



Systematic Review

Recreational Sports and the Development of Happiness in Older Adults: A Systematic Review

Masoud Naderian ¹, Amir Hossein Labbaf ^{1*} 

¹. Department of Motor Behavior and Sport Management, Faculty of Sports Sciences, University of Isfahan, Isfahan, Iran

* **Corresponding Author:** Department of Motor Behavior and Sport Management, Faculty of Sports Sciences, University of Isfahan, Isfahan, Iran. **Tel:** +98 9134227417, **Email address:** amirhosseinlabbaf@spr.ui.ac.ir

ABSTRACT

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Introduction: Recreational sports significantly enhance the physical and mental well-being of older adults, contributing to their overall quality of life and happiness. This study aimed to identify the key factors that shape their inclination toward recreational sports and the development of happiness.

Methods: This study used a systematic review approach to analyze articles on factors influencing older adults' inclination toward recreational sports and the development of happiness. Relevant Persian and English articles published in reputable national and international journals were included. For domestic articles, databases such as SID, Magiran, Noormags, Civilica, and Irandoc were used. For international articles, a comprehensive search was conducted using databases such as PubMed, Scopus, and Web of Science, as well as platforms including Human Kinetics, ScienceDirect, Sage, Taylor & Francis, Wiley Online Library, Eric, and Google Scholar. The search was restricted to studies published between 2020 and 2024 to ensure the inclusion of the most recent and relevant research. Keywords related to recreational sports, active leisure, and the development of happiness among older adults were used in both Persian and English.

Results: The results of the research, derived from the analysis of 24 studies, indicated that factors such as previous sports experience during youth and middle age, economic status, policy-making methods, organizational, governmental, and private support, interest in physical activity, innovation and technology development, physical and mental health, environmental conditions, emotional and psychological state, and social circles, including friends and family, had the most significant impact on older adults' inclination towards recreational sports and, ultimately, the development of happiness among them.

Conclusion: Supportive policies and targeted training programs should be developed to promote recreational sports among older adults, alongside providing tailored facilities, financial security, and social respect. Improving transportation access and using media for awareness can further enhance their participation and overall happiness.

Keywords: Systematic Review, Sports, Happiness, Aged, Leisure Activities

Introduction

Today, old age is regarded as a natural stage of life, becoming increasingly significant due to rising life expectancy and advancements in healthcare (1). Nevertheless, challenges such as increased risk of

chronic diseases, declining quality of life, and reduced happiness levels for the older adults remain critical issues. One effective strategy to address these challenges is recreational sports. As a physical

activity, sports not only contribute to improving physical and mental health but also serve as a tool for enhancing happiness and morale (2).

Recent research has shown that recreational sports such as walking, cycling, swimming, tennis, and yoga have a significant positive impact on the happiness and satisfaction of older adults (3). These activities not only aid in improving daily functions and physical capabilities but also directly influence increased feelings of happiness and enhanced mental well-being (4). With the growing range of sports available for the older adults, choosing an appropriate sport for each individual is also crucial. Planning for the initiation and continuation of recreational sports, while adhering to health and medical considerations, can lead to a substantial improvement in the quality of life for the older adults (5).

Happiness is a vital concept in today's world, positioned at the core of sociological and psychological studies. Happy individuals are energetic, enthusiastic, healthy, socially competent, and confident. They are emotionally positive and experience fewer feelings of fear, hatred, stress, guilt, and anger (6).

Given the importance of recreational sports in improving happiness and satisfaction among the older adults, strategies to motivate and encourage them to engage in physical activities are necessary. Such motivation can be fostered through offering discounts and various incentives at sports centers, organizing appropriate educational and recreational courses for the older adults, and providing group sports programs with suitable content for this age group. Moreover, raising awareness about the benefits of recreational sports and their positive effects on the happiness and health of older adults is highly important. (7). Regular educational and informational groups about the benefits of exercise for this age group can enhance their interest and commitment to physical activity. Additionally, it is essential to develop sports programs that align with the needs and abilities of older adults. These programs should be tailored to individuals' physical conditions and mental states, and facilities should be provided to facilitate easy participation (8).

Adequate financial and social resources are also essential for creating and developing suitable sports programs for older adults. This can be achieved through collaboration with relevant organizations, government financial support, health tourism, and partnerships with the private sector (9). Encouraging and supporting the creation of sports and recreational spaces specifically for the older adults in neighborhoods and cities can be an effective strategy to enhance their level of physical activity (10). These spaces should be designed to meet the needs and preferences of the older adults, with appropriate facilities for sports and recreational activities (11). Furthermore, planning and implementing continuous programs for monitoring and evaluating the impact of these sports activities on the happiness and satisfaction of the older adults is of great importance. These evaluations can serve as effective tools for improving sports programs and related measures for the older

adults and provide opportunities for further improvements and recommendations. With these measures and strategies, it is possible to enhance the level of happiness and satisfaction among the older adults in their unavoidable life stage and encourage them to engage in recreational sports. These actions not only contribute to improving their health and quality of life but also bring more vitality and joy to their old age (12).

Focusing on these strategies and measures, it is possible to have higher expectations for enhancing the happiness and satisfaction of the older adults. However, it is important to note that recreational sports should not be a means of coercing older adults into activities they do not enjoy. Instead, it should be presented as a delightful opportunity for enjoyment and pleasure in their lives.

Sports programs for the older adults must specifically address their needs and challenges. Programs designed considering the physical, psychological, and social issues of the older adults, and which facilitate their participation in sports activities, are essential (13). Additionally, emphasizing the importance of social and recreational activities for the older adults is highly significant. Group sports activities and participation in social events can strengthen social connections and foster a sense of belonging and community among the older adults. Recreational sports programs for the older adults not only help improve their quality of life and health but also serve as an opportunity for enjoyment and happiness in old age (14). Therefore, increasing attention and investment in these areas can be considered a fundamental strategy for creating a dynamic and meaningful life for the older adults.

Given the discussed points, significant improvements in the quality of life and happiness of the older adults can be achieved. This not only contributes to their physical health but also ensures improved happiness and morale, which positively impacts the community. Enhancing the quality of life for the older adults increases their participation in community activities, including social, economic, and cultural engagements. Such participation not only benefits the older adults but also contributes to the growth and development of communities. Ultimately, leveraging the capacities and potentials of the older adults as a valuable source of social capital can have profound effects on improving the overall happiness and satisfaction of society (15).

Despite the growing attention to the significance of recreational sports for the older adults, systematic reviews that consolidate findings on their direct influence on happiness and quality of life are scarce. Previous studies have addressed specific aspects of this subject. For instance, Dehghani Tafti et al., demonstrated that physical activity educational programs improve social relationships, mental health, and overall happiness among the older adults (16). Similarly, Hamdami Khotbesara et al., highlighted the importance of financial support, planning, and cultural promotion in enhancing older adults engagement in physical activities (17). Ammar et al., emphasized the

role of digital technology in promoting physical and mental health during pandemics (18), while Jeong and Park identified the impact of leisure activities in reducing depression and improving life quality in older adults Koreans (19). Additionally, Da Silva et al., found that leisure activities like walking and gymnastics not only help reduce obesity but also significantly enhance happiness among older adults Brazilians (4). Lee et al., further explored the role of residential environments in promoting physical activity, indicating that supportive living conditions are critical for older adults participation in sports and their overall happiness (20).

However, these studies often focus on specific interventions, limited contexts, or isolated factors, leaving a broader perspective on the multifaceted impact of recreational sports unexplored. This study aims to bridge these gaps by systematically reviewing the factors influencing older adults' engagement in recreational sports and their contribution to happiness development. By synthesizing existing evidence and identifying critical gaps, this research provides a comprehensive framework for promoting physical activity and enhancing the overall well-being of the older adults, thereby guiding future policies and interventions to improve the well-being of this population.

Methods

This study employed a systematic review method to analyze published articles on the factors influencing the inclination towards recreational sports and the development of happiness among the older adults.

Study design and search strategy

This study adhered to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to ensure clarity and transparency in the review process (21). This review was not registered as a protocol.

Accordingly, articles in both Persian and English published in reputable domestic and international journals were searched. For domestic articles, databases such as Sid, Magiran, Noormags, Civilica, and Irandoc were utilized, while for international articles, a comprehensive search was conducted using databases such as PubMed, Scopus, and Web of Science, as well as platforms including Human Kinetics, Science Direct, Sage, Taylor & Francis, Wiley Online Library, Eric, and Google Scholar. The search was limited to articles published between 2020 and 2024 to ensure the inclusion of the most recent and relevant research on the topic. This time frame was chosen to capture the latest trends, developments, and findings in the field of recreational sports and happiness among the older adults.

To refine the search results, Boolean operators (AND, OR, NOT) were applied. For example, the search query for articles in both Persian and English was structured as follows: ("recreational sports" OR "active leisure" OR "sports leisure") AND ("older

adults " OR " elderly") AND ("development of happiness" OR "well-being" OR "life satisfaction"). In addition, synonyms and variations of key terms were considered to ensure a comprehensive search of all relevant literature. By using these strategies, the search results were narrowed to studies most pertinent to the research question, while filtering out irrelevant articles.

Study eligibility criteria

The PICO framework was used to define the review scope: Population (older adults), Intervention (recreational sports or active leisure), and Outcomes (happiness, well-being, or life satisfaction). A Comparison group was not applicable as no direct comparison between groups or interventions was conducted in the studies included.

The inclusion criteria for this review were studies that focused on older adults, examined recreational sports or active leisure, and discussed outcomes related to happiness, well-being, or life satisfaction. The studies had to be published in Persian or English, in reputable journals, and within the time frame of 2020 to 2024.

The exclusion criteria were applied to refine the selection process. Studies were excluded if they: did not focus on the older adult's population, did not examine recreational sports or active leisure, or did not address outcomes related to happiness, well-being, or life satisfaction. Furthermore, articles were excluded if they were not published in peer-reviewed journals, were not available in full text, or presented insufficient methodological detail for critical appraisal.

Screening the full-text and synthesis

As illustrated in Figure 1, the process of including studies in the systematic review began with compiling a list of titles and abstracts of all articles searched from the domestic and international databases based on the study's objectives. Duplicate articles were then removed. Next, the abstracts of the remaining articles were reviewed to identify suitable studies. Subsequently, articles that did not meet the inclusion criteria but had been included in the study based on their abstracts and titles were removed upon reading the full text. Articles that met the quality criteria and inclusion criteria were further assessed.

Given the heterogeneity of the included studies, a meta-analysis was not feasible; therefore, a qualitative synthesis was performed. To address the heterogeneity of the studies, a thematic analysis approach was employed. This involved grouping the findings into sub-themes based on their similarities and differences. Additionally, the data were examined for patterns and relationships to ensure a comprehensive understanding despite the diversity of methodologies and contexts.

Data collection process

Relevant data, including study characteristics (e.g., study design, population, intervention, outcomes, sample size) and key findings related to factors influencing recreational sports inclination and

happiness development, were systematically extracted from the included studies for synthesis.

Quality assessment (Risk of bias)

The quality of the included studies was assessed using appropriate critical appraisal forms based on the type of study. For observational studies, the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines were applied, while for randomized controlled trials, the CONSORT (Consolidated Standards of Reporting Trials) guidelines were used. This evaluation ensured that the selected studies met the necessary quality standards. Additionally, the risk of bias was assessed for each study, including factors such as study design, randomization, blinding, and reporting bias, to ensure that the studies included in the systematic review were of high quality and provided reliable results (22, 23).

Results

A total of 5 Persian articles and 19 English articles (24 articles in total) were selected for data extraction and analysis. These articles were reviewed based on a data extraction form that included authors' names, publication

year, journal or conference title, article title, Objective, and findings.

Table 1 summarizes the domestic studies regarding the factors influencing the inclination towards recreational sports and the development of happiness among the older adults. The results of domestic research indicate that factors such as prior sports experience during youth and middle age, economic status, policy-making methods, and support from organizational, governmental, and private sectors have the most significant impact on the older adults' inclination towards recreational sports and the subsequent development of happiness among them.

Table 2 summarizes the international studies regarding the factors influencing the inclination towards recreational sports and the development of happiness among the older adults. The results of international research reveal that factors such as the level of interest in physical activity, advancements in innovation and technology, physical and mental health, environmental conditions, psychological and emotional states, and social circles including friends and family have the greatest impact on the older adults' inclination towards recreational sports and the subsequent development of happiness among them.

Table 3 shows the frequency and priority of each identified factor in both domestic and international studies.

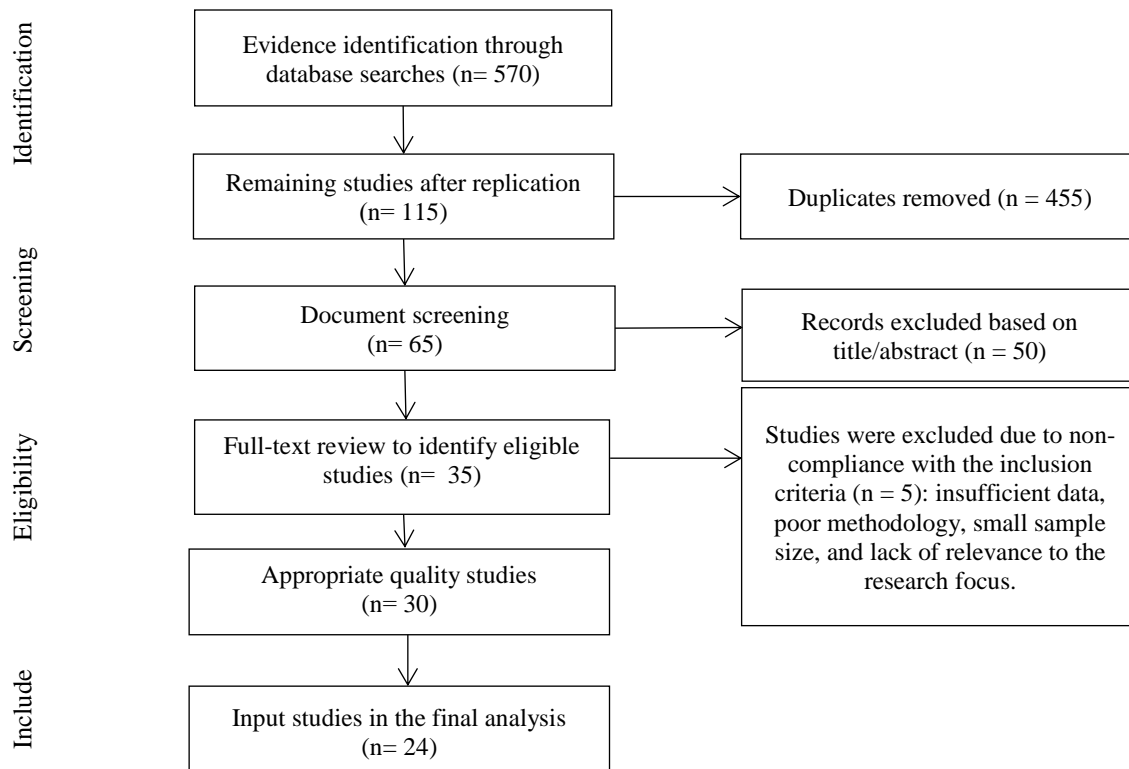


Figure 1. Steps of systematic review of studies in internal and external databases

Table 1. Summary of domestic studies regarding the influencing factors on the tendency towards recreational sports and the development of happiness among the older adults

Author (Year)	Source	Title	Objective	Key findings
Chrick et al. (2023) (24)	Journal of Iran Futures Studies	Leisure foresight of the elderly based on the physical activity approach	To analyze leisure time of the older adults using physical activity with a causal layered analysis approach.	Addressing four layers—litany, systemic causes, worldview/discourse, and myths/metaphors—can promote active aging and enhance happiness and health among the older adults.
Dehestani Ardekani (2023) (25)	1st National Sports Science Conference on Public Sports	The relationship between quality of life and general health of the elderly participating in recreational sports	To examine the relationship between recreational activities and mental health in older adults' people in Tehran.	Watching television is the most frequent leisure activity. Recreational and religious activities significantly impact happiness and mental health. Physical health is the most influential confounding factor.
Zarei et al. (2022) (26)	Razi Journal of Medical Sciences	Comparative study of recreational sports activities for the elderly in Germany and Iran	To compare recreational sports for the older adults in Germany and Iran based on the Brady model.	In Iran, subsistence and financial concerns are the primary focus of recreational sports planning. In contrast, Germany emphasizes human resources and comprehensive support for the older adults in sports.
Dehghani Tafti et al. (2022) (16)	Journal of Toloo-e-Behdasht	Effectiveness of Physical Activity Educational Program Based on Self-regulatory Theory	To assess the impact of a self-regulatory educational program on physical activity and quality of life in the older adults.	Increased physical activity—walking, moderate, and light exercises—improves social relationships, mental health, and overall happiness among the older adults.
Hamdami Khotbesara et al. (2021) (17)	Sport Management Studies	Structural analysis of key factors affecting the future status of elderly exercise in Iran	To identify key factors affecting the future status of older adults' exercise in Iran.	Ten key factors, including long-term planning, financial support, governmental and private organization involvement, and promoting older adults' sports culture, affect the future of older adults' exercise in Iran.

Table 2. Summary of foreign studies regarding the influencing factors on the tendency towards recreational sports and the development of happiness among the older adults

Author (Year)	Source	Title	Objective	Key findings
Lin (2024) (27)	Leisure Sciences	Leisure innovation for older adults in Urban China: Application and reexamination of leisure innovation theory	To explore leisure innovation for older adults in urban China	Innovative leisure activities (e.g., cultural, physical, and digital) positively impacted happiness, health, self-improvement, and social interaction.
Liang et al. (2021) (28)	International Journal of Environmental Research and Public Health	Association of regular leisure-time physical activity with happiness among middle-aged and older adults in Taiwan	To investigate the link between leisure-time physical activity and happiness in older adults	Active leisure sports are fundamental for older adults' happiness, promoting tranquility.
Stránská et al. (2021) (29)	Acta Salus Vitae	Verification of the four-week intervention	To evaluate the impact of a four-week intervention on	Positive changes in vitality, physical, mental,

Author (Year)	Source	Title	Objective	Key findings
Williyanto et al. (2021) (30)	ACTIVE: Journal of Physical Education, Sport, Health and Recreation	program "life in balance" Relationship between Sex, Age, Body Mass Index, and Physical Fitness with Elderly Participation	seniors' happiness and exercise To explore the relationship between demographics and older adults' participation in physical activities	and social balance among participants. Gender, age, BMI, and fitness significantly influenced older adults' participation in sports and happiness.
Paudel et al. (2021) (31)	BMC Public Health	Socio-ecological influences of leisure-time physical activity among Nepalese adults	To investigate barriers and facilitators to older adults' participation in leisure-time physical activities	Barriers include lack of awareness, skill, motivation, and environmental factors. Social support and public facilities are key facilitators.
Fong (2021) (32)	BMC Public Health	Leisure-time physical activity and its correlates in a multi-ethnic sample of adults over age 50 in Singapore	To assess the correlates of older adults' participation in leisure-time physical activity	Regular participation in leisure activities is essential for enhancing health and happiness.
Da Silva et al. (2021) (4)	Obesity Research & Clinical Practice	Association between characteristics of physical activity in leisure time and obesity in Brazilians adults and elderly	To investigate the relationship between physical activity and obesity in older adults	Leisure activities like walking and gymnastics help reduce obesity and improve happiness.
Lee et al. (2021) (20)	Journal of Physical Education and Sport	Relationship between physical activity levels and perceived residential environment for rural older adults	To assess the role of the living environment in older adults' participation in physical activities	The living environment is a crucial factor for older adults' participation in physical activities and their happiness.
Yu et al. (2021) (33)	International Journal of Environmental Research and Public Health	The effect of the built environment on older men's and women's leisure-time physical activity in Jinhua, China	To assess the impact of the built environment on leisure-time physical activity for older adults' men and women	Environmental factors like proximity to sports facilities influenced older adults' participation in physical activity.
Yu et al. (2021) (34)	European Journal of Sport Science	Neighbourhood built environment and leisure-time physical activity: A cross-sectional study in southern China	To examine the link between the neighborhood environment and older adults' leisure-time physical activity	Better walking conditions and aesthetic factors in the neighborhood increased older adults' participation in active leisure.
Yuan and Wu (2021) (35)	Environmental Science and Pollution Research	Environmental stressors and well-being on middle-aged and elderly people	To investigate the role of environmental stressors in older adults' well-being	Outdoor leisure and place attachment improve happiness despite environmental stressors.
Lee et al. (2022) (36)	J Am Med Dir Assoc	The effect of information technology convergence gamification training in community-dwelling older people	To assess the impact of gamification and technology on older adults' exercise	Gamification and technology integration led to improved mental health and happiness.
Buchem et al. (2021) (37)	7th International Conference of the Immersive Learning Research Network	Gamification in mixed-reality exergames for older adult patients	To design and assess mixed-reality games for older adults' patients	Mixed-reality games enhanced happiness and engagement in older adults' users.

Author (Year)	Source	Title	Objective	Key findings
Brauner and Ziefle (2021) (38)	Journal of Public Health	Social acceptance of serious games for physical and cognitive training	To evaluate the effectiveness of serious games for older adults physical and cognitive training	Serious games improved motor skills and led to increased satisfaction and happiness.
Jahouh et al. (2021) (39)	International Journal of Environmental Research and Public Health	Impact of an intervention with Wii video games on the autonomy of activities of daily living	To examine the impact of video gaming on older adults' autonomy and mental health	Wii video games improved mental health, mobility, and reduced frailty in older adults' participants.
Chung et al. (2021) (40)	World Leisure Journal	The ups and downs of older adults' leisure during the pandemic	To examine the impact of technology on older adults' leisure during the pandemic	Technology enhanced older adults' engagement in leisure activities, improving happiness.
Liu et al. (2021) (41)	Journal of Transport Geography	Heterogeneity in physical activity participation of older adults	To analyze the variability in older adults' participation in physical activity	Physical activity patterns in older adults' individuals vary with demographics, influencing happiness.
Ammar et al. (2021) (18)	Biology of Sport	Applying digital technology to promote active and healthy confinement lifestyle during pandemics	To explore digital technology's role in promoting older adults' physical activity during pandemics	Digital technology promotes physical and mental health, enhancing older adults' happiness during confinement.
Jeong and Park (2020) (19)	Gerontology and Geriatric Medicine	The relationship among leisure activities, depression and quality of life in community-dwelling elderly Koreans	To investigate the impact of leisure activities on older adults' depression and quality of life	Leisure activities, particularly games and sports, reduce depression and improve quality of life.

Table 3. The frequency of each identified factor in internal and external studies

Number of repetitions in foreign studies	Number of replications in internal studies	Influential factors
12	2	Interest in physical activity
10	1	Development of innovation and technology
6	2	The level of physical and mental health
7	1	Environmental conditions
7	1	Mental and emotional state
5	1	Group of friends and family
1	4	Sports experience of youth and middle age
2	3	The economic situation
1	3	Policy making methods
1	2	Organizational, government and private support

The results of Table 3 identify the top 10 influential factors affecting the older adults' inclination towards recreational sports and the subsequent development of happiness among them, ranked by priority.

The methodological quality of the included studies and their risk of bias were rigorously assessed according to the guidelines outlined in the "Research Methodology" section. The overall assessment revealed a predominance of studies exhibiting moderate to high methodological quality, indicating a generally robust

body of evidence. Specific strengths commonly observed across the included literature included clear articulation of research objectives, appropriate use of statistical analyses, and well-defined participant populations.

However, potential sources of bias and methodological limitations were also identified, contributing to varying degrees of risk of bias across studies. These frequently involved insufficient detail regarding participant recruitment and retention,

potential for self-report bias in outcome measurement, and, in some observational designs, challenges related to confounding variables or lack of blinding. While these limitations were noted, no study was excluded solely based on its quality assessment, provided it met all other inclusion criteria and offered relevant insights. Instead, the identified risks of bias were carefully considered during the qualitative synthesis, with greater emphasis placed on findings from studies demonstrating higher methodological rigor.

This comprehensive appraisal underscores the reliability of the synthesized findings while acknowledging the inherent methodological diversity within the current body of literature on recreational sports and happiness among the older adults.

Discussion

This study aimed to identify the factors influencing older adults' inclination towards recreational sports and the development of happiness among them. To achieve this, articles published in the field of recreational sports for older adults, the development of happiness among older adults, active leisure for older adults, and related topics were reviewed. The findings from the reviewed articles indicate that as individuals approach old age, they tend to participate less in sports activities. On the other hand, the benefits of physical activities not only improve physical conditions but also contribute to the mental well-being of older adults, helping to prevent isolation and depression, and ultimately fostering their happiness.

Interest in regular physical activity, particularly in recreational sports, is one of the most significant factors influencing older adults' engagement in such activities, resulting in positive physical and psychological outcomes (16). Recreational sports contribute to the development of happiness among older adults, which has important individual and social implications (10). For instance, the study by Crick et al., analyzed the layered causal model of older adults leisure with a focus on physical activity and sports, identifying 27 indicators (24). The study highlighted the need for a comprehensive approach to address issues and create a structured mindset for dealing with these issues, ultimately facilitating active aging and enhancing older adults' happiness and health.

Similarly, Liang et al., found that leisure activities are a fundamental factor in older adults happiness (28). Active leisure is an essential form of physical activity that helps middle-aged and older adults achieve relaxation. Paudel et al., noted that older adults participation in physical activities during leisure time was minimal, with most leisure time spent on rest, socializing, or engaging in sedentary activities like watching television (31). Walking was identified as the most common form of physical activity in older adults' leisure, with men being more active than women (42). Individual barriers to participating in recreational sports for older adults included lack of awareness, skills, motivation, self-perception of adequate activity levels, and engagement in low-intensity activities (43). Interpersonal barriers included family responsibilities,

lack of support, and fear of judgment (44), while environmental barriers encompassed the absence of supportive social norms, lack of open spaces, weather conditions, and insecurity (43).

The health benefits and development of happiness, prioritization of physical activity, social support, and provision of group activities and suitable public facilities for age are identified as key facilitators (44). Da Silva et al., also noted that leisure activities such as running, walking, and gymnastics are positively related to reduced obesity and improved health and happiness in older adults (4). Liu et al., found that participation in leisure-related physical activities is considered a primary variable for increasing overall physical activity levels in older adults, enhancing their health and sense of happiness (41). The success of any intervention strategy depends on how well it aligns with the physical activity patterns of older adults. Thus, this study explores the heterogeneity in older adults' physical activity patterns and their relationships with environmental, social, demographic, and neighborhood factors. Jeong and Park also indicated that satisfaction and happiness derived from leisure activities are important factors in reducing depressive symptoms in older adults (19). There is a significant correlation between depression, quality of life, and leisure activities related to games, sports, social activities, cultural activities, recreation, and communication. Social, emotional, active, and productive leisure activities had a positive impact on depression and quality of life.

In today's world, innovation and technological advancements are evident in all areas, facilitating progress and ease in various tasks. The field of leisure, particularly the leisure of older adults, is no exception to these innovations. The use of modern technologies and innovations in this area can ease the engagement in recreational sports, improve the quality of leisure time for older adults, and ultimately enhance their happiness (45).

In this context, Lin suggests that the theory of innovation in older adults leisure indicates that engaging in innovative leisure activities can make the aging process more enjoyable (27). Several types of leisure activities were outlined in this study: cultural and physical activities, digital leisure, artistic creation, and intellectual and physical games. These activities have led to positive outcomes in terms of happiness, health, self-improvement, identity, and social interaction for older adults. The main factors influencing leisure innovation were identified as internal factors (values of life and leisure) and external factors (availability, time, money, and leisure centers).

Additionally, the study by Dehestani Ardekani found that watching television was the most common leisure activity among older adults (25). There was a significant correlation between recreational categories and religious duties with happiness and mental health in older adults. Among the disruptive factors, physical health had the most impact.

The research by Stránská et al., which aimed to assess the impact of a four-week "Living in Balance" intervention program with a selected group of older adults women in a virtual space during the COVID-19

pandemic, demonstrated positive changes across all observed dimensions (29). Notably, there was a significant increase in vitality scores among the participants, and notable improvements were found in subjective evaluations of physical, psychological, and social balance.

Lee et al., reported that exercise equipment with game-based and information technology integration provides similar benefits to regular exercise and offers advantages as an alternative for older adults, supporting their mental health and future happiness (36). Buchem et al., focused on designing integrated games for older adults patients, using sensors and immersive technologies to design games considering mechanics, dynamics, and aesthetics for older adults (37). The goal was to validate the design of sports games with a focus on endurance exercises and to assess older adults' responses. The results showed that the games were well-received by older adults' users, leading to feelings of happiness and positive evaluations.

Brauner and Ziefle noted that combining games and sports had positive effects on cognitive and physical activity in older adults (38). However, if these games are not designed to accommodate older adults' limitations, they cannot fulfill their primary role. The results indicated that participation in these games improved motor skills and contributed to satisfaction and happiness among older adults.

Jahouh et al., found that eight weeks of older adults training with a gaming console positively impacted mental health, walking speed, fall risk, static balance, and weakness in older adults' individuals (39).

Chung et al., reported that older adults leisure during the COVID-19 pandemic has been enriched through technology, leading to more interaction and active engagement, resulting in satisfaction and happiness (40). Ammar et al., highlighted the importance of digital health solutions that provide easy and accurate descriptions and interventions for health maintenance and disease management, emphasizing the need for IT-based solutions to improve physical and mental health and to prevent and reduce social stress, especially during the pandemic (18). Innovative approaches such as social infrastructure, interactive communication with coaches, gamification, fitness assessments, and smart digital equipment (e.g., smartwatches or smartphones) should be personalized for older adults, offering safe leisure activities.

Environmental conditions are another significant factor in older adults' inclination towards physical activities and recreational sports during their leisure time. Therefore, governments and relevant organizations should address this issue seriously and design and create environmental conditions that physically and mentally attract older adults to engage in physical activities and recreational sports during their leisure time. Lee et al., reported that a small percentage of rural older adults individuals participate in physical activities (20). Maintaining good health is crucial for public health. The residential environment of individuals is a key factor for their overall health and participation in sports activities, as older adults' individuals often spend their leisure time in their yard or

open space at home. Thus, utilizing these spaces can promote the development of sports activities and, ultimately, enhance health and happiness during leisure time.

Yu et al., found that older adults' leisure physical activity is influenced by various factors, especially environmental factors (33). However, the difference in the relationship between older adults' gender and the sports environment during leisure is unclear. The results showed that the diversity of sports facilities in older adults' residential areas had a positive and significant relationship with their leisure physical activities. In men, access to services and sports equipment increased activity levels. However, in women, in addition to the number of sports facilities in residential areas, factors such as streets, safety, and crime control were also important. The results indicated that a shorter distance from home to sports destinations encouraged older adults to participate more in leisure sports activities. Women were generally more sensitive to sports environment design. Yu et al., found that only 20.7% of participants engaged in high-intensity active leisure and 17.8% in moderate-intensity active leisure. Better walking environments were directly associated with more active older adults individuals (34). Aesthetic factors also positively correlated with active leisure and older adults' participation. Improving neighborhood environmental features can enhance active leisure and promote health and happiness among older adults.

Yuan and Wu examined the relationship between environmental stress factors, place attachment, and outdoor leisure in urban green spaces for older adults (35). Outdoor leisure and feelings of happiness and place attachment had a significant positive correlation with older adults' leisure activities. Middle-aged and older adults' residents face severe environmental stress, and when they encounter severe environmental stress, place attachment increases.

The group of friends and family is another influential factor in the inclination of older adults towards physical activities and recreational sports during their leisure time, ultimately enhancing their happiness. The results of a study by Williyanto et al., showed a significant relationship between gender, friends and family, age, body mass index, and physical fitness with the level of active participation of older adults in sports activities and their increased happiness (30). Fong also stated that older adults men participate more in leisure sports activities compared to older adults women (32). Furthermore, Fang's research revealed that 39.8% of participants regularly engage in leisure sports activities. Factors associated with continuous participation in leisure sports activities include age, education, retirement, income, and satisfaction with social life. Regular participation in recreational sports is vital for promoting the health, happiness, and well-being of older adults. Additionally, a positive understanding of social relationships and retirement are important supportive factors. Immediate development of strategies and interventions to promote physical activity among older adults in their leisure time is essential.

Physical activity and desirable leisure time for older adults, and ultimately enhancing their happiness, not

only yield positive outcomes for the individual but also bring about significant social benefits. Therefore, governments and relevant organizations should make every effort to improve the quality of older adults' leisure time based on physical activities and recreational sports and utilize all capacities to achieve this important goal. Additionally, macro-level policies should be directed towards encouraging older adults to engage in recreational sports and enhancing their happiness. According to the research by Zarei et al., comparing the five dimensions of planning, human resources, facilities, structure, and therapeutic characteristics in Iran and Germany, significant differences were found between the two countries (26). The Iranian model mainly emphasizes planning and financial issues, with the main concern of Iranian older adults being subsistence; whereas in the German model, the emphasis is more on human resources. Hamdami Khotbesara et al., stated that ten factors, including long-term planning in line with demographic changes, greater attention to the status of older adults, allocation of budget for older adults sports, development of older adults sports culture, economic status, learning from successful countries in older adults sports, support from governmental and private organizations, planning and human resource provision for older adults sports, creating an organization for older adults, and developing non-governmental organizations and social support networks, are key factors influencing the state of older adults sports and ultimately enhancing health and happiness among them (17).

Conclusion

This systematic review explored the factors influencing older adults' inclination towards recreational sports and their role in enhancing happiness. The findings demonstrate that both individual and systemic factors significantly shape this inclination. Domestic studies identified sports experience during youth and middle age, economic status, organizational, governmental, and private support as critical factors. On the other hand, foreign studies emphasized regular physical activity, development of innovation and technology, physical and mental health status, environmental conditions, emotional and mental state, and support from friends and family. These insights highlight the multifaceted nature of recreational sports participation and its critical role in improving the quality of life of older adults.

To enhance older adults' participation in recreational sports and foster their happiness, the following strategies could be considered:

- Organizing group activities like walking clubs that encourage social interaction and emotional well-being.
- Developing digital platforms offering tailored fitness programs for older adults.
- Addressing mental health needs through recreational sports initiatives.
- Encouraging family involvement to enhance motivation and support.

- Strengthening collaborations between public and private sectors to expand recreational opportunities.
- Advocating for policies that create older adults-friendly infrastructure in public spaces.
- Enhancing the training of experts specializing in recreational sports for older adults.

Study limitations

This review has several limitations. First, the search was restricted to English and Persian languages, which may have omitted relevant studies in other languages. Second, only studies published between 2020 and 2024 were included, potentially overlooking earlier foundational work. Finally, domestic (Iranian) research was less frequent for certain critical factors, including "interest in physical activity," "environmental conditions," and "organizational, governmental, and private support." This limitation may influence the generalizability of the findings, as the smaller number of internal studies might not fully capture the diversity across different contexts. Future studies with broader scopes, larger samples, and more diverse contexts are essential to validate and extend these findings.

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Conflict of interest

There is no conflict of interest.

Authors' contribution

Both authors contributed equally to the design, execution, and writing of this study.

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