with the event and this satisfaction positively affected the general happiness levels of runners. Research by Lianopoulos et al. (2024) investigated the effects of event experiences on event satisfaction and behavioral intentions of individuals participating in mass sports events. The study results, when considered in the context of swimming activities, suggest that this activity provides significant experiences for participants across sensory, emotional, behavioral, intellectual, and relational dimensions. Swimming enhances immediate satisfaction due to the relaxing effects of water and the sense of vitality created by physical activity, while also increasing participants' sensory and emotional satisfaction levels. Moreover, the requirement for swimming to be a learnable and developable skill supports individuals' intellectual fulfillment, while performing the activity in group settings or shared spaces provides positive contributions to the relational dimension. Swimming is a versatile activity that shapes individuals' quality of life by offering physical and psychological benefits. In this context, swimming activities contribute a new perspective to the literature, with the finding that flow experience positively affects individuals' well-being, highlighting the mediating role of event satisfaction.

Limitations

There are some limitations of this research. This study was completed with a sample of people who regularly participate in swimming events in a recreational context. For this reason, recreational flow, event satisfaction and personal well-being may vary in different events. In other words, the findings emerging from this study cannot be generalized to individuals participating in different events. İmamoğlu and Karakitapoğlu-Aygün (2004) revealed that individuals with different economic and educational level may display different cultural approaches based on differences within a culture. Based on this approach, the results obtained for individuals regularly swimming in open or indoor swimming pools or the Sea of Marmara according to the seasonal conditions in İstanbul metropolis may be generalized to people with similar demographic characteristics. The results are based on relational analyses, and it is necessary to pay attention to this situation for interpretations of cause-outcome relationships between variables.

This research was designed as a cross-sectional study; hence, direct inferences about cause-outcome relationships are limited. In the future, performing long-term longitudinal studies may investigate the long-term effects of participation in regular swimming events on

personal well-being in more detail. Additionally, research based on experimental designs may be completed to be able to define cause-outcome relationships between recreational swimming and personal well-being. In this way, the variation in well-being levels of individuals regularly participating in swimming events during a certain period may be directly measured.

CONCLUSION

As a result, regular swimming allows the opportunity for individuals to experience flow; this increases the satisfaction they obtain from the activity. When individuals experience flow during swimming, they are entirely within the activity and this experience elevates the satisfaction obtained from the swimming event. Increasing event satisfaction positively affects personal well-being. In other words, regular swimming supports personal well-being by increasing flow experience and event satisfaction. In this context, participating in swimming events acts as a path supporting the positive effects of flow on personal well-being.

This study considered the relationships between recreational flow, event satisfaction and personal well-being. Individuals experiencing high levels of flow during recreational activities obtained more satisfaction from the activities, and this positively impacted their personal well-being levels. Empirically determining the relationship between recreational flow and personal well-being mediated by event satisfaction provides an important contribution to the literature in this field. These studies will allow the opportunity to more deeply understand the effect of satisfaction individuals obtain from events on flow experience, personal well-being, and psychological health. This situation will enrich the available literature in theoretical and practical terms by offering new insights into the role of leisure events on personal well-being.

PRACTICAL IMPLICATIONS

Future research may focus on investigating the effect of swimming events on personal well-being in a broader framework. Instead of focusing only on swimming events, research may be performed comparing the effects of flow experience during other recreational events on event satisfaction and personal well-being. Thus, a broader perspective on which events best support personal well-being may be obtained. This study was completed with participation from a particular demographic group (individuals regularly swimming in İstanbul). Similar investigations may be performed with individuals from different age groups, socioeconomic levels, and educational levels, and the effects of these factors on

personal well-being may be investigated. The relationships between event satisfaction and flow experience may be investigated especially for individuals from different cultural contexts.

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Authors' Contributions

The first author contributed to the writing of the original draft, data curation, and resource management, while the second author contributed to validation, as well as review and editing. Both authors were equally involved in formal analysis and methodology.

Declaration of Conflict Interest

No potential conflict of interest was reported by the authors.

Ethics Statement

The study was conducted following the principles outlined in the Declaration of Helsinki. The ethical suitability of the research was reviewed and approved by the Scientific Research and Publications Ethics Committee of the National Defense University Rectorate (20.06.2023/E-54589112-824.99-2484357).

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