Developing Effective Strategies to Enhance the Participation of Veterans in Yazd City in Sports Activities

A B S T R A C T

Aims Given the importance of promoting health-oriented physical activity among veterans, the present study was conducted. The aim of this study was to propose effective strategies to increase participation in sports activities in order to improve the health of veterans in Yazd City.

Instrument & Methods The statistical population of the present study consisted of 4,420 veterans residing in Yazd City in 2025. Based on the Krejcie and Morgan table, a sample size of 351 participants was estimated. This research employed a descriptive survey design. Data were collected quantitatively using a researcher-developed questionnaire. After the content validity was confirmed by 10 experts in sports management, the reliability of the questionnaire was verified using Cronbach's alpha coefficient ($\alpha = 0.79$). First, the factors influencing sports participation related to veterans' health improvement were identified using a qualitative approach, and then these factors were prioritized using the non-parametric Friedman test.

Findings The findings indicated that the three main dimensions affecting sports participation were, respectively, managerial and planning factors, economic factors, and socio-cultural factors.

Conclusion Therefore, it is essential to foster a culture of sports among veterans, design tailored sports programs, and provide financial support to facilitate their engagement in sports activities, thereby enhancing sports participation among veterans in Yazd City.

Keywords Health Improvement, Physical Exercise, Veterans, Sports Participation, Yazd City.

Introduction

considering the expansion of modern, mechanized lifestyles that have led to increased physical weakness, mental and psychological disorders, and a growing detachment from ethical and human values—the need for regular physical activity is strongly emphasized [1]. Moreover, the rapid development of information technology has further contributed to sedentary behaviors across societies, turning physical inactivity into a global public health challenge [2]. Physical inactivity is recognized as a major cause of disability and various diseases in communities [3], and nearly two million deaths annually are attributed to insufficient physical activity. According to World Health Organization reports, inactivity ranks among the ten leading causes of mortality worldwide [4]. Among different population groups, the importance of physical activity is particularly critical for war veterans, as their physical conditions, mobility limitations, and the long-term consequences of injuries sustained during wartime place them at a significantly higher risk of reduced physical activity [1]. This group requires structured exercise programs tailored to their physical limitations to maintain independence, prevent muscular atrophy, improve cardiorespiratory function, and reduce secondary complications associated with inactivity. Therefore, increasing their participation in sports activities plays a pivotal role in enhancing both their physical and psychological well-being [5]. Through appropriate health-oriented exercise programs and physical activity interventions, the quality of life of veterans can be effectively improved, as physical impairments—especially among veterans with more severe mobility limitations—may seriously jeopardize their health and daily functioning [6]. Sports participation offers numerous physical and psychological benefits for veterans, such as maintaining and improving motor health, contributing to rehabilitation, enhancing self-confidence and body image, and reducing depression and irritability [7]. Increased sports participation also strengthens the immune system, reduces stress in veterans [8], and mitigates aggressive behaviors, ultimately improving their quality of life and even reducing the likelihood of certain diseases, including prostate cancer [9]. For example, Sang Hyun (2017) demonstrated that equine-assisted activities improved psychological stability among veterans, and that fostering positive attitudes toward physical activity can lead to healthier behavioral patterns and greater willingness to engage in exercise [10]. Given the aforementioned considerations, the role of physical activity among veterans is highly significant, and enhancing their participation should be regarded as a social and health-related necessity. Accordingly, to facilitate effective planning for sports

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programs aimed at veterans in Yazd City and to improve their health through appropriate exercise interventions, the researchers sought to identify and rank the factors influencing veterans' participation in sports activities.

This study is important because identifying the key factors influencing sports participation among veterans and individuals with sacrificial service can provide the necessary scientific evidence for policymakers and sports managers to design targeted interventions. In addition, understanding these factors helps optimize resource allocation and develop effective strategies to overcome barriers to participation in this vulnerable group. Ultimately, the findings of this research may lead to an improvement in veterans' quality of life and promote their sustained engagement in physical activities. A review of previous research reveals that Takata et al. (2014), in a study examining the relationship between health, physical fitness, and quality of life among veterans in Japan, found that individuals who maintained and enhanced their fitness levels over time enjoyed a higher quality of life [9]. Hallmann et al. (2015) compared public and nonprofit sectors in promoting mass sports participation and concluded that nonprofit sports clubs were more effective than government facilities in motivating individuals to engage in mass sports activities [12]. In another study, Sadeghzadeh and Razavi (2018) explored motivations for participating in sports activities among the citizens of Yazd, finding that managerial, cultural, and preventive/therapeutic dimensions were among the most influential factors in sports participation [1]. Furthermore, Lin and Yen (2018) demonstrated that increased engagement in sports activities enabled veterans to achieve higher scores in social, mental, and emotional functioning compared to other inactive individuals, thereby improving their overall quality of life [13]. Mohammadi and Keshkar (2023) conducted a comparative study on strategies for promoting elderly sports participation in selected countries, identifying several key strategies including developing comprehensive management plans, fostering a pro-exercise culture, creating age-friendly environments, improving accessibility, and promoting health literacy [14]. In addition, Durmusoglu et al. (2023) emphasized that several structural, motivational, and environmental barriers significantly reduce participation in physical activities among individuals, highlighting the importance of addressing these constraints to improve engagement in sports programs [2]. Similarly, Liu and Zhong (2023) found that participation in sports activities not only enhances individuals' subjective well-being but also improves mental health outcomes, with class identity and health status playing mediating roles in this relationship [6]. In light of the above, the researchers aimed to identify the factors influencing sports participation among veterans, validate the conceptual model of the study using structural equation modeling, and prioritize the identified factors.

Instrument and Methods

The present study was conducted using a mixed-methods approach with an exploratory sequential design, in which qualitative findings were first used to develop the quantitative phase of the research. This design was selected to ensure a comprehensive identification and prioritization of factors influencing sports participation among veterans in Yazd City. The study was applied in terms of purpose and descriptive-survey in terms of method. The research process was carried out in two distinct but integrated phases: qualitative and quantitative. Data were collected using field and library methods, including observation, semi-structured interviews, and questionnaires. The integration of multiple data collection methods was intended to enhance the validity and depth of the findings through methodological triangulation.

Qualitative Phase

In the qualitative phase, a qualitative research approach was adopted to identify the key strategies and factors influencing veterans' participation in sports activities in Yazd City. This phase was exploratory in nature and aimed at generating the initial conceptual framework of the study. Participants were selected using purposive sampling combined with a snowball sampling technique. The selection criteria included: (1) having at least 10 years of experience in veterans' sports, (2) academic expertise in physical education or sports management, and (3) active involvement in veterans' sports programs or policymaking. The participants included sports experts in Yazd, physical education scholars specializing in veterans' issues, and veteran athletes with extensive experience. Sampling continued until data saturation was reached, ensuring that no new themes emerged from additional interviews. Saturation was achieved after conducting 12 in-depth semi-structured interviews. Data were collected through face-to-face semi-structured interviews. Each interview lasted approximately 45–60 minutes and was audio-recorded with participants' consent,

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then transcribed verbatim for analysis. Data analysis was performed using thematic analysis. The process involved open coding, axial coding, and selective coding to extract main themes and sub-themes related to veterans' sports participation. Based on the qualitative findings, an initial pool of indicators was extracted and refined through expert review, which was then used to develop the researcher-made questionnaire for the quantitative phase.

Quantitative Phase

In the quantitative phase, the statistical population consisted of 4,420 veterans residing in Yazd City in 2025. The sample size was determined to be 351 participants based on the Krejcie and Morgan table. To ensure representativeness of the population, a simple random sampling technique was employed. Data were collected using a structured questionnaire developed based on the qualitative findings and literature review. The questionnaire consisted of two sections: demographic information and items measuring factors influencing sports participation among veterans. Content validity of the questionnaire was assessed by 10 experts in sports management, and necessary revisions were applied based on their feedback. Reliability was evaluated using Cronbach's alpha coefficient, which confirmed acceptable internal consistency ($\alpha = 0.79$).

Data Analysis

Data analysis was conducted at two levels: descriptive and inferential. Descriptive statistics included mean, standard deviation, frequency, and percentage to describe the sample characteristics and variables. Inferential statistics included: Friedman test to rank the identified factors based on their importance. Prior to inferential analysis, the normality of the data distribution was assessed using the Kolmogorov–Smirnov test. All quantitative analyses were performed using SPSS version 27. A significance level of 0.05 was considered for all statistical tests.

Findings

The results of the study indicate that, based on the Kolmogorov–Smirnov test, all examined components—including managerial and planning factors, educational–research factors, socio-cultural factors, economic factors, and equipment-related factors—have significance levels higher than 0.05. Specifically, the significance levels were reported as 0.42 for managerial and planning factors, 0.14 for educational–research factors, 0.16 for socio-cultural factors, 0.31 for economic factors, and 0.36 for equipment-related factors. Since all these values exceed 0.05, it can be concluded that the distribution of data related to factors influencing sports participation among veterans in Yazd is normal. Therefore, the use of parametric statistical methods for data analysis is appropriate.

Table 1 – Prioritization of Research Indicators

Component	Indicator	Mean Rank	Rank
Managerial and Planning Factors	1M: Support from governmental and private organizations in Yazd for veterans' sports	5.51	5
	2M: Establishing a committee related to veterans' sports in Yazd	6.16	3
	3M: Developing appropriate sports planning for veterans in Yazd	6.47	1
	4M: Organizing veterans' sports events on various occasions	3.75	8
	5M: Considering sports and training activities preferred by veterans	5.26	6
	6M: Conducting morning sports sessions in different neighborhoods of Yazd	4.81	7
	7M: Support and presence of officials from governmental sports organizations in Yazd for veterans' sports	5.85	4
	8M: Organizing health and sports festivals in Yazd for veterans	6.24	2
Educational–Research Factors	1R: Creating brochures and suitable books about veterans' sports	4.47	4

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	2R: Utilizing new virtual technologies to train veterans in sports	4.34	5
	3R: Employing specialized coaches for veterans' sports	4.66	2
	4R: Establishing sports and rehabilitation counseling centers in Yazd	4.62	3
	5R: Applying up-to-date research in the field of veterans' sports	3.84	6
	6R: Raising veterans' awareness of the benefits of sports and health-improving exercises	5.14	1
Socio-Cultural Factors	1C: Creating motivation among veterans to participate in sports	5.26	2
	2C: Developing radio and television programs about veterans' sports	3.71	6
	3C: Promoting a culture of sports among veterans	5.47	1
	4C: Establishing effective communication between veterans and sports centers	3.89	5
	5C: Creating opportunities for family-oriented sports for veterans	4.59	3
	6C: Providing sufficient information regarding veterans' sports	4.04	4
Economic Factors	1N: Presence of personal financial difficulties among veterans	3.78	4
	2N: Attracting sponsors for veterans' sports festivals	3.80	5
	3N: Increasing the sports budget for veterans	3.96	3
	4N: Providing motivational and incentive packages to encourage veterans' participation	4.19	2
	5N: Offering rewards and incentives for veterans' participation in sports	4.26	1
Equipment-Related Factors	1F: Establishing standard wellness and sports stations for veterans	4.86	1
	2F: Creating suitable indoor and outdoor sports spaces for veterans	4.56	3
	3F: Insufficient sports facilities and equipment for veterans	4.71	2
	4F: Lack of allocation of city-level sports facilities for veterans	4.34	5
	5F: Negligence of senior sports managers in constructing dedicated sports facilities for veterans	4.38	4
	6F: Inefficient use of existing facilities and equipment in Yazd for veterans	4.14	6

The results of the Friedman test regarding the prioritization of research indicators showed that, among managerial and planning factors, "developing appropriate sports planning for veterans in Yazd" had the highest impact; among educational–research factors, "raising veterans' awareness of the benefits of sports and health-improving exercises" was the most influential; among socio-cultural factors, "promoting a culture of sports among veterans" played the greatest role; among economic factors, "offering rewards and incentives for veterans' participation in sports" was most significant; and among equipment-related factors, "establishing standard wellness and sports stations for veterans" had the highest impact (Table 1).

Table 2 – Significance Test of Factors Influencing Sports Participation

Factors Influencing Sports Participation	Mean Rank

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	Chi-Square	284.536
	N	351
	df	4
Significance Level		0/001

The researcher, after validating the research model using a second-order measurement model with a structural equation modeling approach, employed the Friedman test to rank the factors influencing sports participation. The results of the Friedman statistic, based on the findings presented in Table 2, were significant at **p ≥ 0.05**; therefore, there is a significant difference between the mean ranks of the factors. Consequently, the researcher can use the Friedman test to prioritize the research components.

Table 3 – Prioritization of Main Components of Factors Influencing Sports Participation

Component	Factor Loading	t-Statistic	Significance Level	Mean Rank	Rank
Managerial and Planning	0.73	–	–	5.12	1
Equipment-Related	0.77	5.08	0.001	3.18	5
Educational–Research	0.71	4.12	0.001	3.63	4
Economic	0.61	4.64	0.001	4.19	2
Socio-Cultural	0.84	6.32	0.001	3.75	3

The results of the Friedman test regarding the prioritization of the main research components indicated that, in order, the managerial and planning factor, the socio-cultural factor, and the economic factor play the most significant roles (Table 3).

Discussion

The findings of the present study indicated that the most important factors influencing sports participation among veterans in Yazd City were, in order, managerial and planning factors, economic factors, and socio-cultural factors. These results highlight that structural and organizational dimensions play a more fundamental role than individual or environmental constraints in determining veterans' participation in sports activities. These findings are consistent with Mohammadi and Keshkar (2023), who emphasized that strategic planning, development of comprehensive management frameworks, and promotion of sports culture are key determinants of mass sports participation. Similarly, Savari et al. (2014) reported that managerial planning and cultural promotion through media are among the most influential factors in developing sports participation systems. Furthermore, the results of the present study are in line with Hallmann et al. (2015), who found that well-structured organizational systems, particularly in nonprofit sports organizations, are more effective in encouraging participation compared to purely governmental systems. This supports the present finding that managerial and planning structures are the most influential factor in enhancing veterans' sports participation. In contrast, the findings of this study differ from those of Araqi and Kashif (2013), who reported that the lack of sports facilities was the main barrier to sports participation in Iran. This inconsistency may be attributed to differences in target populations, as the present study focused specifically on veterans, who may be more influenced by motivational, managerial, and economic factors than infrastructural constraints.

Regarding the managerial and planning dimension, the present study found that developing appropriate sports planning for veterans was the most important sub-factor. This finding is consistent with Razavi et al. (2016) and Zarei Mahmoudabadi et al. (2019), who emphasized that structured planning and strategic management significantly improve participation outcomes in sports programs. The second most important factor identified was the economic factor. This result aligns with Huang et al. (2012), who reported that financial incentives and economic support significantly increase participation in physical activity, as well as Liu and Zhong (2023), who demonstrated that sports participation is closely linked to perceived socio-economic benefits and subjective well-being. The present study further revealed that reward systems and incentive

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packages were the most influential sub-components of this factor. The third factor was socio-cultural. This finding is supported by Lin and Zhang (2023), who emphasized the role of awareness, cultural promotion, and social motivation in increasing sports engagement. Similarly, Seyed Ameri and Jamei (2014) found that mass media and cultural reinforcement play a significant role in shaping individuals' attitudes toward sports participation. In the present study, promoting a sports culture and increasing motivation were identified as key sub-factors. Overall, the results indicate that improving sports participation among veterans requires an integrated approach that combines managerial planning, financial support, and socio-cultural development.

Based on the findings of the present study, it is recommended that sports authorities and policymakers in the city of Yazd prioritize the development of comprehensive, evidence-based strategic programs aimed at increasing the participation of veterans in sports activities. In particular, managerial and planning structures should be strengthened through the establishment of specialized committees and the reinforcement of coordinated inter-organizational collaboration. It is also necessary to implement financial support mechanisms, including incentive systems, opportunities for attracting sponsors, and increased budget allocation for veterans' sports programs, in order to reduce economic barriers and enhance their participation. In addition, cultural and media interventions such as awareness campaigns, television and radio programs, and community-based sports events should be expanded to promote positive attitudes toward physical activity among veterans and institutionalize a culture of regular sports participation.

The present study has several limitations that should be considered when interpreting the results. First, this research was conducted exclusively among veterans residing in the city of Yazd; therefore, the generalizability of the findings to other regions or populations should be made with caution. Second, data collection was based on self-report questionnaires, which may be influenced by response bias and social desirability tendencies. Third, the cross-sectional nature of the study limits the ability to infer causal relationships between the identified factors and sports participation. Finally, this study primarily focused on perceptual factors affecting participation and did not directly measure behavioral changes over time.

In future studies, it is recommended that the geographical scope be expanded by including veterans from other provinces or national-level samples to enhance the generalizability of the findings. It is also suggested that longitudinal or experimental research designs be employed to examine causal relationships between managerial, economic, and socio-cultural factors and sports participation over time. Furthermore, future research could investigate additional psychological variables such as motivation, self-efficacy, and perceived barriers to provide a more comprehensive understanding of veterans' sports participation behavior. Finally, conducting comparative studies between veterans and other special populations may offer deeper insights into the determinants of physical activity across different groups.

Conclusion

In summary, it can be concluded that the sports participation of veterans in Yazd is primarily influenced by managerial and planning factors, followed by economic and then socio-cultural factors, and improving these three areas can play a significant role in enhancing veterans' active involvement in sports activities.

Therefore, focusing on proper planning, providing economic support, and implementing targeted cultural promotion can create a foundation for increasing sports participation among this group.

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