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Mediating Effect of Leisure Satisfaction on the Relationship Between Leisure Benefits and Life Satisfaction in Exercise Participants

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ABSTRACT

Understanding the benefits of participating in leisure activities can help individuals allocate their time to meaningful activities, positively influencing their physical and mental health, social relationships, work productivity, self-satisfaction, and overall life quality. This study examined life satisfaction as a well-being concept, introducing leisure satisfaction as a mediator between leisure benefits and life satisfaction. Structural Equation Modelling (SEM) was conducted with 751 exercise participants. The mediator role of leisure satisfaction aimed to clarify the influence of leisure experiences on overall life satisfaction. To explore these relationships, two conceptual models were tested using SEM with samples of individuals engaging in physical activity during their leisure time. In the first model, the direct relationship between leisure benefits and life satisfaction was analysed, yielding a regression coefficient of .28 (p=.000; t=3.89). In the second model, leisure satisfaction was included as a mediator. Results showed regression coefficients of .67 (p=.000; t=9.59) for the relationship between leisure benefits and leisure satisfaction, and .38 (p=.000; t=3.64) for the relationship between leisure satisfaction and life satisfaction. These findings support a full mediation role of leisure satisfaction in the link between leisure benefits and life satisfaction. The results highlight the importance of fostering enriching leisure experiences to enhance individuals' satisfaction and happiness. Future research could further investigate the direct and indirect effects of various leisure perceptions on different dimensions of well-being.

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INTRODUCTION

For decades, leisure is related to positive perceptions such as life satisfaction, well-being, and quality of life (Ragheb & Griffith, 1982; Ragheb, 1989), and a big body of knowledge has accumulated on these topics. These positive perceptions were related to different aspects of leisure, such as leisure satisfaction (Yerlisu Lapa, 2013) and leisure benefits (Xu et al., 2019) separately. The perceptions of obtained benefits from participating in leisure activities are related to how individuals are satisfied with their activities. In a study by Eskiler et al. (2019), the evidence showed that the amount of variance in leisure satisfaction explained by sub-scales of leisure benefits was considerable. However, the complicated relationship between the concepts of leisure benefits and leisure satisfaction and their relationship with satisfaction derived from overall life has not been the subject of studies in the leisure literature. The relationship between leisure benefits and life satisfaction may be influenced by how satisfaction with participating in leisure activities mediates the effect of leisure benefits on life satisfaction. As mentioned above, previous studies have widely focused on the relationships between these three concepts separately, and only direct associations between variables have been explored, resulting in a limited understanding of more complex mechanisms and direct and indirect effects. To clarify the causal pathways between leisure benefits and life satisfaction, the variable of leisure satisfaction was used as a mediator. As a result, it is expected to provide evidence for these relationships, which will support us in designing leisure programs that maximize benefits and enhance overall satisfaction. Therefore, this study aims to investigate the mediating effect of leisure satisfaction on the relationship between leisure benefits and life satisfaction among exercise participants.

Conceptual Framework

The present study integrates three core constructs—leisure benefits, leisure satisfaction, and life satisfaction—to explain the mechanisms through which participation in leisure-time physical activity contributes to individuals' overall well-being. Drawing upon Leisure Benefits Theory (Driver et al., 1991) and Leisure Satisfaction Theory (Beard & Ragheb, 1980), we propose that the benefits individuals perceive from leisure activities positively influence their satisfaction with those activities, and in turn, this satisfaction contributes to higher life satisfaction.

Previous research has examined the direct effects of leisure benefits or leisure satisfaction on life satisfaction, yet few studies have explored the mediating role of leisure satisfaction in this relationship. This study addresses this gap by proposing a mediated model

in which leisure satisfaction serves as a bridge, transmitting the positive effects of perceived leisure benefits on life satisfaction. The following section presents the hypotheses developed based on this conceptual framework and the relationships between variables.

Leisure Benefits Theory

An essential concept in evaluating the leisure experience is the notion of recreational benefits, which includes the physiological, psychological, and social aspects of recreation (Xu et al., 2019). Driver, Brown, and Peterson defined recreational benefits as "an advantageous change—an improvement in any condition (physical, psychological, etc.) or a gain for an individual, group, society, or other entity" (Cuenca-Amigo et al., 2017). Since recreational benefits are associated with the advantages derived from different aspects of recreational activities and are considered the outcome of overall leisure activities, they are thought to represent a broader concept than leisure satisfaction (Park et al., 2021). Individuals join leisure activities considering their social environment, mindset, activities, and available time. Such participation affects their physical and psychological conditions, social relationships, and societal dynamics, producing benefits for both the individual and society (Mannell & Stynes, 1991).

Numerous studies have shown that engaging in leisure activities offers numerous benefits to individuals. Through leisure activities, individuals gain physical benefits such as a healthy body, disease prevention, renewal of energy and the ability to manage body fat (Bammel & Burrus-Bammel, 1996; Parry & Shaw, 1999); psychological benefits such as reduced depression, anxiety, and anger (Chen, 2001; Iso-Ahola, 1997; Wankel & Berger, 1999); social benefits like strengthening family bonds and social relationships, and developing social and cultural identity (Lin et al., 2013); educational benefits such as acquiring new knowledge, conducting technological research, and fostering inspirational talents (Bammel & Burrus-Bammel, 1996); economic benefits like creating job opportunities, increasing personal income, and reducing health insurance costs (Mannell & Stynes, 1991; Bright, 2000); environmental benefits such as fostering a sense of responsibility for environmental preservation, whether individually or in groups (Bright, 2000; Mannell & Stynes, 1991); relaxation benefits like positive mood changes, relief from daily life and work stress, and improved job productivity (Bammel & Burrus-Bammel, 1996; Driver et al., 1991); aesthetic benefits like fulfilling spiritual needs and enriching human life (Bammel & Burrus-Bammel, 1996); and emotional benefits like increased life satisfaction and happiness (Parry & Shaw, 1999). Recreational activities help individuals develop their physical and mental health and, through this experience, enhance

both physical and mental satisfaction (Chen, 2001). According to Beard and Ragheb (1980), individuals gain certain benefits (physical, psychological, social, etc.) because of their leisure activities and choices. Satisfaction achieved from these benefits determines the level of leisure satisfaction. Furthermore, the benefits obtained from leisure activities not only help individuals feel satisfied with their leisure time but also strengthen their connection to life (Eskiler et al., 2019). It also stated that participation in physical activities improves individuals' physical and mental health, which positively impacts their life satisfaction (Köse, 2021; Sala et al., 2019). The health-related benefits of physical activity (PA) have been identified in many studies, demonstrating its effectiveness on life quality, psychological health, and subjective well-being (Gill et al., 2015).

Under the light of the abovementioned literature, we propose the following hypotheses: (See Figure 1)

H_1: The benefits obtained from leisure physical activities have a significant and positive impact on life satisfaction.

H_2: The benefits obtained from physical activities during leisure-time have a significant and positive impact on leisure satisfaction.

Leisure Satisfaction Theory

Leisure satisfaction is identified as a fundamental function of leisure time (Yaşartürk et al., 2017). It refers to individuals' subjective perceptions and feelings regarding their level of happiness or satisfaction with their leisure activities. Leisure satisfaction provides insight into the perceived quality of how content individuals are with their leisure experience (Kovacs, 2007; Pohl et al., 2000). It arises from individuals' positive perceptions of their leisure activities and is considered a measure of how well these activities fulfil their psychological, educational, social, relaxation, physical, aesthetic, and other needs (Lloyd & Auld, 2002). Leisure satisfaction is a relative concept that must be evaluated based on specific standards (Francken & van-Raaij, 1981). These standards include past experiences, expectations, and achievements, and unmet standards can lead to dissatisfaction. Leisure satisfaction varies depending on age (Brown & Frankel, 1993; Hawkins et al., 2004), gender (Hawkins et al., 2004), marital status (Mak et al., 2003), and income, education level, and perceived health status (Mak et al., 2003). In addition to socio-economic factors, leisure satisfaction is influenced by psychological variables, such as an optimistic outlook (Francken & van Raaij, 1981), perceived freedom (Ellis & Witt, 1994), and perceptions of boredom (Iso-Ahola & Weissinger, 1990). Studies have shown that individuals with high leisure satisfaction also report higher levels of

happiness, quality of life (QOL) (Spiers & Walker, 2008), psychological well-being (Shin & You, 2013), and life satisfaction (Kelly, 1996; Lewis et al., 2001; Ngai, 2005; Wang et al., 2008). Many studies testing the correlation between leisure satisfaction and life satisfaction have revealed a positive correlation between the two (Tercan Kaas & İçigen, 2022; Omrani & Nadalipour, 2020; Özmaden, 2019; Tokay Argan & Mersin, 2021; Yerlisu Lapa, 2013; Zhou et al., 2021).

Under the light of the abovementioned literature, we propose the following hypotheses: (See Figure 1)

H_3: Satisfaction derived from leisure activities has a significant and positive impact on life satisfaction.

H_4: Leisure satisfaction indirectly enhances the relationship between leisure benefits and life satisfaction.

Life Satisfaction Theory

Life satisfaction is identified as a cognitive state in which individuals evaluate their own lives based on various criteria (Cheung & Lucas, 2014; Diener et al., 1998; Shichman & Cooper, 1984), and as "the global judgment of one's life as a whole" by Diener (1994). Fundamentally, an individual's life satisfaction depends on the proximity between their expectations from life and what they attain (Diener et al., 2003). To explain this complex structure, researchers have employed different approaches, such as the top-down and bottom-up approaches. The first one emphasizes the role of an individual's personality traits on perceptions of satisfaction, and the second one suggests that individuals can improve their life satisfaction by focusing on specific areas of their lives (Rodriguez et al., 2008).

The top-down approach presumes that life satisfaction is influenced by characteristics or temperaments, such as pessimism, optimism, alienation, neuroticism, and self-esteem. On the other hand, the bottom-up approach suggests that life satisfaction is affected by environmental and situational factors such as family, community, neighbourhood, life, work, and leisure satisfaction (Sirgy et al., 1998). The literature highlights that life satisfaction is influenced by various factors such as gender (Brown & Frankel, 1993; Rajani et al., 2019), financial status (Agyar, 2014; Hartung et al., 2021; Rajani et al., 2019;), age (Agyar, 2014; McAdams et al., 2012), health status (McAdams et al., 2012; Hartung et al., 2021), stigma (Pachankis & Bränström, 2018), psychological characteristics (Lucas & Moore, 2020; Usán Supervía et al., 2020), family, and social environment (Sirgy et al., 1998). In addition,

participation in leisure activities and the satisfaction derived from them are also considered determinants of life satisfaction (Beard & Ragheb, 1992; Rojek, 2013).

METHODS

Participants and Procedures

In order to constitute the sample, the non-random sampling method of convenience sampling was chosen. Although the convenience sampling method might be criticized because of the limitations it might bring concerning the representativeness of a broad population, in this study, a more flexible approach was used as the main target was not to generalize but to test relationships or mediating effects among variables. And the disadvantages of this sampling method were tried to be handled by the use of a larger sample than calculated (Emerson, 2021).

Adult individuals participating in physical activities at various sports complexes during the second quarter of 2019 were included in the study. The study population consists of 58,580 adults who regularly engage in physical activity at gyms in the city of Antalya. The questionnaires were distributed and collected in person by the researcher at selected sports complexes in different districts of Antalya. To ensure data reliability, participants were approached at different times of the day (morning, afternoon, and evening sessions) and on both weekdays and weekends, reflecting various usage patterns. No participants were included if they appeared distracted, rushed, or unwilling to participate attentively. The researcher remained available to clarify any questions that arose during questionnaire completion, thereby reducing the likelihood of misinterpretation of items. In determining the minimum sample size required for the study, a 95% confidence level (1-α=.95) and a 5% margin of error (d=.05) were chosen, which are widely accepted thresholds in social sciences (Hair et al., 2010). These parameters were selected to ensure an acceptable balance between precision and feasibility, considering the scope of the research and the size of the target population. The 95% confidence level reflects the researchers' aim to minimize the likelihood of Type I error, while the 5% margin of error is a conventional threshold indicating the degree of permissible sampling error in behavioural and social science studies (Creswell & Creswell, 2018). Based on these parameters and a known population size of 58,580 individuals, the minimum required sample size was calculated as 381. To enhance statistical power and address potential limitations of convenience sampling, data were collected from a significantly larger sample (N = 885), exceeding the minimum requirement. A total of 896 questionnaires were distributed, and 885 responses were received, yielding a response rate of 98.7%. Of the

participants, 412 were women ($Mean_{age}$=33.23±11.01) and 473 were men ($Mean_{age}$=28.39±10.76). Detailed information about the participants is given in Table 1. In a literature review mentioned by Fritz and MacKinnon (2007), among 166 studies, 87,83% of had a sample size of less than 750.

Table 1.
Information about the participants.

Variable	Category	Frequency (n)	Percentage (%)
Gender	Female	412	46.6
	Male	473	53.4
Age Group	18–24	314	35.5
	25–34	290	32.8
	35–44	155	17.5
	45–64	102	11.5
Education Level	Primary education	41	4.6
	High school	419	47.3
	Undergraduate education	387	43.7
	Graduate education	38	4.3
Marital Status	Single	560	63.3
	Married	325	36.7

The researcher visited sports complexes in Antalya and obtained permission from the authorities to conduct the study. Prior to the main study, a pilot study was conducted to determine the average time required to complete the scales. It was found that the completion time ranged approximately between 17 and 22 minutes. Therefore, the average time allocated for completing the scales was determined to be 20 minutes. Before initiating the study, permission was obtained from the ethics committee (Akdeniz University Ethics Committee, Issue: E-55578142-050.01.04-448585, Date: 08.09.2022). During the data collection process, the ethical standards outlined in the Declaration of Helsinki were adhered to. Participants were informed about the purpose and scope of the study, their voluntary participation, and their right to withdraw at any stage without penalty. Written informed consent was obtained from all participants before completing the questionnaire. To ensure anonymity and confidentiality, no identifying information was collected, and responses were coded numerically. All data were securely stored in password-protected files accessible only to the researchers.

Data Collection Tools

The "Recreation Benefits Scale", "Leisure Satisfaction Scale", and "Life Satisfaction Scale", which have been previously validated and tested for reliability, were used to collect data.

"Recreation Benefits Scale" was developed by Ho (2008). It was adapted to Turkish culture by Akgül et al. in 2018. The "Recreation Benefits Scale" consists of three sub-dimensions, which are "Physical benefits", "Psychological benefits", and "Social benefits", and includes 24 items. It is a Likert scale (5 = Strongly agree to 1 = Strongly disagree). The CFA results for the scale show that it has acceptable and excellent fit indices: SRMR=.05, NFI=.94, IFI=.95, CFI=.95, GFI=.96. The Cronbach Alpha calculations are .81 for physical benefits, .80 for psychological benefits, and 0.86 for social benefits.

The "Leisure Satisfaction Scale" was originally developed by Beard and Ragheb (1980). The adaptation of this scale to Turkish culture was contributed by Gökçe and Orhan (2011). It consists of six sub-dimensions: "Psychological", "Social", "Physical", "Educational", "Relaxation", and "Aesthetic", and includes 24 items. It is a Likert scale (1=Very dissatisfied to 5=Very satisfied). When examining the reliability coefficients, psychological satisfaction was calculated as .77, the relaxation dimension as .80, the educational dimension as .77, social satisfaction as .80, the aesthetic satisfaction sub-dimension as .79, and the physical satisfaction sub-dimension as .79. The overall reliability coefficient of the scale is .90.

The last scale used was "The Life Satisfaction Scale," which was developed by Diener et al. (1985) and adapted to the Turkish language by Dağlı and Baysal (2016). This Likert scale (1=Very dissatisfied to 5=Very satisfied) is a unidimensional scale consisting of 5 items. The CFA results are as follows: χ^2/df=1.17, GFI=.99, AGFI=.97, NFI=.99, NNFI=1.00, CFI=1.00, SRMR=.019, RMSEA=.030. The reliability coefficient of the scale is .88.

Data Analysis

Structural Equation Modelling (SEM) was preferred to reveal the relationship between leisure benefits, leisure satisfaction, and life satisfaction. The quality of the data is crucial in multivariate statistical applications like SEM (Mertler & Vannatta, 2016).

Before conducting the SEM analysis, the necessary assumptions were tested to minimize potential issues during the analysis. The original dataset consisted of 885 participants. The missing data at the item level was found to be .06%, and the series mean imputation method was applied for these missing values. This method provides a practical solution, especially when the proportion of missing data is low (below 5%). When the amount of missing data is small and the number of variables is high, the series mean method does not significantly distort the results of the analysis. In this study, series mean imputation was preferred because the missing data rate was below 5%. Univariate and multivariate outlier analysis was conducted, resulting in the removal of 134 cases, leaving a final sample size of 751 for the analysis.

To provide additional evidence of normality, the researchers examined the mode, median, mean, histogram curve, and coefficients of kurtosis and skewness for the data. The measures of central tendency were relatively close to each other. Additionally, kurtosis and skewness values were in the range of -1 and +1, and although the histogram curve was slightly skewed to the left, it exhibited a near-normal distribution (Rosenthal & Rosnow, 2008). Multivariate normality and linearity were evaluated for each group, and scatter plots were reviewed. The scatter plots were elliptical in shape, indicating the conformity to multivariate normality and linearity assumptions (Tabachnick & Fidell, 2015).

To assess whether there was multicollinearity, Variance Inflation Factor (VIF) and Condition Index (CI) values were controlled. The analysis showed that the VIF value was less than 10 and the CI value was less than 30, indicating no multicollinearity problems in the scales used.

Finally, before proceeding with SEM, CFA was conducted for each variable included in the analysis. Testing the measurement models is a critical assumption in SEM analysis (Çokluk et al., 2012).

Kline (1994) suggests that the sample size for conducting factor analysis should be estimated based on relative criteria, such as the number of items or factors. In contrast, Comrey and Lee (1992) state that a dataset of 500 participants is considered very good for factor analysis. In this context, a sample size of 751 participants can be deemed sufficient for conducting the analysis.

RESULTS

In this study, path analysis and SEM are utilized to detect the mediating effect of leisure satisfaction on the relationship between leisure benefits and life satisfaction in exercise participants. Path analysis is defined as "A structural model representing the relationship among the variables in a diagrammatic way" (Chaitanya et al., 2024). Path analysis is very helpful in detecting both direct and indirect effects of variables and was utilized in this study to detect the direct and indirect effects of leisure benefits on life satisfaction.

CFA results for recreation benefits, leisure satisfaction, and life satisfaction are presented in Table 2. The CFA results for the measurement tools show that all fit indices fall within the range of good to excellent criteria.

Table 2.
CFA Results of the Variables

Variables	X^2/df	RMSEA	SRMR	CFI	NFI	NNFI
L. Benefit	2.97	.090	.028	.93	.93	.95
Leis. Satis.	2.16	.061	.026	.97	.95	.97
Life Satis.	1.48	.043	.032	1.00	.99	.99
Fit Index	≤3x2/sd≤5	.05≤RMSEA≤.10	.05≤SRMR≤.10	.90≤CFI<.95	.90≤IFI<.95	90≤TLI<.95

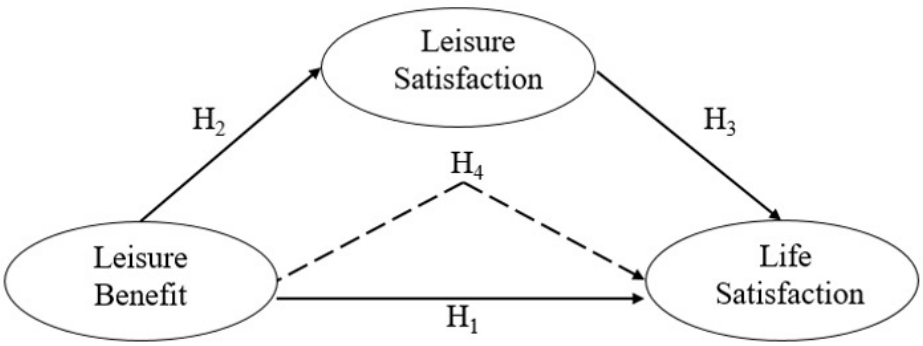
Table 3 shows a moderate, positive, and significant relationship between individuals' recreation benefits and their leisure satisfaction (r = .579, p = .000), with a shared variance of 33% between these two variables. A positive, moderate and significant relationship was also found between leisure satisfaction and life satisfaction (r=.323, p=.000), with a shared variance of 10.5%. Lastly, a positive but weak significant relationship was found between recreation benefits and life satisfaction (r=.245, p=.000), with a shared variance of 6%. In other words, an increase in any of these variables is likely to increase the others.

Table 3.
Correlation Results

	1	2	3
1.Leisure Benefits	-		
2.Leisure Satisfaction	r=.579*	-	
3.Life Satisfaction	r=.245*	r=.323*	-

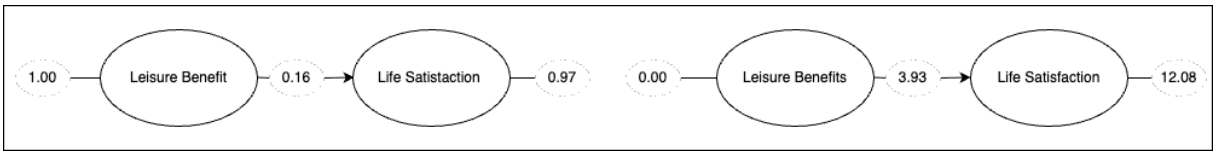
The model testing the relationships between leisure satisfaction, leisure benefits, and life satisfaction, which was developed based on the literature discussed above, is presented in Figure 1.

Figure 1.
Conceptual Model



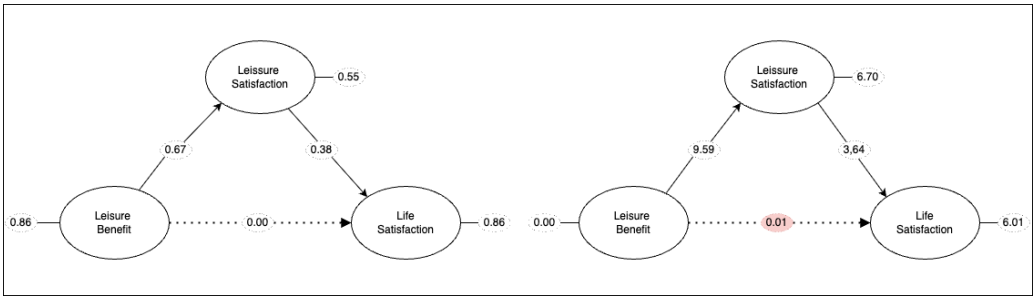
In testing the effect of mediation, using path analysis instead of regression analysis provides more reliable results (Meydan & Şeşen, 2011). This current study examines the mediating role of leisure satisfaction in the relationship between leisure benefits and life satisfaction. Initially, the relationship between the independent and dependent variables was evaluated (Figure 2). Then, leisure satisfaction, assumed to have a mediating role, was added to the model, and the model was re-estimated (Figure 3). To determine the presence of a mediating variable in the model, the effect of the independent variable on the dependent variable is first examined. Then, the mediating variable is added, and the effect of this independent variable on the dependent variable is re-evaluated. If the inclusion of the mediating variable causes the effect of the independent variable on the dependent variable to disappear, a full mediation is present. If the effect weakens, a partial mediation is accepted (Baron & Kenny, 1986).

Figure 2.
Leisure benefits and life satisfaction structural equation model



The regression coefficients obtained from the model testing are presented in Figure 2. It was found that the scores for recreation benefits had a significant effect on life satisfaction scores (β=.016, p=.000; t=3.93). The fit indices for the model are as follows: $\chi^2/df=5.825$; RMSEA (90% CI)=.080 (.073; .088); GFI=.92; CFI=.96; NFI=.96; NNFI=.96. As shown, the fit indices for the model established between leisure benefit and life satisfaction fall within the range of excellent and acceptable fit criteria. In the second stage, leisure satisfaction was added to the model. With the addition of leisure satisfaction to the model, the effect of leisure benefit on life satisfaction was evaluated for the second time. (Figure 3).

Figure 3.
Path coefficients and t values for the model



It was found that recreation benefits showed significant effect on leisure satisfaction (β=.67, p=.000), and leisure satisfaction, in turn, had a significant effect on life satisfaction (β=.38, p=.000). When examining the fit indices of the established model, the obtained values fall within the range of acceptable and excellent fit criteria: χ^2/df=1.84; RMSEA=.059; GFI=.93; CFI=.98; NFI=.96. The research analysis supports the H_2, H_3, and H_4 hypotheses.

In terms of mediation, when leisure satisfaction is included in the model, the effect of the independent variable (recreation benefits) on the dependent variable (life satisfaction) disappears. This indicates that leisure satisfaction enhances recreation benefits, and recreation benefits, in turn, increase life satisfaction. This finding demonstrates the full mediator role of leisure on the relationship between recreation benefits and life satisfaction.

Table 4.
Results of Hypotheses

Hypotheses	Standardized Value	t-Value	p-Value	Hypothesis State
H_1: Leisure benefits → Life Satisfaction	.28	3.89	.000	Refuse
H_2: Leisure benefits → Leisure Satisfaction	.67	9.59	.000	Accept
H_3: Leisure Satisfaction → Life Satisfaction	.38	3.64	.000	Accept
H_4: Leisure benefits → Leisure Satisfaction → Life Satisfaction	.00	.01	.001	Accept

DISCUSSION

The results indicate that the perceived benefits from leisure activities predict leisure satisfaction, and leisure satisfaction, in turn, predicts life satisfaction. However, leisure benefits do not directly predict life satisfaction. These findings suggest that leisure benefits influence life satisfaction indirectly through leisure satisfaction.

When examining the first hypothesis of the study—the relationship between leisure benefits and life satisfaction—the literature reveals significant positive relationships between benefits obtained from leisure and life satisfaction. For instance, in a study conducted on Chinese cyclists, positive correlations were found between life satisfaction and the physical, psychological, and social benefits derived from leisure (Xu et al., 2019). Another study found that leisure benefits had a positive influence on the quality of life among yoga participants (Hsu & Liu, 2019). Similarly, Park et al. (2021) found in their study on cyclists in Seoul that, among the four dimensions of leisure benefits (social, physical, personal, and psychological), social and psychological benefits had a significant influence on quality of life. Research

involving Tai Chi Chuan participants indicated that leisure benefits had a positive effect on happiness (Lee et al., 2016). Kim and Park (2018) conducted a qualitative study on adolescents with visual impairments in South Korea and concluded that participation in leisure activities helped them gain psychological well-being and personal development. Findings from a study on kindergarten teachers indicated that leisure benefits were affected by recreational constraints and had an impact on quality of life (Kuo & Sun, 2011). Another study linking quality of life to leisure benefits found a positive effect among university athletes in Taiwan (Ho, 2018). Older adults were also included in studies on leisure benefits. In a study by Nimrod (2007), leisure benefits were found to have a positive impact on life satisfaction.

Sánchez and Chimal (2024) stated that individuals who report better health tend to have higher life satisfaction. Although the literature highlights significant relationships between leisure benefits and life satisfaction, our findings reveal no direct relationship between these variables, and thus, our first hypothesis was not supported. This is a rather intriguing result. Possible explanations may include the following:

Life satisfaction refers to an individual's subjective evaluation of their life, not in relation to a specific moment or situation, but indicating overall contentment with life (Haybron, 2007). Whether a person's expectations from life are met or not significantly influences their life satisfaction. These expectations may include psychological factors such as self-esteem and resilience (Kyriazos & Poga, 2024); socioeconomic status indicators like income level and employment (Salehi et al., 2024); social relationships such as family and friendships (Dadandi & Çitak, 2023); and health-related factors, including physical and mental health (Siegmund et al., 2024).

One of the significant predictors of life satisfaction is leisure satisfaction. Studies have shown a substantial positive relationship between leisure satisfaction and life satisfaction, with a moderate effect size observed in a meta-analysis of 21 studies involving over 83,000 participants (Tercan Kaas & İçigen, 2022). This finding highlights the crucial role of leisure satisfaction in determining overall life satisfaction. Our research findings indicate that the social, physical, and psychological benefits gained from leisure activities alone do not directly predict life satisfaction. However, as the perceived benefits from these activities increase, the satisfaction derived from them also increases, which in turn predicts life satisfaction. There may be several possible explanations for this. One is that individuals may be aware of the potential benefits of leisure activities; however, these benefits may not translate into life satisfaction unless personal experiences and a sense of satisfaction accompany them. In other words, perceiving an activity as beneficial does not guarantee satisfaction with that activity.

A study by Çetin (2019) supports this interpretation. In this study, Çetin examined the relationship between leisure benefits and leisure satisfaction, finding that satisfaction had a stronger effect than perceived benefits. In this context, it can be argued that leisure satisfaction may be a more decisive factor in determining life satisfaction than perceived benefits.

When analysing the second hypothesis of the study—the relationship between leisure benefits and leisure satisfaction—the findings reveal that leisure benefits are positively associated with leisure satisfaction, which is another favourable perception of leisure. Leisure activities contribute to individuals' leisure satisfaction by enabling them to gain physical, psychological, and social benefits. Research shows that such activities enhance overall health and well-being. For example, participation in enjoyable leisure activities has been associated with lower blood pressure, cortisol levels, and body mass index. Moreover, such participation is also linked to higher levels of positive psychosocial states and lower levels of depression (Pressman et al., 2009).

Physical activities, particularly sports and outdoor events, play a crucial role in enhancing physiological well-being, psychological well-being, and relaxation satisfaction. Social activities are also crucial for achieving social, psychological, and physiological satisfaction (Kim et al., 2024). The benefits obtained from leisure activities can vary depending on the level of participation and type of activity. For example, individuals who engage more seriously in leisure activities tend to obtain higher levels of psychological benefits, social support, and physical health (Kim et al., 2014). In this context, leisure activities enhance individuals' physical, psychological, and social well-being, thereby increasing their satisfaction with these activities. Leisure benefits have been extensively discussed in disciplines such as psychology, physiology, sociology, and economics, and are evaluated as subjective experiences that are unique to each individual. These experiences help individuals improve their mental and physical health and meet their psychological and physical needs (Chen, 2001).

Given that leisure satisfaction is defined as the positive feelings obtained from participating in leisure activities, the benefits gained from these activities likely contribute to individuals' feelings of satisfaction. According to Lee et al. (2014), the more leisure activities meet individuals' basic needs, the greater their contribution to subjective well-being. According to the bottom-up spillover theory proposed by Newman et al. (2014), if a person is satisfied with leisure activities, this contributes to leisure satisfaction (Sirgy et al., 2017). Eskiler et al. (2019) suggested that among extreme sports participants, leisure benefits were significant

predictors of leisure satisfaction. The findings of our study align with this literature, indicating a positive and significant relationship between leisure benefits and leisure satisfaction.

Regarding the third hypothesis—the relationship between leisure satisfaction and life satisfaction—this is one of the most widely studied topics in the leisure literature. Studies on leisure across different samples have provided evidence for the association between leisure and life satisfaction (Agyar, 2014). The leisure literature consistently demonstrates a positive correlation between life satisfaction and leisure satisfaction (Kim et al., 2016b; Kim et al., 2016a; Yerlisu Lapa, 2013; Walker & Kono, 2018). Satisfaction with leisure is strongly related to life satisfaction. Several studies have found that satisfaction derived from leisure activities contributes directly and indirectly to life satisfaction (Chick et al., 2023). The study by Argan and Mersin (2020) also revealed a significant positive relationship between leisure satisfaction and life satisfaction, indicating that as leisure satisfaction increases, both life satisfaction and quality of life improve.

Taken together, these findings suggest that leisure satisfaction is a significant predictor of life satisfaction, supporting our study results. Furthermore, leisure satisfaction mediates the relationship between leisure benefits and life satisfaction. In other words, perceived leisure benefits do not directly predict life satisfaction; instead, they positively affect leisure satisfaction, which in turn contributes to life satisfaction. As noted by Haybron (2007), life satisfaction is an individual's subjective evaluation of their life as a whole and is not solely shaped by positive assessments of specific situations. In this context, numerous factors—including self-esteem, psychological resilience, socioeconomic status, social relationships, and health—can influence an individual's overall life satisfaction (Kyriazos & Poga, 2024).

In conclusion, the overall evaluation of the study suggests that leisure benefits have an indirect effect on life satisfaction, which occurs through leisure satisfaction. In other words, when individuals derive meaningful benefits from leisure activities, their level of satisfaction with these activities increases, and this sense of satisfaction contributes to their life satisfaction. These findings provide both theoretical and practical contributions to the field of leisure research. Particularly in the planning of leisure policies and programs, it is essential not only to focus on the benefits provided but also to consider the level of satisfaction individuals derive from these activities.

Limitations

As with other research, we have several limitations in this current study. First, this study focused on adults who regularly engage in physical activities during their leisure time,

limiting the scope to this specific form of leisure participation. While the results provide significant insights into the role of leisure satisfaction, the data were collected solely from adults who regularly participate in physical activities during their leisure time. Therefore, the effect of leisure satisfaction may vary in other contexts. To better understand the role (or effect) of leisure satisfaction in the context of leisure benefits and life satisfaction, future researchers are encouraged to collect data from individuals participating in other types of leisure activities (e.g., social, cultural, artistic) and observe their impact on their satisfaction. Secondly, a standardized physical activity (e.g., fitness) was not used as a reference. In other words, participants engaged in different activities at various sports complexes, and this variation may result in differing levels of leisure satisfaction. This brings another limitation: The amount of time individuals can dedicate to physical activities during their leisure time may also vary. Future studies could strengthen the findings of this research by considering the amount of time individuals allocate to leisure participation as an additional variable. Thirdly, future research could expand the theoretical model of this study by exploring whether other mediators or moderators exist in the relationships examined here. Examples of such variables include coping strategies, motivation, psychological well-being, and happiness. In conclusion, considering the significant impact of leisure benefits and life satisfaction obtained through participation in leisure activities, the current findings provide important insights for businesses offering physical activity services on how to deliver effective support. This study also serves as a guide for businesses and individuals working in the field of physical activity (e.g., personal trainers) to recognize that participation in physical leisure activities can be a valuable tool in enhancing individuals' long-term leisure satisfaction.

CONCLUSION

This study makes a meaningful contribution to the leisure literature by proposing a model that explains the effect of leisure benefits on individuals' life satisfaction through the mediation of leisure satisfaction. The research findings indicate that leisure benefits do not directly predict life satisfaction; instead, they contribute to life satisfaction indirectly by enhancing leisure satisfaction. This result reveals that the benefits individuals gain from leisure activities positively reflect on their life satisfaction when these benefits increase their level of satisfaction with those activities. Therefore, it is understood that to enhance life satisfaction, leisure experiences should not only provide benefits but also create a sense of satisfaction in individuals.

Theoretically, the results of this study indicate that leisure satisfaction plays a full mediating role in the relationship between leisure benefits and life satisfaction. It shows that the psychological, physical, and social benefits individuals gain from participating in physical activities during their leisure time not only contribute to their satisfaction with these activities but also significantly influence their overall life satisfaction.

In future research, the mediating role of leisure satisfaction in the relationship between leisure benefits and life satisfaction could be tested across different samples (e.g., various age groups, cultural contexts, or occupational categories). Furthermore, models examining the mediating or moderating roles of other variables related to leisure perception—such as perceived freedom in leisure, motivation, leisure facilitators, or leisure boredom—may be developed. Such studies would contribute to a more comprehensive understanding of the multidimensional impacts of leisure experiences on individual well-being, thereby enhancing the theoretical depth of the field.

PRACTICAL IMPLICATIONS

The findings provide empirical evidence for practitioners in the field, emphasizing the importance of supporting efforts to enhance the benefits of physical activities during leisure time, thereby improving both leisure satisfaction and, consequently, overall life satisfaction among adults. These meaningful relationships have important theoretical and practical implications. The results could be meaningful for the sport and recreation managers in the field. Places like gyms, clubs, or other community organizers could focus on the positive side effects of exercise, such as social connections, stress relief, skill development, and fun that come with exercise to enrich leisure time. So, creating a more enjoyable and fulfilling exercise environment might increase life satisfaction. Public and private institutions could focus on promoting holistic well-being by linking health with enjoyable time spent, investing in accessible and appealing leisure-focused exercise options, and helping people understand the benefits of leisure, how to derive satisfaction from these activities, and how these activities can impact their overall life satisfaction.

We recommend that future research should explore the areas proposed in this study to provide stronger evidence supporting the role of leisure satisfaction. Based on these study results, the relationships between variables might be inquired in a more thorough way, so that, besides direct relationships, indirect relationships could also be explored. Direct and indirect effects of different leisure perceptions (such as perceived freedom in leisure, leisure motivation, leisure attitude, and others) on various well-being concepts (such as psychological

well-being, life satisfaction, subjective well-being, happiness, and others). Other independent variables could be included in such models, such as personal motivation, social support, or psychological resilience.

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Authors' Contribution

All authors have equally contributed to all stages of this research. This includes the conception and design of the study, data collection, analysis and interpretation of the data, as well as the drafting and revision of the manuscript. All authors read and approved the final manuscript.

Declaration of Conflict Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

Ethics Statement

The research, permission was obtained from the Ethics Committee Chair (Akdeniz University Ethics Committee, Issue Number: E-55578142-050.01.04-448585, Date: 08.09.2022) about the ethical suitability of the study.

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