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Left over from sports: leisure motivation in predicting quality of life in male athletes

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Abstract

The study, which was conducted to examine the effect of leisure motivation on the quality of life of male athletes in the time periods left over from their sports, included 283 athletes. The data were collected with a face-to-face questionnaire form, and the Leisure Motivation Scale and the The World Health Organization Quality of Life Brief Version scale were used to collect the data. In the study, which was prepared in the relational survey model, the data were tested with descriptive analysis and parametric tests. The findings showed that the participants' leisure motivation was above average, and their quality of life was high. While the age groups of the participants and the measurement tools did not differ, statistically significant differences were determined between the measurement tools and their perceived income, whether their sport branch was an individual or a team sport, their daily leisure time duration, and their self-evaluation of whether they spend their leisure time efficiently. At the same time, it was determined that there were significant positive relationships between leisure motivation and quality of life and that leisure motivation affected quality of life by 31%. As a result, the above findings support the conclusion that athletes can increase their quality of life by increasing their leisure motivation in the time they have left from playing sports. In the study, research findings were discussed with the support of the literature.

Keywords

Sport; Leisure; Motivation; Quality of life; Male; Athletes

1. Introduction

Thinking, planning and analyzing are considered to be human characteristics, and these characteristics play an important role in the process of shaping one's motivation and desire to achieve goals [1]. At the same time, according to Baumeister and Vohs [2], motivation plays a very important role in the emergence of desired states, success and well-being in social dimensions representing mental health and interpersonal relationships [3]. Accordingly, the effects of motivation on an individual's psychological and emotional well-being are taken into account to improve the individual's quality of life and overall well-being.

Effective and efficient utilization of leisure time is of great importance in meeting the physical, mental, and emotional needs of individuals, strengthening social relations and supporting their personal development. Higher levels of life satisfaction, happiness, self-esteem and positive affect are associated with healthy leisure experiences and active leisure [4]. In order to utilize leisure time effectively, the use of the individual's desire, energy and free will to participate in the activity without being directly related to economic necessity or calculation is referred to as leisure motivation [5]. This motivation affects the individual's behavior towards spending time for hobbies and participating in creative activities during rest and renewal processes [6].

Motivation is a concept that plays an important role in the formation of leisure behaviors. Different types and levels of motivation are related to the reasons that affect the formation, continuation and termination of a behavior [7]. According to Erinjeri and Lobo [8], participation in leisure activities is carried out for various purposes such as self-fulfillment, personal development or strengthening social relationships. The success or failure in achieving these goals is associated with the motivation levels of individuals. Therefore, the study of leisure time motivation is important to understand how individuals utilize their leisure time and which factors are effective in this process [9].

Intrinsic and extrinsic motivation have found a place in research with the self-determination theory introduced by Deci and Ryan [10] to explain the emergence of leisure behaviors. The activities participated in are influenced by social interactions, and as a result, the sense of competence felt by the individual increases intrinsic motivation. At this point, the cognitive evaluation theory was created within the framework of basic psychological needs under the self-determination theory.

The desire to continue a behavior due to external factors such as rewards, praise or pressure from the environment instead of the individual's intrinsic desires and interests is referred to as extrinsic motivation [11]. Under the self-determination theory, the organismic integration theory also draws attention to the importance of motivation in leisure time by focusing on extrinsic motivation and reveals the prerequisites that determine and distinguish the types of motivation [12].

The quality of the leisure experience and performance obtained by being motivated by intrinsic and extrinsic reasons differs [11]. In relation to motivation, the quality of leisure time activities affects the happiness, satisfaction and overall quality of life of the individual. According to Craike [13] intrinsic motivation positively affects regular participation in physical activities in leisure time. At the same time, intrinsic motivation in leisure time activities leads to cognitive, emotional and behavioral outcomes according to Carbonneau, Vallerand & Lafrenière [14]. The quality of the leisure experience and performance obtained by being motivated by intrinsic and extrinsic reasons differs [11].

In relation to motivation, the quality of leisure time activities affects the happiness, satisfaction and overall quality of life of the individual. The role of intrinsic motivation in leisure activities is an important factor in shaping cognitive, emotional and behavioral outcomes. Research in the literature shows that intrinsic motivation increases the level of participation in leisure activities and supports individuals' personal development, exploring their interests and acquiring new skills [15]. This situation helps individuals in different age groups to utilize their leisure time efficiently, while increasing their emotional satisfaction and happiness levels [16, 17]. Therefore, the effect of intrinsic motivation in leisure activities is expressed as an important variable affecting the general well-being of individuals.

Neulinger's leisure paradigm focuses on the factors affecting individuals' participation in leisure activities and examines the sources of motivation rather than the types of leisure time or how individuals utilize leisure time [18]. According to Neulinger [19], individuals' participation in leisure activities is influenced by intrinsic and extrinsic and both intrinsic and extrinsic motivations. It is intrinsic motivation that motivates the activities in which individuals prefer to take part in line with their intrinsic desires, values or interests. Participating in an activity by being encouraged by external factors is possible with extrinsic motivation. However, the proportion of activities in which individuals participate with both intrinsic and extrinsic motivation factors is greater [20].

This paradigm provides an important framework for understanding how individuals' intrinsic and extrinsic motivations influence their leisure activities. While intrinsic motivation benefits performance, especially in open-ended tasks, extrinsic motivation benefits closed-ended tasks more [21]. However, according to Shenaq [22], individuals' motivational beliefs can affect their performance. It is common to use intrinsic and extrinsic motivation to improve an athlete's performance in training and competition, but which type should be preferred depends on the goals, needs and preferences of the athlete [23]. In business, on the other hand, extrinsic rewards have been observed to increase employees' creativity through perceived organizational support and work engagement, with stronger effects for those with high intrinsic motivation. However, it is also stated that although extrinsic rewards can increase intrinsic motivation, this effect varies depending on the characteristics of individuals and tasks [24].

Motivation appears to play an important role in the lives of individuals, but it is also possible to link the effects of motivation to quality of life [25]. The concept of quality of life is part of subjective well-being. The quality of the experience obtained from leisure time activities affects the quality of life of the individual. Within the scope of the study, the WHOQOL-BREF measurement tool was used to obtain quality of life data. WHOQOL-BREF (World Health Organization Quality of Life-Brief Version) is a measurement tool developed by the World Health Organization (WHO) to assess quality of life. WHOQOL-BREF refers to the shortened version of the WHOQOL-100 quality of life assessment. As shown in Fig. 1, quality of life is assessed in terms of physical health, psychological factors, social relationships and environmental factors [26].

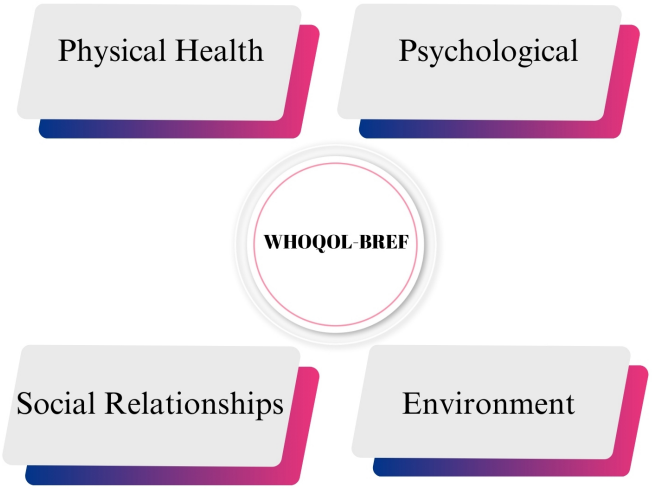

FIGURE 1. Quality of life components.

As mentioned above, quality of life has many components, so there are many areas it is affected by. The way individuals spend their leisure time is of great importance physically, socially, and psychologically in terms of self-actualization. How leisure time is utilized depends on the leisure time motivation of the individual. In this context, leisure time motivation is an important component in the efficient utilization of leisure time and thus in increasing the quality of life. The aim of this study is to determine the leisure time motivation and quality of life levels of male athletes and to examine them according to certain variables in order to reveal the relationship between quality of life and leisure time motivation and to reveal the role of leisure time motivation in the prediction of quality of life. In line with this purpose, the hypotheses of the research are given below:

H1: Male athletes' quality of life levels and sub-dimensions differ according to age.

H2: Male athletes' leisure time motivation and its sub-dimensions differ according to age.

H3: Male athletes' quality of life levels and sub-dimensions

differ according to sport branch.

H4: Male athletes' leisure time motivations and sub-dimensions differ according to sport branch.

H5: Male athletes' quality of life levels and sub-dimensions differ according to perceived income level.

H6: Male athletes' leisure time motivations and sub-dimensions differ according to perceived income level.

H7: Male athletes' quality of life levels and sub-dimensions differ according to sport type.

H8: Male athletes' leisure time motivations and sub-dimensions differ according to sport type.

H9: Male athletes' quality of life levels and sub-dimensions differ according to their daily leisure time duration.

H10: Male athletes' leisure time motivation and its sub-dimensions differ according to their daily leisure time duration.

H11: Male athletes' quality of life levels and sub-dimensions differ according to their perception of leisure time efficiency.

H12: Male athletes' leisure time motivations and sub-dimensions differ according to their perception of leisure time efficiency.

H13: There is a positive relationship between male athletes' leisure time motivation and quality of life levels and sub-dimensions.

H14: Leisure motivation is a significant predictor of quality of life in male athletes.

The results of the research hypotheses are presented in the findings section.

2. Method

2.1 Research model

This research was prepared by utilizing the relational survey model, one of the quantitative research methods. The relational survey model is a research model that aims to determine the existence and/or degree of change between two or more variables. In such an arrangement, the variables between which a relationship will be sought are symbolized by giving separate values and measuring them as in a single survey [27]. In quantitative research, people's different perspectives and experiences can be placed into predetermined response categories with a certain number assigned to each. The advantage of quantitative research is the ability to measure the reactions of a large number of people through a limited number of questions, which makes it possible to compare and statistically aggregate the data. This results in a generalizable set of findings presented in a succinct and concise manner [28].

2.2 Working group

The population of the study consists of licensed athletes in Turkey. Statistical information was used to determine the population from more reliable sources. The population of Turkey is 84,680,273 people. The number of licensed athletes among this population is 6,260,937 [29]. Based on these statistics, it was determined that the research population was over one million. Considering the number of the main mass over one million, at least 246 individuals were accepted as the sample size for the study group based on a sampling error of 0.08 [30]. The study group consisted of 283 male athletes with an average age of 22.41 $\pm$ 1.92 who voluntarily agreed to participate in the study among the male licensed athletes in the province of Ankara by applying the criterion of licensed and male athletes who are suitable for the study by using the purposeful sampling method from the sampling methods.

2.3 Data collection and ethical aspects of the study

For this research, which aims to reveal the role of leisure time motivation in the prediction of quality of life in male athletes, ethics committee approval (**Supplementary Fig. 1**) was obtained from Gazi University Ethics Commission before the data collection phase. In addition, before starting the interview with the participants, the participants were informed about the purpose of the study and an Informed Voluntary Consent Form (**Supplementary Fig. 2**) was obtained from the individuals who agreed to participate in the study. After the measurement form of the research was prepared, the quantitative measurement tool was finalized by conducting a pilot study with 20 participants after the necessary changes were made by asking for evaluation from field experts. The data were collected face-to-face from the participants in the fall semester of the 2023–2024 academic year. A total of 290 quantitative measurement forms were applied, and 283 participants constituted the study group after forms with deficiencies were eliminated. The data from the pilot studies conducted to determine the quality of the quantitative measurement tool in advance and to correct possible errors arising from the researcher, participant, environment and questions were not included in the study.

2.4 Data collection tools

A personal information form was used for the personal information of the athletes to collect the research data. In order to determine the level of leisure motivation, the original Leisure Motivation Scale (LMS) by Pelletier, Vallerand, Blais and Briére [31], adapted into Turkish by Mutlu [32] was used. The scale adapted into Turkish consists of a total of 22 items and five sub-dimensions (knowing and achieving, amotivation, stimulus experience, external regulation and identification/internalization). The statements in the scale were evaluated on a 5-point Likert-type scale ranging from strongly disagree (1) to strongly agree (5). The total internal consistency coefficient of the scale was found to be 0.77. As a result of the reliability analysis conducted within the scope of the research, the internal consistency coefficients were found to be 0.80 for the amotivation sub-dimension, 0.78 for the knowing and achieving sub-dimension, 0.72 for the stimulus experiencing sub-dimension, 0.73 for the identification/introjection sub-dimension, 0.71 for the external regulation sub-dimension, and 0.86 for the general scale. In order to determine the quality of life, the WHOQOL-BREF scale, which consists of 54 domains (general, physical, psychological, social relations and environmental domains) and a total of 26 questions, including two questions about general perceived quality of life and two questions about perceived health status, was used. The Turkish adaptation studies of WHOQOL-BREF were conducted by

Eser *et al*. [33]. In the Turkish adaptation of the scale, there is one more question about the environment, and it includes a total of 27 questions. The internal consistency coefficients of the scale were obtained as general health, 0.82; physical, 0.78; psychological, 0.76; social quality of life, 0.72; and environmental quality of life, 0.84.

2.5 Data analysis

In order to decide on the parametric/nonparametric tests to be used for the analysis of quantitative data, the total scores of the participants in the study group from the scales and the total scores of the sub-dimensions were calculated, and whether the total score distributions met the normality assumption was tested. Since it was determined that the data showed normal distribution, the analysis was carried out with parametric tests. Descriptive statistics, independent sample *t* test, one-way analysis of variance (ANOVA), correlation analysis, and regression analysis were used for the level of effect of leisure time motivation on life satisfaction. Within-group differences were determined by the Tukey's Honestiy Significant Difference (HSD) Test and Least Significant Difference Test (LSD) *post-hoc* tests. In correlation analysis, the correlation coefficient is a quantity that expresses the direction and amount of linear relationship between two variables. It takes a value between −1 and +1. Signs indicate the direction of the relationship [34]. Accordingly, *r* being the correlation coefficient, the characterizations related to the correlation coefficients were evaluated in the range of no relationship or negligible low (0.00–0.19), weak (low) relationship, moderate, strong (high) relationship and very strong relationship (0.90–1.00) [34]. The significance level for statistical analyses was accepted as 0.05 and 0.01 for correlation analysis only. All analyses were performed with IBM Statistical Package for the Social Sciences (SPSS) 25 program.

3. Findings

The mean and standard deviation values of the leisure motivation levels and quality of life levels of the athletes participating in the study are given in Table 1.

Table 1 in which it may be seen that the athletes' leisure motivation was above the middle level, and they scored the highest in the sub-dimension of knowing and achieving. Furthermore, when quality of life was examined, it was found that their general health levels were high, and they had the highest score in the social relations sub-dimension.

As a result of the analysis conducted to examine whether the athletes' leisure time motivation and quality of life scores differ according to independent variables, hypotheses H1, H2, H3, H4, H12 were rejected. H5 hypothesis, H6 hypothesis in two sub-dimensions of leisure time motivation, H7 hypothesis in one sub-dimension of quality of life, H8 hypothesis in two sub-dimensions of leisure time motivation, H9 hypothesis in two sub-dimensions of quality of life, H10 hypothesis in one sub-dimension of leisure time motivation, H11 hypothesis in three sub-dimensions of quality of life, and H13 hypothesis and H14 hypothesis in sub-dimension of quality of life were accepted. According to this, the leisure time motivation and quality of life scores of athletes do not vary according to age and branch. The findings related to the confirmed hypotheses are presented in tables below.

TABLE 1. Means and standard deviations of leisure motivation and quality of life sub-dimensions.

	$\bar{x}$	sd*	Min	Max.
Leisure motivation	59.56	9.79	25.00	89.00
Lack of motivation	11.36	2.57	3.00	15.00
Knowing and achieving	18.42	3.85	5.00	25.00
Stimulus to live	5.51	2.09	2.00	10.00
Identification/internalization	13.46	3.09	5.00	20.00
External regulation	10.81	2.67	4.00	19.00
General health	6.40	1.18	2.00	10.00
Physical health	23.95	4.77	7.00	62.00
Psychological health	20.53	3.54	6.00	29.00
Social relations	10.35	2.57	3.00	15.00
Environmental space	30.07	5.62	10.00	43.00

**Standard deviation.*

According to the ANOVA results conducted to test the athletes' leisure time motivation and quality of life scores according to the perceived income level, it was seen that those who perceived their income level as medium have higher leisure time motivation in terms of knowing and achieving than those who perceived their income level as low while those who perceived their income level as low had higher scores than those who perceived the income level as medium in terms of experiencing stimuli in leisure time motivation. In terms of quality of life, it is seen that those who perceived their income level as high had higher leisure time motivation in general health, psychological health, social relations, and environment than those who perceived their income level as medium and low (Table 2). In this context, it can be said that as the income level increases, the motivation to succeed in knowing increases while as the income level decreases, experiencing stimuli about motivation increases, and the quality of life is positively affected in terms of general health, psychological health, social relations, and environment.

According to the results of the *t*-test conducted to measure the leisure time motivation and quality of life scores of the athletes according to the type of sport, athletes who were engaged in individual sports had a higher amotivation scores, scores on achieving to know, and quality of life in terms of social relationships than those who were engaged in team sports (Table 3).

According to the results of ANOVA conducted to test the leisure time motivation and quality of life scores of the athletes according to their daily leisure time duration, the athletes with a daily leisure time duration of five to six hours had higher leisure time motivation to know and achieve than those with a daily leisure time duration of seven hours or more. In addition, those who had five to six hours of daily leisure time had higher physical health scores than those who had one to two hours and more than seven hours while those who had seven hours or more of daily leisure time had lower psychological health

TABLE 2. Comparison of athletes' leisure motivation and quality of life scores according to perceived income level.

Perceived income	n	$\overline{x}$	sd	*F*	*p*
Leisure motivation					
High	35	62.11	10.92		
Middle	183	59.79	8.93	2.635	0.073
Low	65	57.55	11.15		
Lack of motivation					
High	35	11.06	2.52		
Middle	183	11.62	2.41	2.873	0.058
Low	65	10.78	2.92		
Knowing and achieving					
High	35	18.94	3.76		
Middle	183	18.78	3.71	4.963	0.008*
Low	65	17.12	4.03		
Stimulus to live					
High	35	6.46	2.15		
Middle	183	5.33	2.01	4.396	0.013*
Low	65	5.51	2.18		
Identification/internalization					
High	35	13.83	3.54		
Middle	183	13.42	2.83	0.278	0.757
Low	65	13.40	3.54		
External regulation					
High	35	11.83	3.11		
Middle	183	10.64	2.57	2.989	0.052
Low	65	10.74	2.61		
General health					
High	35	7.14	1.42		
Middle	183	6.33	1.92	8.922	<0.001**
Low	65	6.17	1.53		
Physical health					
High	35	24.57	4.36		
Middle	183	24.27	4.78	2.831	0.061
Low	65	22.74	4.83		
Psychological health					
High	35	21.49	3.78		
Middle	183	20.70	3.53	4.043	0.019*
Low	65	19.55	3.27		
Social relations					
High	35	11.17	2.27		
Middle	183	10.46	2.34	4.867	0.008*
Low	65	9.60	3.13		
Environmental space					
High	35	32.51	5.97		
Middle	183	30.78	4.97	18.006	<0.001**
Low	65	26.75	5.84		

*$p < 0.05$; sd: standart deviation; **$p < 0.001$.

TABLE 3. Comparison of leisure motivation and quality of life scores of athletes according to sport type.

Sport type	n	$\overline{x}$	sd	*t*	*p*
Leisure motivation					
Individual	102	60.91	8.33	1.748	0.082
Team	181	58.80	10.47		
Lack of motivation					
Individual	102	11.82	2.20	2.295	0.022*
Team	181	11.10	2.72		
Knowing and achieving					
Individual	102	19.08	3.41	2.175	0.030*
Team	181	18.05	4.03		
Stimulus to live					
Individual	102	5.43	2.07	−0.468	0.640
Team	181	5.55	2.11		
Identification/internalization					
Individual	102	13.73	2.94	1.073	0.284
Team	181	13.31	3.17		
External regulation					
Individual	102	10.85	2.40	0.207	0.836
Team	181	10.78	2.82		
General health					
Individual	102	6.34	1.21	−0.562	0.575
Team	181	6.43	1.17		
Physical health					
Individual	102	24.42	5.52	1.238	0.217
Team	181	23.69	4.30		
Psychological health					
Individual	102	20.78	3.92	0.894	0.372
Team	181	20.39	3.31		
Social relations					
Individual	102	10.96	2.46	3.028	0.003**
Team	181	10.01	2.57		
Environmental space					
Individual	102	30.47	6.01	0.906	0.366
Team	181	29.84	5.39		

**p < 0.05; sd: standart deviation; **p < 0.01.*

scores than those who had three to four hours and five to six hours (Table 4). In this context, having too little or too much daily leisure time is negative in terms of leisure time motivation and quality of life, so it can be said that when leisure time is balanced, leisure time motivation and quality of life will increase.

According to the ANOVA results conducted to test the leisure time motivation and quality of life scores of the athletes according to the perception of leisure time efficiency, the athletes who thought that they spend their leisure time efficiently had higher physical health scores than those who did not know. On the other hand, psychological health and environmental domain scores of the athletes who thought that they did not spend their leisure time efficiently were lower than those who thought that they spend their leisure time efficiently and those who do not know (Table 5). In this context, quality of life may be positively affected as the person's awareness of efficiency in leisure time evaluation increases.

According to the results of the correlation test conducted to determine the relationship between leisure motivation and quality of life of athletes, there was a weak positive linear relationship between the leisure motivation and quality of life sub-dimensions of physical health, psychological health, social relationships, and environmental domain. When we look at

TABLE 4. Comparison of athletes' leisure motivation and quality of life scores according to daily leisure time duration.

Daily leisure time	n	$\overline{x}$	sd	*F*	*p*
Leisure motivation					
1–2 h	69	59.42	9.40	0.949	0.417
3–4 h	99	59.59	8.64		
5–6 h	70	60.86	10.05		
7 h and more	45	57.71	12.12		
Lack of motivation					
1–2 h	69	11.20	2.37	1.793	0.149
3–4 h	99	11.35	2.44		
5–6 h	70	11.89	2.27		
7 h and more	45	10.80	3.38		
Knowing and achieving					
1–2 h	69	18.10	3.39	3.426	0.018*
3–4 h	99	18.49	3.90		
5–6 h	70	19.43	3.39		
7 h and more	45	17.18	4.67		
Stimulus to live					
1–2 h	69	5.48	2.00	0.190	0.903
3–4 h	99	5.40	2.15		
5–6 h	70	5.61	2.05		
7 h and more	45	5.62	2.21		
Identification/internalization					
1–2 h	69	13.54	2.89	0.232	0.874
3–4 h	99	13.55	3.04		
5–6 h	70	13.50	3.00		
7 h and more	45	13.11	3.66		
External regulation					
1–2 h	69	11.10	2.71	0.828	0.479
3–4 h	99	10.79	2.37		
5–6 h	70	10.43	2.86		
7 h and more	45	11.00	2.92		
General health					
1–2 h	69	6.33	1.39	0.528	0.664
3–4 h	99	6.33	0.97		
5–6 h	70	6.43	1.16		
7 h and more	45	6.58	1.31		
Physical health					
1–2 h	69	22.70	3.51	5.694	<0.001**
3–4 h	99	23.92	3.98		
5–6 h	70	25.77	6.02		
7 h and more	45	23.13	5.15		
Psychological health					
1–2 h	69	20.30	3.17	3.307	0.021*
3–4 h	99	20.98	3.50		
5–6 h	70	21.00	3.64		
7 h and more	45	19.18	3.74		

TABLE 4. Continued.

Daily leisure time	n	$\overline{x}$	sd	F	p
Social relations					
1–2 h	69	10.09	2.73	1.051	0.370
3–4 h	99	10.41	2.22		
5–6 h	70	10.74	2.60		
7 h and more	45	10.02	2.96		
Environmental space					
1–2 h	69	29.12	6.36	1.179	0.318
3–4 h	99	30.23	5.21		
5–6 h	70	30.87	5.63		
7 h and more	45	29.91	5.23		

*$p < 0.05$; sd: standart deviation; **$p < 0.01$.

the sub-dimensions of leisure motivation, there was a weak negative correlation between the amotivation sub-dimension and the quality of life sub-dimensions of physical health, psychological health, social relations and environmental domain while there was a weak positive linear relationship between the achievement of knowing sub-dimension and the quality of life sub-dimensions of physical health, psychological health, social relations, and environmental domain and between the identification/attraction sub-dimension and environmental domain (Table 6). In this direction, we can say that life satisfaction increases as leisure motivation increases.

According to the findings shown in Table 7 that examine the effect of leisure time motivation on the sub-dimensions of quality of life, it was determined that leisure time motivation partially explains quality of life, at 31 per cent ($R^2 = 0.096$). Furthermore, it can be said that leisure motivation, which significantly predicts individuals' environmental areas, has a significant effect on the preference of environmental areas.

4. Discussion

In the research conducted to examine male athletes' ability to develop leisure motivation in their free time, the period of time left over from their involvement in sports, and to determine their quality of life, the effect of leisure motivation on quality of life was also evaluated. Relatively important results were obtained within the scope of the study, which analyzed the changes in the relevant levels of certain variables. The findings obtained revealed that the participants' leisure motivation was above average, and their quality of life was high.

While many studies indicate that exercise or sports have positive effects on the quality of life [35–39], the findings of a study testing individuals who received sports training indicate that there is a visible difference in the quality of life of individuals who received sports training [40]. Therefore, the current participant group's description of their quality of life as high in this context is in full agreement with the literature.

At the same time, the study revealed that individuals who spend their leisure time with physically active activities through developing leisure motivation exhibit a more positive quality of life than sedentary people or individuals who lead more passive lives [41]. Based on the findings and the studies in the literature, the relatively high quality of life and leisure motivation in athletes coincides with the assumption that participation in sports activities has a positive effect on psychosocial parameters. However, it is concluded that it is necessary to have more knowledge and experience about leisure time evaluation processes in order to increase leisure motivation levels close to the quality of life levels.

When the research findings were examined, while the age groups of the participants and the measurement tools did not differ, statistically significant differences were determined between their perceived income, whether their sports branch was an individual or team sport, their daily free time, and their self-evaluation status regarding whether they spent their free time productively and the measurement tools. According to the results of the *t*-test conducted to test the leisure motivation and quality of life scores of the athletes according to age, it was found that the age of the athletes did not statistically change the leisure motivation and quality of life. In another study, unlike the current research findings, a higher frequency of dissatisfaction was observed in women over 25 years of age and with lower personal income [42]. Contrary to the current research finding that age is not a determinant of quality of life, another study states that being physically active is related to the improvement of the quality of life of the elderly population [43, 44]. The prevailing findings are that as age increases, outcomes for quality of life generally decrease [45].

The current research findings reveal that perceived income has an impact on the quality of life, and there are studies in the literature that reveal outputs parallel to the findings [44, 46–49]. When the research findings that leisure motivation differs according to perceived income are examined, there are studies in the literature that conclude that income is not a factor [50]. There are also studies showing that income does not differentiate leisure motivation [51], but as an important factor that increases motivation, income generally stands out as a mediating variable. When examined in terms of branch, it was concluded that those interested in taekwondo, an individual sports branch, have a high quality of life [52]. In another study, martial arts were considered in general, and it was determined that the branch did not change leisure motivation. Therefore,

TABLE 5. Comparison of athletes' leisure motivation and quality of life scores according to leisure productivity perception.

Perception of leisure time productivity	n	$\overline{x}$	sd	*F*	*p*
Leisure motivation					
Yes	88	60.73	10.81		
I don't know	137	59.40	8.89	1.228	0.294
No.	58	58.17	10.15		
Lack of motivation					
Yes	88	11.35	2.72		
I don't know	137	11.45	2.40	0.273	0.762
No.	58	11.16	2.75		
Knowing and achieving					
Yes	88	18.89	3.91		
I don't know	137	18.43	3.71	1.702	0.184
No.	58	17.69	4.01		
Stimulus to live					
Yes	88	5.80	2.29		
I don't know	137	5.37	1.95	1.207	0.301
No.	58	5.40	2.09		
Identification/internalization					
Yes	88	13.61	3.18		
I don't know	137	13.58	2.87	0.947	0.389
No.	58	12.97	3.44		
External regulation					
Yes	88	11.08	2.98		
I don't know	137	10.57	2.42	1.106	0.332
No.	58	10.97	2.73		
General health					
Yes	88	6.58	1.35		
I don't know	137	6.36	1.17	1.889	0.153
No.	58	6.21	0.87		
Physical health					
Yes	88	25.16	4.65		
I don't know	137	23.43	3.88	4.163	0.017*
No.	58	23.36	6.37		
Psychological health					
Yes	88	21.16	3.53		
I don't know	137	20.73	3.34	6.447	0.002**
No.	58	19.12	3.70		
Social relations					
Yes	88	10.55	2.45		
I don't know	137	10.53	2.47	2.726	0.067
No.	58	9.66	2.89		
Environmental space					
Yes	88	30.85	5.43		
I don't know	137	30.42	5.22	5.069	0.007**
No.	58	28.03	6.39		

*$*p < 0.05$; sd: standart deviation; **$p < 0.01$.*

TABLE 6. The relationship between athletes' leisure motivation and quality of life.

	General health	Physical health	Psychological health	Social relations	Environmental space
Leisure motivation	0.005	0.224*	0.213**	0.211*	0.271*
Lack of motivation	−0.009	−0.256*	−0.190**	−0.150	−0.189*
Knowing and achieving	0.013	0.255*	0.268**	0.223*	0.232*
Stimulus to live	0.093	0.094	0.084	0.162	0.138
Identification/internalization	−0.052	0.097	0.152	0.104	0.206*
External regulation	−0.004	0.022	−0.030	0.061	0.130

$*p < 0.01$. $**p < 0.05$. The data in the table are correlation coefficients (r).

TABLE 7. Multiple regression analysis results between measurement instruments.

	B	SEM	β	t	p	r	Partial r
(Constant)	43.263	4.404		9.824	<0.001*		
General health	−0.630	0.490	−0.076	−1.287	0.199	0.005	−0.077
Physical health	0.241	0.137	0.117	1.761	0.079	0.224	0.105
Psychological health	0.177	0.198	0.064	0.893	0.373	0.213	0.054
Social relations	0.169	0.281	0.044	0.602	0.548	0.211	0.036
Environmental space	0.305	0.132	0.175	2.303	0.022	0.271	0.137
$R = 0.310$	$R^2 = 0.096$						
F (5.905) = 0.000	<0.001*						

Dependent variable: Leisure motivation. $*p < 0.001$.

it is considered that the findings regarding leisure motivation and quality of life levels in terms of team sports or individual sports should be increased, and research should be expanded in this context.

Based on the finding that individuals who spend their free time with sports and social and outdoor activities have a high quality of life [41], increasing the level of leisure satisfaction through providing leisure motivation is considered an extremely important element to increase the quality of life [53]. In the current study, it was determined that there were positive significant relationships between leisure motivation and quality of life and that leisure motivation affected the quality of life by 31 per cent. Another study, which found a positive linear relationship between life satisfaction, leisure motivation, and frequency of participation in leisure activities, similarly revealed that there is a positive relationship between the relevant parameters [54]. It has become a generally accepted fact that individuals will contribute positively to their quality of life by increasing their leisure motivation. The relevant discourse is also strengthened through research supporting the findings.

5. Conclusions

All the results showed that licensed male athletes have high leisure time motivation, which is the desire that motivates them to spend their leisure time and enables them to continue their activities. In addition, it was seen that they have a good and high quality life in terms of their general health, physical health, psychological health, social relations and environmental areas (physical safety and security, physical environment, material resources, accessibility and quality of health services and social assistance), which are necessary for them to live a better quality life. In addition, the way male athletes perceive their income levels (high, medium, low), whether they are doing individual or team sports, how many hours of free time they have daily and whether they spend their free time efficiently change their leisure time motivation and quality of life levels. Accordingly, the leisure time motivation and quality of life levels of those who perceive their income level to be high, who play team sports, and who think that they spend their leisure time efficiently are higher. In addition, having too little or too much daily leisure time is negative in terms of leisure time motivation and quality of life, so it can be said that leisure time motivation and quality of life will increase when leisure time is balanced. Another important result is that as leisure time motivation, *i.e.*, the desire to spend leisure time productively increases, quality of life, *i.e.*, individuals' general health, physical health, psychological health, and social relationships will be positively affected.

In conclusion, our research findings support the premise that male athletes increase their quality of life by increasing their leisure motivation in the time they have left over from participating in sports. It can be said that various variables change leisure motivation and quality of life, but increasing leisure motivation has a significant effect on explaining the quality of life. The quality of life of athletes and thus the improvement in their performance should be increased. In this way, it is expected that their success levels will increase, and their quality of life will be strengthened as well. In order to ensure the transfer of knowledge, skills and action processes regarding leisure motivation provided through formal and informal means, projects in which educational institutions and

local governments cooperate, should be increased, and at the same time, motivation levels for leisure activities should be strengthened by adding leisure activities to training periods. In this regard, individuals should be provided with leisure and recreation literacy.

AVAILABILITY OF DATA AND MATERIALS

The data supporting this study's findings are available from the corresponding author upon reasonable request.

AUTHOR CONTRIBUTIONS

MKÇ—protocol development, data collection, data analysis, manuscript writing, AI-manuscript review and editing. TAD—protocol development, manuscript writing; AI-manuscript review and editing, data analysis. ET—literature review, manuscript writing. SK—protocol development, manuscript review and editing. BMA—protocol development; manuscript review, language validity. NBG—data collection. EOK—data collection. RNU—data collection. OG—data collection. NS—data collection. All authors contributed to editorial changes in the manuscript. All authors read and approved the final manuscript.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Research code number 2024-427 was approved by Gazi University Ethics Commission. The participants were informed about the purpose of the study and an Informed Voluntary Consent Form (**Supplementary Fig. 2**) was obtained from the individuals who agreed to participate in the study.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

SUPPLEMENTARY MATERIAL

Supplementary material associated with this article can be found, in the online version, at https://oss.jomh.org/files/article/1818174349382696960/attachment/Supplementary%20material.docx.

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