



## Leisure Involvement of Master Handball Players<sup>1</sup>

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### Abstract

This study was conducted to determine the leisure involvement levels of master handball players. The sample of the study consisted of 85 athletes (36 females;  $\bar{X}$ age=44.06±5.90 and 49 males;  $\bar{X}$ age=55.43±8.99) who participated in the master handball tournament. The personal information form and Leisure Involvement Scale were used as data collection tools. The data were collected online. The SPSS 25.0 software package was used for data analysis, and normality was assessed based on kurtosis-skewness values. The study employed the relational survey model, descriptive statistics, and both difference and correlation analyses. The data analysis revealed that the leisure involvement levels of master handball players were above average. When the gender variable, one of the demographic variables, was considered, a significant difference was found between the attraction, social bonding, and identity affirmation sub-dimensions and leisure involvement levels. The relationship between the participants' age, handball background, the leisure involvement scale and its sub-dimensions was looked at. It was found that the attraction sub-dimension was negatively related to age, while the centrality sub-dimension was positively related to handball background. Since there is no study in the literature on master athletes in the field of leisure time, it is aimed to enrich the field. As a result of the study, it was determined that master athletes had higher leisure involvement scores in terms of gender variable. It was observed that the leisure involvement levels of athletes participating in a single activity and those participating in multiple activities were similar. It was determined that the attraction of leisure time activities decreased in master athletes as they got older, and that athletes with a longer sports background attached more importance to leisure time activities during the master sports period.

**Keywords:** Handball, Interest, Leisure, Master.

## Özet

### Veteran Hentbol Sporcularının Serbest Zaman İlgilenimleri

Bu çalışma, veteran hentbol sporcularının serbest zaman ilgilenim düzeylerinin belirlenmesi amacıyla yapılmıştır. Çalışmanın örneklemini veteran hentbol turnuvasına katılan 85 sporcu (36 kadın;  $\bar{X}$ yaş=44.06±5.90 ve 49 erkek;  $\bar{X}$ yaş=55.43±8.99) oluşturmaktadır. Veri toplama aracı olarak kişisel bilgi formu ve Serbest Zaman İlgilenim Ölçeği kullanılmıştır. Veriler çevrimiçi yöntemlerle toplanmıştır. Verilerin analizi için, SPSS 25.0 paket programı kullanılmış ve basıklık-çarpıklık değerleri göz önüne alınarak normallik değerleri hesaplanmıştır. Çalışmada ilişkisel tarama modeli kullanılmış olup betimleyici istatistik, fark ve korelasyon analizlerinden yararlanılmıştır. Elde edilen veriler doğrultusunda, veteran hentbolcuların, ilgilenim düzeylerinin ortalamanın üzerinde olduğu tespit edilmiştir. Demografik değişkenlerden olan cinsiyet değişkeni ele alındığında, çekicilik, sosyal ilişki, özdeşleşme alt boyutları ve genel ilgilenim düzeyleri arasında anlamlı fark tespit edilmiştir. Katılımcıların, yaş ve hentbol geçmişleri ile serbest zaman ilgilenim ölçeği ve alt boyutları arasındaki ilişki incelendiğinde, çekicilik alt boyutu ve yaş değişkeni arasında negatif yönde, önem verme ve hentbol geçmişi arasında pozitif yönde istatistiksel açıdan anlamlı fark tespit edilmiştir. Veteran sporcularla ilgili literatürde serbest zaman alanında yapılan çalışma bulunmadığından, alanı zenginleştirmeye yöneliktir. Araştırma sonucunda, Veteran sporcuların cinsiyet değişkeni açısından serbest zaman ilgilenimi puanlarının daha yüksek olduğu saptanmıştır. Serbest zaman aktivitelerinde tek aktiviteye katılan ve birden çok aktiviteye katılan sporcular açısından serbest zaman ilgilenim düzeyleri birbirine yakın olduğu gözlenmiştir. Veteran sporcuların yaş almasıyla birlikte, serbest zaman etkinliklerinin çekiciliğinin azaldığı; ancak spor geçmişi güçlü olan veteran sporcular için serbest zaman aktivitelerine daha fazla önem verdiği tespit edilmiştir.

**Anahtar Kelimeler:** Hentbol, İlgilenim, Serbest Zaman, Veteran.

## INTRODUCTION

Sport has become an essential part of human life, offering a range of benefits such as improved health, increased competition, and enhanced social interaction (14). Societies are increasingly recognizing that sport is important for all age groups, not just the young, and the multifaceted effects of these activities are becoming more apparent. These definitions emphasize the importance of leisure activities for adults, particularly in coping with challenges and transitions in later life stages such as retirement from professional sports (34, 5). Master athletes represent a unique population whose participation in sport extends well beyond their peak competitive years. Understanding the various factors that influence their participation and overall well-being is critical. Previous studies (12, 17, 22) suggest that participation in sport later in life provides numerous benefits, including improved physical health, improved mental well-being, and greater social connections.

Becoming a master athlete does not signify the end of a professional journey, especially for those involved in team sports such as handball. Rather, it marks the transition to a new phase, where leisure activities play a crucial role in their lives. This transition often involves a shift from competitive sports to recreational activities. These activities help maintain physical fitness as well as mental agility and social networks (38, 33). Handball, a sport that requires agility, strength, and teamwork, offers both challenges and opportunities for master athletes. Studies have shown that as athletes age, their motivation to participate in sports may shift, often placing more emphasis on enjoyment and social interaction rather than competition and achievement (8, 24, 28). This shift highlights the need for specialized programs that address the specific interests and needs of master handball players (39).

Sport provides a therapeutic escape from daily stress, improving mood and enhancing overall mental health (11). It also promotes a sense of community and belonging, which are critical for social well-being (3). For master athletes who have lost teammate and routines, participation in leisure time activities can help fill this gap and provide social integration and personal fulfillment (23, 18). The participation of master handball players in both local and international competitions is increasing in Türkiye, and it is important to explore this demographic. Studies suggest that such participation can significantly contribute to healthy aging by providing a sense of community and continuity for master athletes (1).

Furthermore, the physical and physiological demands of handball, characterized by intermittent high-intensity activity, make it a suitable exercise for maintaining fitness and health in older adults (36,

10). Studies by Deck et al. (13) and Jang et al. (26) suggest that such participation can significantly contribute to healthy aging and provide a sense of community and continuity for master athletes.

Examining the leisure involvement levels of master handball players provides valuable insights into how these players adapt to the end of their competitive careers. This study aims to examine how master athletes spend their leisure time after transitioning from the professional arena. Examining the leisure time activities of master athletes who have been active for many years in competitive sports is important from an individual and societal perspective. This study aims to shed light on future research by examining the leisure involvement levels of master handball players. The results may help both master athletes improve their own quality of life and the sports community to provide better support and services to these valuable participants.

## **METHOD**

### **Research model**

The study was designed in the relational survey model, which is one of the quantitative research methods, and used an online data collection technique. The relational survey model guides the researcher between variables by determining the level between two or more variables (27).

### **Research group**

The population of the study consisted of master handball players within the Turkish Handball Federation. Considering the estimated number of tournament participants in 2023, the population was assumed to be 200, and the minimum sample size was calculated to be 66 using the formula for determining sample size ( $n = NPQZ^2 / ((N-1)d^2 + PQZ^2)$ ). A simple random sampling method was used, and a total of 85 people, 36 of whom were female and 49 were male, were reached.

### **Data collection tools**

The study collected its data using online methods. The first part of the survey included a personal information form for the master handball players participating in the study. The personal information form included questions about the participants' age, gender, occupational status, marital status, how many years they have played handball, and the physical activities they have participated in. The second part of the survey used the "Leisure Involvement Scale (LIS)" to assess participants' interest and involvement in leisure activities. LIS was developed by Kyle et al. (31) and adapted into Turkish by Gürbüz, Çimen, and Aydın (19). The scale consists of 15 questions and 5 (five) sub-dimensions: attraction, centrality, social bonding, identity affirmation, and identity expression. In the study, the reliability coefficient of the scale was calculated as .915.

### **Data analysis**

The study was analyzed with the IBM 25.0 program. The kurtosis and skewness results were taken into consideration to determine whether the obtained data were normally distributed. The kurtosis and skewness values were within  $\pm 2$  (6). The relational survey model includes both relationship and difference analyses. Accordingly, it consists of descriptive statistical analyses, Pearson product-moment correlation analysis, and t-test analysis in independent groups.

### **Ethical approval and institutional permission**

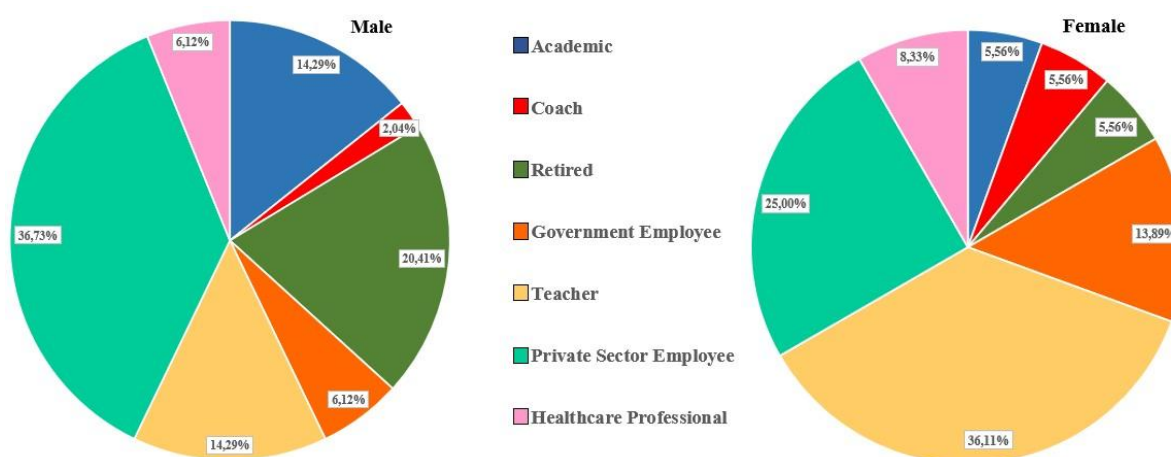
This study was approved by the Hitit University Non-Interventional Clinical Research Ethics Committee (Decision No: 2023-17).

## FINDINGS

**Table 1.** Descriptive analyses of demographic information of participants

		n	%	
Gender	Female	37	41.6	
	Male	52	58.4	
Marital Status	Married	73	82.0	
	Single	16	16.0	
Activity participation status	Single activity	41	46.1	
	More than one activity	48	53.9	
		n	Mean (Ss)	Min-Max
Age		89	51.03(10.053)	35-79
Handball Background		89	14.18 (7.384)	3-30

When the demographic information of the participants was analyzed (Table 1), 42% of the sample group were female, 58% were male, 82% were married and 16% were single. When the activities that the participants participated in during their leisure time were evaluated, it was observed that 46% participated in a single activity and 54% participated in more than one activity. When the average age of the participants was evaluated, it was determined that the minimum age was 34 and the maximum age was 79. It was observed that master handball players had a minimum handball background of 3 years and a maximum handball background of 30 years.

**Figure 1.** Graph of the distribution of participants according to occupational groups

When the occupation variable of the participants was analyzed, it was found that 3% of them were in the private sector. The figure 1 shows the distribution of occupational groups in terms of the gender variable. It was observed that 36% of the female participants were teachers and 37% of the male participants worked in the private sector.

**Table 2.** Descriptive analyses of the participants' leisure involvement levels

Leisure Involvement Scale		n	Mean (Sd)
Sub-Dimensions	Attraction	85	4.21 (0.819)
	Centrality		3.45 (0.881)
	Social bonding		3.96 (0.653)
	Identity affirmation		4.01 (0.690)
	Identity expression		3.68 (0.806)
Leisure Involvement Scale	Total		3.86 (0.620)

The lowest score that can be obtained from the leisure involvement scale of the master handball players participating in the study is 1.00 and the highest score is 5.00. Considering these values, the attraction, identity affirmation, social bonding, identity expression and centrality sub-dimensions are

listed from high to low in Table 2. When the general scale score is examined, it is seen that it is above the average score.

**Table 3.** T-test analysis according to the gender of the participants

Leisure Involvement Scale		n	Mean (Sd)	t	F	p
Attraction	Female	36	4.50 (.525)	-2.899	1.360	.005
	Male	49	4.00 (.931)			
Social bonding	Female	36	4.13 (.530)	-2.082	.508	.040
	Male	49	3.84 (.711)			
Identity affirmation	Female	36	4.19 (.649)	-2.185	.055	.032
	Male	49	3.87 (.693)			
Total	Female	36	4.02 (.527)	-2.082	.175	.040
	Male	49	3.74 (.662)			

When the independent t-test analysis is performed according to the gender variable, statistically significant results are presented in Table 3. Statistically significant results were obtained in the general scale and attraction, social bonding and identity affirmation sub-dimensions of the leisure involvement scale ( $p < .05$ ).

**Table 4.** T-test analysis according to the participants' physical activity participation

Leisure Involvement Scale		n	Mean (Sp)	t	F	p
Attraction	Single activity	41	4.17 (.793)	.582	.173	.562
	More than one activity	48	4.27 (.821)			
Social bonding	Single activity	41	3.94 (.712)	.267	1.278	.790
	More than one activity	48	3.97 (.603)			
Identity affirmation	Single activity	41	3.91 (.707)	1.200	.000	.234
	More than one activity	48	4.08 (.651)			
Identity expression	Single activity	41	3.65 (.949)	.413	4.106	.681
	More than one activity	48	3.72 (.688)			
Centrality	Single activity	41	3.44 (.854)	.104	.015	.918
	More than one activity	48	3.46 (.896)			
Total	Single activity	41	3.82 (.653)	.611	.280	.543
	More than one activity	48	3.90 (.587)			

The participants were asked about their participation in physical activities in their leisure time, and their answers were divided into two categories: participation in a single activity and participation in more than one activity. When Table 4 was examined, no statistically significant difference was found between activity participation and leisure involvement levels and sub-dimensions ( $p > 0.05$ ).

**Table 5.** Correlation analysis of participants' age and handball background variables

Leisure Involvement Scale Sub dimensions	Gender	Handball background
Attraction	-.214 ( $p < .05$ )	
Centrality	.256 ( $p < .05$ )	

Considering Table 5, the relationship between the demographic information asked to the participants, age and handball background variables, and the general and sub-dimensions of the leisure involvement scale was examined. In Table 5, it was determined that there was a negative ( $r = -.214$ ) linear relationship between the attraction sub-dimension and the age variable, and a positive ( $r = .256$ ) linear relationship between the centrality sub-dimension and handball background ( $p < 0.05$ ).

## DISCUSSION AND CONCLUSION

Master athletes have been the subject of many studies in the literature (9, 15, 16, 17, 20, 21, 25, 29, 30, 35, 37). The findings revealed a statistically significant difference in the attraction, social bonding, identity affirmation, and leisure involvement scores based on gender. In master athletes who are considered serious leisure time participants, Hastings et al. (21) found that the importance of socialization increased as the participants aged and their job and family responsibilities decreased. They emphasized that female participants gave more importance to social experience. In their study, they also investigated the competitive experience and determined that participants with more competitive experience emphasized success, while those with less competitive experience emphasized skill development. The competitive experiences of master athletes may increase their social interactions and positively affect their self-esteem and quality of life (32). Regular sports activities support not only physical health but also psychological and social well-being. (4) It was found that master handball players' preference for one activity or more than one activity did not create a significant difference in the general and sub-dimensions of leisure involvement ( $p>0.05$ ). The obtained result can be considered that handball is a team sport, and master handball players' preference for one activity or more than one activity did not create a significant difference. It was observed that the increase in handball experience had a positive and significant relationship with the centrality sub-dimension of the participants. Master handball players experience the enjoyment of playing handball without the high-level competitiveness associated with active athletes (15). Ferreira and Santiago (15) stated that it is important for master handball players participating in a handball festival to increase their quality of life, improve their social skills, and have the opportunity to re-experience their achievements. Such activities, especially adaptive sports, have been found to help masters better integrate themselves into society and cope with disability (2). Master handball tournaments are crucial in terms of quality aging. Since being a master athlete can be considered a second chance, it offers an opportunity to the participants (7). In this case, it supports the negative relationship between the age variable and the attraction subdimension.

In conclusion, it was observed that female athletes had higher leisure involvement scores compared to male master handball players. Additionally, the leisure involvement levels of athletes who participated in either a single activity or multiple activities were similar. It was determined that the attractiveness of leisure time activities decreased with age in master athletes, and that athletes with a long sports background increased their emphasis on leisure time activities during their master sports period. Since no research on the leisure time of master athletes was found in the literature, it is thought that our research, which includes an original sample group, will make a significant contribution to the literature. It is believed that this topic has not been evaluated from the perspective of master athletes, and that the study will contribute to filling this gap in the field. It is believed that an increase in the number of tournaments for master athletes will provide an opportunity to showcase their skills once again, ensure the continuity of socialization, and have positive effects on the parameters of quality aging.

## REFERENCES

1. Ageberg E, Bunke S, Nilsen P, Donaldson A. Planning injury prevention training for youth handball players: Application of the generalisable six-step intervention development process. *Injury Prevention*, 2020; 26: 164-169. <https://doi.org/10.1136/injuryprev-2019-043468>
2. Aitchison B, Rushton A, Martin P, Barr M, Soundy A, Heneghan N. The experiences and perceived health benefits of individuals with a disability participating in sport: A systematic review and narrative synthesis. *Disability and Health Journal*, 2021; 101164. <https://doi.org/10.1016/j.dhjo.2021.101164>.
3. Anderson-Butcher D, Riley A, Amorose A, Iachini A, Wade-Mdivanian R. Maximizing Youth Experiences in Community Sport Settings: The Design and Impact of the LiFE Sports Camp. *Journal of Sport Management*, 2014; 28: 236-249. <https://doi.org/10.1123/JSM.2012-0237>.
4. Bal-Turan E, Gülşen DBA. Üniversite Öğrencilerinin Serbest Zaman İlgilenimleri ile Sosyal ve Duygusal Yalnızlık İlişkisinin İncelenmesi. *Akdeniz Spor Bilimleri Dergisi*, 2023; 6(2): 635-646. <https://doi.org/10.38021/asbid.1296208>
5. Barnett I, van Sluijs EM, Ogilvie D. Physical activity and transitioning to retirement: a systematic review. *Am J Prev Med*. 2012; 43(3): 329-36. PMID: 22898127. <https://10.1016/j.amepre.2012.05.026>.
6. Bayram N. Sosyal bilimlerde SPSS ile veri analizi. Bursa: Ezgi Kitabevi, 2009.
7. Bowness J. Masters Highland Games and imaginations of home. *International Journal of Culture, Tourism and Hospitality Research*, 2020; 14(3): 441-452. <https://doi.org/10.1108/IJCTHR-10-2019-0179>
8. Buchheit M, Laursen P, Kuhnle J, Ruch D, Renaud C, Ahmaidi S. Game-based Training in Young Elite Handball Players. *International Journal of Sports Medicine*, 2009;30: 251- 258. <https://doi.org/10.1055/s-0028-1105943>.
9. Büyükyazı G, Saracaloğlu AS, Karadeniz G, Çamlıyer H, Çamlıyer H. Sedanterler ile veteran atletlerin çeşitli değişkenlere göre atılganlık düzeylerinin karşılaştırılması. *Gazi Beden Eğitimi ve Spor Bilimleri Dergisi*, 2003; 8(4): 13-24.
10. Cardinale M, Whiteley R, Hosny A, Popović N. Activity profiles and positional differences of handball players during the World Championships in Qatar 2015. *International Journal of Sports Physiology and Performance*, 2017; 12(7): 908-915. <https://doi.org/10.1123/ijsp.2016-0314>.
11. Chan J, Liu G, Liang D, Deng K, Wu J, Yan J. Therapeutic benefits of physical activity for mood: A systematic review on the effects of exercise intensity, duration, and modality. *The Journal of Psychology*, 2018;153: 102 - 125. <https://doi.org/10.1080/00223980.2018.1470487>.
12. Chelly M, Hermassi S, Aouadi R, Khalifa R, Tillaar R, Chamari K, Shephard R. Match analysis of elite adolescent team handball players. *Journal of Strength and Conditioning Research*, 2011; 25: 2410-2417. <https://doi.org/10.1519/JSC.0b013e3182030e43>.
13. Deck S, Doherty A, Hall C, Schneider A, Patil S, Belfry G. Perceived time, frequency, and intensity of engagement and older masters athletes' subjective experiences. *Frontiers in Sports and Active Living*, 2021; 3: 1-7. <https://doi.org/10.3389/fspor.2021.653590>
14. Eime R, Young J, Harvey J, Charity M, Payne W. A systematic review of the psychological and social benefits of participation in sport for children and adolescents: informing development of a conceptual model of health through sport. *The International Journal of Behavioral Nutrition and Physical Activity*, 2013; 10: 1-21. <https://doi.org/10.1186/1479-5868-10-98>
15. Ferreira AR, Santiago LV. Os sentidos atribuídos ao Master Handebol em Alagoas. *Revista Portuguesa de Ciências do Desporto*, 2014; 51A: 523-532.
16. Foretić N, Nikolovski Z, Marić D, Gabrilo G, Sekulić D, Jakšić D, Drid P. Stress levels in handball coaching—case study: Preliminary analysis of the differences between training and match. *International Journal of Environmental Research and Public Health*, 2022;19(16): 1-11. <https://doi.org/10.3390/ijerph191610251>
17. Genç N, Yıldırım Y, Müftüoğlu NE. Veteran badmintoncularlarda hedef yönelimleri ile yaşam doyumu ilişkisi. *Türkiye Spor Bilimleri Dergisi*, 2018; 2(1): 26-33.
18. Grove JR, Lavallee D, Gordon S. Coping with retirement from sport: The influence of athletic identity. *Journal of Applied Sport Psychology*, 1997; 9(2): 191-203. <https://doi.org/10.1080/10413209708406481>
19. Gürbüz B, Çimen Z, Aydın İ. Serbest zaman ilgilenim ölçeği: Türkçe formu geçerlik ve güvenirlik çalışması. *SPORMETRE Beden Eğitimi ve Spor Bilimleri Dergisi*, 2018; 16(4): 256-265. <https://doi.org/10.33689/spormetre.480235>
20. Güven Ö, Özdemir G, Ersoy G. Ankara ilindeki veteran atletlerin beslenme bilgi ve alışkanlıklarının saptanması. *SPORMETRE Beden Eğitimi ve Spor Bilimleri Dergisi*, 2009; 7(3): 125-133.
21. Hastings DW, Kurth SB, Schloder M, Cyr D. Reasons for participating in a serious leisure career: Comparison of Canadian and US masters swimmers. *International Review for the Sociology of Sport*, 1995; 30(1): 101-119.
22. Haugaasen M, Toering T, Jordet G. From childhood to senior professional football: Elite youth players' engagement in non-football activities. *Journal of Sports Sciences*, 2014; 32: 1940-1949. <https://doi.org/10.1080/02640414.2014.970218>.
23. Henning G, Stenling A, Bielak AA, Bjälkebring P, Gow AJ, Kivi M, Muniz-Terrera G, Johansson B, Lindwall M. Towards an active and happy retirement? Changes in leisure activity and depressive symptoms during the retirement transition. *Aging & Mental Health*, 2021; 25(4): 621-631. <https://doi.org/10.1080/13607863.2019.1709156>
24. Isoard-Gautheur S, Guillet-Descas E, Gustafsson H. Athlete burnout and the risk of dropout among young elite handball players. *IEEE Transactions on Signal Processing*, 2016; 30: 123-130. <https://doi.org/10.1123/TSP.2014-0140>.
25. İskender KB, Yıldırım İ. Veteran sporcuların yaşam kalitesi, egzersiz bağımlılığı ve yeme davranışlarının incelenmesi. *Gaziantep Üniversitesi Spor Bilimleri Dergisi*, 2022; 7(4): 455-470. <https://doi.org/10.31680/gaunjss.1187558>
26. Jang Y, Mortimer J, Haley W, Graves A. The role of social engagement in life satisfaction: Its significance among older individuals with disease and disability. *The Journal of Applied Gerontology*, 2004; 23: 266-278. <https://doi.org/10.1177/0733464804267579>.
27. Karasar N. Bilimsel Araştırma Yöntemi Kavramlar İlkeler Teknikler. Ankara: Nobel Akademik Yayıncılık, 2023.

28. Karcher C, Buchheit M. On-Court demands of elite handball, with special reference to playing positions. Sports Medicine, 2014; 44: 797-814. <https://doi.org/10.1007/s40279-014-0164-z>
29. Kartal M, Murathan G, Murathan F, Aslan A. Veteran Sporcuların Egzersiz Bağımlılık Düzeylerinin Değerlendirilmesi. Turkish Studies-Social Sciences, 2022; 17(3): 413-426. <https://dx.doi.org/10.7827/TurkishStudies.62536>
30. Kilit B, Arslan E, Soylu Y. Veteran tenis oyuncularının farklı tenis kortlarındaki müsabakalarından elde edilen fiziksel aktiviteden hoşlanma düzeylerinin incelenmesi. Bildiri sunumu: 2. Uluslararası Herkes için Spor ve Wellness Kongresi; April 25-28, 2019: 445-447, Antalya: Türkiye.
31. Kyle G. T., Kerstetter, D. L., Guadagnolo, F. B. The influence of outcome messages and involvement on participant reference price. Journal of Park and Recreation Administration, 1999; 17(3), 53-75.
32. Laferrier JZ, Teodorski E, Sprunger N, Cooper RA, Schmeler M. Investigation of the impact of sports, exercise and recreation (ser) participation on psychosocial outcomes in a population of veterans with disabilities using the sports outcome research tool and comprehensive uniform survey (Sportacus). A longitudinal study. Journal of Novel Physiotherapies, 2017; 7(5): 1-12. <https://doi.org/10.4172/2165-7025.1000365>
33. Lee Y, Chi I, Palinkas LA. Retirement, leisure activity engagement, and cognition among older adults in the United States. Journal of Aging and Health, 2019; 31(7): 1212-1234. <https://doi.org/10.1177/0898264318767030>
34. Matitu B, Santiago R, Pasco M. The Athletes After Retirement: How are they Doing?. Bedan Research Journal, 2019; 4(1): 136-163. <https://doi.org/10.58870/berj.v4i1.7>
35. Nikolovski Z, Vrdoljak D, Foretić N, Perić M, Marić D, Fountoulakis C. Acute and long-lasting effects of slow-paced breathing on handball team coach's match stress. Healthcare, 2023; 11(9): 1242 <https://doi.org/10.3390/healthcare11091242>
36. Ortega-Becerra M, Belloso-Vergara A, Pareja-Blanco F. Physical and physiological demands during handball matches in male adolescent players. Journal of Human Kinetics, 2020; 72: 253-263. <https://doi.org/10.2478/hukin-2019-0111>
37. Pekel A, Kılıçkaya O. Türkiye'deki tenis turnuvalarının bölgesel ve niceliksel analizi. Akdeniz Spor Bilimleri Dergisi, 2021; 4(1): 61-72. <https://doi.org/10.38021/asbid.873457>
38. Slingerland AS, Van Lenthe FJ, Jukema JW, Kamphuis CB, Looman C, Giskes K, Huisman M, Narayan KMV, Mackenbach JP, Brug J. Aging, retirement, and changes in physical activity: prospective cohort findings from the GLOBE study. American Journal of Epidemiology, 2007; 165(12): 1356-1363. <https://doi.org/10.1093/aje/kwm053>
39. Timofte, M. (2021). Assessment of the physical condition of senior handball players. *Știința Culturii Fizice*, 1(37), 94-98.