



# Identification and Prioritization of Effective Factors in the Model of Emerging Sports with a Perspective on the Development of Mass Sports

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## ABSTRACT

Emerging sports, due to their increasing attractiveness among various age groups in society, are considered a novel path for enhancing physical activities within communities. The aim of this research is to design a model for the development of emerging sports with a perspective on the development of mass sports. Given the dimensions and type of research, the methodology was conducted with a mixed approach (qualitative and quantitative). In the qualitative section, the research strategy was exploratory and carried out using grounded theory methodology. In the quantitative section, the ANP method was used to prioritize factors. To extract factors, interviews were conducted with 13 experts selected based on purposive sampling method and theoretical saturation. Accordingly, four categories were presented: design of processes and infrastructures, characteristics of emerging sports, facilitators, and barriers to the development of emerging sports. Based on prioritization, operational infrastructures with a weight of 0.247 ranked first, management infrastructures with a weight of 0.212 in second priority, sports organizations as facilitators in third priority with a weight of 0.169, structural characteristics with a weight of 0.094 in fourth priority, performance characteristics with a weight of 0.080 in fifth priority, community as a facilitator with a weight of 0.074 in sixth priority, barriers in organizations with a weight of 0.063 in seventh priority, and barriers at the community level with a weight of 0.057 in eighth priority. Considering the findings of the research, it is suggested that the presented factors be utilized in the General Sports Federation for the development of emerging sports.

**Keywords:** *Emerging Sports, Mass Sports, Alternative Sports*

## 1. Introduction

Today's societies, due to their lifestyle, enjoy less physical activity. Technological advancements have turned modern humans into sedentary beings. For this

reason, in developed societies, the physical and psychological health of individuals must be examined. Sports represent one of the most important fields for achieving physical and mental health. From ancient times

and the study of traditional sports, the path of progress for emerging sports has been noteworthy. Each of the sports known today in societies as professional and competitive was once recognized as an emerging sport, gradually paving the way for rules and regulations. Nowadays, societies witness the formation of new sports. Initially, these sports do not attract much public attention. However, by identifying and optimally utilizing them for different age groups, they have garnered a broader audience. Emerging sports are those that have recently been discovered and introduced into the world of sports, and their initial identification and acceptance require a correct understanding of these sports. For example, snowboarding, Pilates, adventure sports, electronic sports, parkour, bungee jumping, etc., can be mentioned as emerging and alternative sports. Many obstacles and options exist for emerging sports to replace conventional sports. Innovation in emerging sports can encourage society to accept them (1).

The General Sports Federation of the Islamic Republic of Iran was established with the aim of providing facilities and a suitable environment for creating joy and vitality among the people and improving skill levels. With the motto "sports for all," the General Sports Federation strives to bring people closer to sports, believing that based on people's tastes and interests, everyone should be able to engage in sports anywhere, anytime, and with any budget. On the other hand, this federation seeks to expand the culture of developing modern sports and familiarize society with new sports manifestations (2). Various reasons prevent the acceptance of new sports, such as the culture of countries, their beliefs, and their policies. Cultural development is one of the most important factors (3). Many emerging sports are applicable in medical science and aid in treating specific diseases, making significant changes (4). Some societies accept emerging sports more quickly, primarily due to media and advertising around emerging sports. Thus, it is stated that the operation of mass media and the infrastructure and social concepts presented around emerging sports play a very important role in societal acceptance (5). Indeed, the emergence of new sports is a phenomenon in today's world that confronts the original form of sports with changes every day. The problems created in emerging sports are not unlike those in conventional and traditional sports. Sports policies and decisions are based on sports ideation and its benefits, directly associated with the motivation to participate in alternative and emerging sports. One of the main obstacles

to emerging sports is economic discrimination, leading to significant problems for providers and social exclusion among participants (6). The structure of emerging sports is such that it has not been fully understood yet, requiring further research. For example, injuries caused through these sports to athletes could be one of these issues (7). The General Sports Federation plays a principal role in developing sports activities for all segments of society. Therefore, it has the capability to develop emerging sports through proper and principled awareness and support. Currently, many emerging sports are not accepted in Iranian society and are judged. According to research findings, attitude, mental norms, and behavioral control have a positive effect on athletes' participation in emerging sports. Attitude is the strongest factor for participating in a new sport (8). On the other hand, media and their awareness methods regarding these sports can lead to greater participation (5). Bremer (2017) states in his research that one of the disadvantages of spreading emerging sports is that unclear or misleading definitions have formed around emerging sports. For example, in adventure sports as an emerging sport, the traditional focus and perspective are more concentrated on the risks of these sports (9). Camoletto et al. (2016) in his research, examines the interaction between sports organizations and the culture of countries for the development of emerging sports, stating that the interaction between cultural and organizational logic must be defined in unison. The integration of management in a sports organization provides a safe and legitimate space for the development of emerging sports (10). Ghafouri et al. stated that by making executive bodies aware of their role in developing mass sports, financial resources, human resources, and suitable equipment can be provided (11). Vafaei Moghaddam et al. (2018) believe that by facilitating environmental conditions and removing barriers, people choose mass sports as a leisure activity (12). Milstein et al. (2023) stated in their research that findings led to the extraction of topics around emerging sports, such as balance, endurance, budget, and income, which must be considered when deciding to add a new sport (13). Skinner et al. (2021) state that with the onset of COVID-19, alternative sports grew faster. In fact, the use of alternative sports content and activities increased, leading to an increase in sales of home fitness equipment, online sports studios, electronic sports, and the reshaping of sports activities (14). Nadikattu (2020) states that the future of sports faces different conditions due to changes and advancements in artificial intelligence. Therefore, it is

recommended to keep sports jobs updated in light of emerging sports (15).

Given the dynamism of sports communities, new sports are introduced to the world every day. The success of these sports depends on how they are introduced to athletes and ordinary people. We witness many emerging sports gaining popularity domestically but are not regarded as major and primary sports and remain at preliminary levels. If special attention is paid to them, and sufficient budget, proper planning, and appropriate marketing are allocated, Iranians can also become prominent in these emerging sports at the global level. Therefore, the identification and prioritization of emerging sports in the country with a view to developing mass sports are important. The organizational structure of sports and national policies also play a major role in the development of emerging sports (16). The culture and policies of countries often take a defensive stance in accepting alternative and emerging sports. As a result, the process of spreading these sports, attracting athletes, correctly recognizing the type of sport, the necessary facilities, and the cost orientation towards these sports are very important and can lead to success if this process is correctly followed. On the other hand, the General Sports Federation has the responsibility of developing sports for all and can create the best environment for the development of emerging sports. Emerging sports are chosen based on individuals' interests. Therefore, by developing them through the General Sports Federation and encompassing a wide range of interests, the level of individuals' sports participation can be increased. Given that some of these sports are very costly and require proper facilities and infrastructure, it is necessary for responsible organizations, such as the General Sports Federation, to provide these facilities. Conducting this research helps sports managers to manage emerging and alternative sports with a broad view and somewhat reduce ambiguities regarding the examination of emerging and alternative sports. Also, the results of this research can be utilized in the General Sports Federation, the Ministry of Sports and Youth, and the National Olympic Committee and be applicable in the development of emerging sports. Therefore, the researcher seeks to identify and prioritize the effective factors in the development of emerging sports with a view to developing mass sports.

## 2. Methods and Materials

Given the dimensions and type of research, the research methodology was carried out with a mixed approach (qualitative and quantitative). In the qualitative section, the research strategy was exploratory and conducted using the Glaserian approach to grounded theory. To extract the effective factors in designing the model for the development of emerging sports with a perspective on the development of mass sports, semi-structured interviews were conducted with experts. The research population included professors, coaches, and managers of the General Sports Federation and the National Olympic Committee. Experts were selected based on their experience, professional connections, and familiarity with modern sports, using a purposive method. To engage participants more in the research, initially, a background regarding the research stages and the researcher's goal was presented. Experts were selected based on achieving theoretical saturation. Redundant findings were identified from the tenth person. To ensure the research findings, 13 people participated in this research. Open coding of factors started from the first person. The interview texts were entered into MAXQDA 10 software and analyzed. Then, based on the Glaserian approach in grounded theory, the classification and categorization of factors were conducted. In this approach, the researcher is free to present a suitable categorization based on their opinion. Thus, this categorization was formed using the experts' opinions. In the quantitative section of the research, the prioritization of factors was conducted using the Analytic Network Process (ANP) technique. Initially, the model of relationships among factors was drawn. Then, 9-point pairwise comparison questionnaires were designed. For analyzing findings in the prioritization section, Super Decisions software was used. The questionnaires were completed by experts, and the final prioritization was determined based on the software output. To examine the validity of the qualitative section, the acceptability index was used, indicating the extent to which the research findings reliably reflect participants' experiences. The acceptability index in the research was confirmed by 7 sports science professors. Also, for evaluating the reliability of the research in the quantitative section, the inconsistency rate was used and reported as less than 0.1, which is acceptable.

### 3. Findings and Results

Participants in this study consisted of 4 women and 9 men, with their experience averaging 21±7 years and their mean age being 49±10 years. Eight of the participants held doctoral degrees, and five held master's degrees. To identify factors, semi-structured interviews were conducted with these experts. Initially, 322 codes, including repetitions, were extracted based on open coding of data.

Then, with the experts' consultation, some repetitive and irrelevant codes to the research were removed, and based on the final output of MAXQDA 10 software, 277 codes including repetitions were presented. In the next phase, during axial coding, the researcher along with experts classified and categorized the factors. Accordingly, in [Table 1](#), 4 categories and 8 concepts were classified and ranked.

**Table 1**

*The Results of Qualitative Analysis*

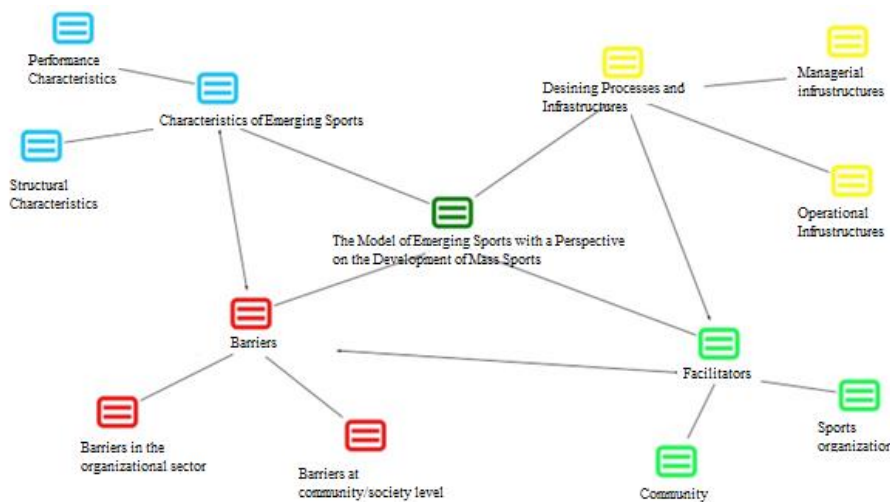
Categories	Concepts	Codes
Designing the processes and infrastructures	Managerial infrastructures	International relations, identification of emerging sports through the formation of associations, community support for creative individuals, training of technical personnel, financial and human resources, enactment of supportive laws, educational spaces, managerial oversight and control, addressing societal and psychological needs, designing environments conducive to new sports, creating new job opportunities, identifying audiences and customers for new sports, systematizing disciplines, leveraging the potential of schools and universities, organizational leadership, organizational behavior, cultural sensitivity, articulating shared visions, balancing management practices, enhancing managerial knowledge, fostering managerial collaboration, strategies for attracting athletes, methods for recruiting coaches, establishing experienced training staff, coach education, managerial harmony, effective management.
	Operational infrastructures	Introduction of military organizations for soldiers, utilization of social networks, proposal development for new disciplines, endorsement by official and legal bodies, establishment of suitable managerial and administrative structures, leveraging international frameworks, fostering competitive environments, legal frameworks, organization of mass sports camps, alignment of sports development models with the development of emerging sports, structuring for new sports, skill development, impactful advertising, referee training, standardization, merging digital and physical aspects in new sports, marketing of new sports, employment of digital strategies, television broadcasting rights, legislation, addressing cultural impacts, issuance of necessary licenses, innovation in management and development, integration of regional management strategies, volunteer sector development, allocation of equipment and facilities, capital allocation, media involvement in emerging sports, competition organization, operational model design, attention to organizational levels within the model, comprehensive model design, securing requirements and equipment, step-by-step implementation according to a plan, practical program formulation, adoption of suitable strategies for development.
Facilitators	Community	Public acceptance from the perspective of the target community, lifestyle changes, enhancement of the public's motor literacy through emerging sports, societal reception, interest of the target community, introduction of new sports in recreational centers, localization of new sports, importance of spectators and fans, establishment of communication networks among athletes, recognition of new sports, public acceptance, social support, societal awareness.
	Sports organizations	Changes in the country's sports structure, organization of sports conferences, accessibility to emerging sports, safety in sports, importance of privatization, emphasis on the entertainment value of new sports, shaping the future through new sports, governmental support, income generation, the role of technology in development, financial backing, electronic sports events, comprehensive information provision about emerging sports, financial advantages of developing emerging sports, the federations' role in boosting popularity.
Barriers to the development of emerging sports	Barriers at the community level	Minimal awareness of 20% of the population about emerging disciplines, competition, economic conditions, unconventional lifestyles, societal rejection of new sports, negative and conservative societal attitudes towards emerging sports, high costs associated with new sports, higher risks associated with some new sports for individuals, resistance to new sports, the existing gap between people's knowledge and federation policies, aggression in sports, confusion in the development of emerging sports.
	Barriers at the level of sports organizations	Governance sensitivity, domestic sports design and international registration, the exceptionally weak development platform, absence of scientific thinking, government ownership of infrastructures, social, cultural, legal barriers, lack of accurate information and statistics, undervaluation of mass sports, absence of infrastructures, overall management confusion in mass sports, misuse of scientific management, managerial unawareness in operational conditions, management biased towards specific demographics, contradictions in responsible organization's programs, government interference in sports, unacceptable activity in mass sports, financial discrimination, digital divide, technological infrastructure inadequacies, managerial disinterest in new sports, political entanglements in sports, repetition of old patterns, emerging sports not being prioritized, poor investment in emerging sports, lack of an

Characteristics of emerging sports	Structural characteristics	operational plan, disunity in organizational management, managerial divisiveness, frequent managerial changes, neglect of emerging sports, inadequate information dissemination, poor federation performance.
	Performance characteristics	Reduction in sports injuries in new sports, depression alleviation, universal accessibility, high potential for widespread adoption, diversification of sports offerings, contributions to improving public health and happiness, risks associated with certain new sports, suitability of new sports for leisure activities, acquisition of new experiences in new sports, addressing gender neutrality, consideration of different age groups in emerging sports, catering to varying levels of interest. Non-necessity for professional equipment in new sports, allure of unfamiliar sports, cost-effectiveness of some new sports, facilitation of international interaction and collaboration, access to emerging economic markets and new business opportunities, peace promotion through sports, innovation in new sports, promotion of women's sports, equal opportunities for sports participation.

In the selective coding section, based on the participants' opinions in the research, two levels of category and concept were selected and presented in Figure 1.

Figure 1

Selective Codes



The Analytic Network Process (ANP) method was used for prioritizing factors. In this method, the pattern of relationships among factors must first be determined, based on which the network of connections was drawn, and pairwise comparison questionnaires were designed and then

provided to the experts. Initial prioritization was done by keeping one factor constant and comparing the rest of the factors with each other. Then, the supermatrix weighted, unweighted, and limit were examined.

Table 2

Limit Supermatrix

	Community as a facilitator	Operational infrastructures	Managerial infrastructures	Sports organizations as facilitators	Barriers in the organizational sector	Barriers at the community level	Structural characteristic	Performance characteristic	Model
Community	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062
Operational infrastructures	0.281	0.281	0.281	0.281	0.281	0.281	0.281	0.281	0.281
Managerial infrastructure	0.219	0.219	0.219	0.219	0.219	0.219	0.219	0.219	0.219
Sports organizations	0.164	0.164	0.164	0.164	0.164	0.164	0.164	0.164	0.164
Barriers in the organizational	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053

sector									
Barriers at the community level	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045
Structural characteristic	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093
Performance characteristic	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079
Model	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Finally, based on the output of the Super Decisions software and the limit supermatrix, the final prioritization is illustrated in the Table 3. The inconsistency rate is

estimated at 0.095, indicating that the results obtained are acceptable.

**Table 3**

*Factors Ranking*

Factor	Normal Score
Operational infrastructures	0.247
Managerial infrastructures	0.212
Sports organizations as facilitators	0.169
Structural characteristics	0.094
Performance characteristics	0.080
Community as a facilitator	0.074
Barriers within organizations	0.063
Barriers at the community level	0.057

As a result, operational infrastructures with a weight of 0.247 ranked first. Management infrastructures with a weight of 0.212 were in the second priority, sports organizations as facilitators in the third priority with a weight of 0.169, structural characteristics with a weight of 0.094 in the fourth priority, performance characteristics with a weight of 0.080 in the fifth priority, the community as a facilitator with a weight of 0.074 in the sixth priority, barriers in organizational sectors with a weight of 0.063 in the seventh priority, and barriers at the community level with a weight of 0.057 in the eighth priority.

**4. Discussion and Conclusion**

The development of emerging sports in the sports community faces numerous obstacles and complexities. Most sports that are considered mainstream today and have a long history were once classified as emerging sports. Some of these sports grow through the formation of a social movement, while others develop through special attention from governments and significant investments. Therefore, identifying and prioritizing effective factors in the

development of emerging sports becomes important. Based on prioritization, it was determined that operational infrastructures are of utmost importance in the development of emerging sports, especially with a view to the development of mass sports. Experts referred to factors such as the introduction of military organizations for soldiers, attention to social networks, and the presentation of proposals for emerging disciplines. When fundamental research around emerging sports is conducted, it actually constitutes the first step toward the acceptance of a sports discipline. In subsequent steps, it is necessary for official and legal authorities to approve and endorse the emerging sport. Creating an appropriate management and administrative structure, leveraging international structures and models, creating a competitive environment, legal environment, and organizing sports events and camps, can serve as a foundation for the development of emerging sports.

For example, in electronic sports, which have recently been recognized as an emerging sport, researchers state that video game competitions are now recognized as sports

worldwide. The structure, organization, and institutionalization of electronic sports can introduce this activity as a sport to societies. Furthermore, with regard to emerging sports, a new field for research, education, and practice in sports management of the country is formed. Utilizing sports management experts can fully identify the challenges facing electronic sports as an emerging sport. Additionally, consistent with the present study, it was mentioned that organizing sports events and conferences can assist in the proper introduction of emerging sports. As electronic sports continue to evolve, practitioners face managerial challenges similar to traditional sports, especially in governance and management areas (17). Contrary to the present study, Parry (2018) states that electronic sports lack the essential elements to become an emerging sport. Establishing a structure for new sports initially appears complicated, but according to the findings of this research, the development path is facilitated by employing the identified factors, especially considering the first priority in operational infrastructures. Utilizing effective advertising, standardizing systems, combining digital and physical environments in new sports, and employing new marketing techniques in new sports can be an effective way to develop sports and create jobs through emerging sports (18, 19). Some researchers state that emerging sports markets are of high importance, especially in the field of sports tourism as an emerging area in the development of adventure sports. New financial markets are growing rapidly, but academic studies on these emerging sports markets are not conducted accurately (20). The increase in emerging sports fields with public and private funding, found in some urban spaces, promotes market growth. Gradually, financial support from companies and media for emerging sports takes shape. The growth in the emerging sports market can occur due to population increase, incorporating technology into sports equipment, and increasing women's participation in sports (20).

It is necessary to use digital strategies and new technologies in introducing and developing emerging sports as mass sports. Utilizing media in emerging sports and television broadcasting rights is very important. Recognizing emerging sports through television broadcasting rights begins, and many emerging sports strive to obtain this right. For example, at the beginning of the formation of wheelchair basketball for women, active women in this field made every effort to use the media, like men, for further introduction (21). One of the most

important factors in the development of emerging sports is paying attention to culture and the cultural consequences of emerging sports in the country. Many sports develop among individuals without considering the country's internal culture and localization, but over time, their impact fades and gradually disappears. Hence, paying attention to culture is considered an influential factor. National and historical values, religious values, modern life values, and cultural-sporting anomalies should be considered in the development of sports (22). Paying attention to cultural capital plays a huge role in sports participation and physical activity (23). Providing necessary licenses is another area where lack of supervision can prevent the growth and development of emerging sports. Allocating equipment and facilities should be designed and used for emerging sports as well as other sports. Using modern equipment in sports spaces and facilities plays a significant role in increasing individuals' motivation for sports participation, and the lack of suitable tools will cause serious injuries. Also, utilizing modern equipment plays a key role in attracting and increasing citizens' participation in mass sports and ensures the spread of the culture of this type of sport (22). Allocating capital and finding sponsors for introducing and growing emerging sports can be like a new spirit in the body of emerging sports. Proper planning and operational steps based on this plan are very important and necessary. Many plans are developed, but their non-implementation can have serious consequences for organizations and sports federations. In the second priority, the factor of management infrastructures is considered. Rahimizadeh et al. (2018), contrary to the findings of the present study, stated that managerial challenges are the most important factor in the development or lack thereof of modern sports. Within the subset of management infrastructures, factors such as international relations are mentioned. International communications and modeling from advanced countries in this area can assist organizations and federations in better introducing new sports (2). Identifying emerging sports by forming associations for the gathering of experts and presenting practical points is suggested. During these sessions, creative individuals in the sports community are identified, and the possibility of their optimal use is created. In the management section, it is initially necessary to provide practical training to individuals active in the General Sports Federation regarding the development of emerging sports. Therefore, training technical staff, paying attention to financial resources, human resources, creating supportive laws, designing educational spaces, monitoring

and controlling managers over the target community and employees, considering the needs of the community in the physical and psychological dimensions, creating new job options, identifying the audience and customers of new sports, and regulating disciplines, are necessary in the management section. Utilizing the capacity of schools and universities for the development of emerging sports is a very practical and important idea. This causes these sports to become popular from younger ages in society, and planning for the development of new sports takes shape. Consistent with the results of the present study in this section, McCollum (2017) also stated that using schools for the development of emerging sports creates a suitable opportunity for involving more people in emerging sports (24).

In the third priority, sports organizations are considered an important facilitator in the development of emerging sports. In fact, sports organizations are the primary entities responsible for the development of emerging sports as part of mass sports, where managerial and operational infrastructures in these organizations find their main manifestation. Changes in the country's sports structure should be made with attention to the development of new sports. Given lifestyle changes, it is natural for traditional sports to no longer have their initial appeal. Thus, new sports, with their attractiveness, can involve more people in physical activity (25). In line with the present research, Kim and Ko (2019) also stated that the use of technology in new sports, such as virtual reality, has motivated even those uninterested in sports to participate. Organizing sports conferences, easier access to some emerging sports, and increased safety can be reasons for more people turning to new sports (26). The importance of privatization in sports organizations for the development of new sports is significant. This is because, according to experts, the government and public organizations do not accept the risk of activity and investment in the field of emerging sports. Therefore, the volunteer sector and privatization can be an effective step in the development of emerging sports.

In the fourth priority are structural characteristics. According to the experts participating in this research, emerging sports have characteristics that cause sports organizations to pay more attention to them. In many of these sports:

- Sports injuries have decreased,
- They have helped reduce depression in individuals,
- They are easily accessible to all people,
- They have a high potential for becoming popular,

- They create sports diversity at the community level,
- They contribute to improving health and general well-being,
- They are suitable sports for leisure time,
- The risk of some emerging sports, such as adventure sports, is higher,
- Experiencing new things in new sports occurs,
- Greater attention is paid to gender neutrality in emerging sports,
- Attention is paid to different age groups and levels of interest in emerging sports.

Thus, precisely identifying these characteristics for all emerging sports becomes important in assessing their risks, the demographic variables involved in these sports, and the impact of lifestyle on their choice (27). It was also mentioned that emerging sports play an important role in improving health and general well-being. In line with the findings of this research, Wibowo et al. (2020) also stated in their study that an emerging sport named Slam Ball has been effective in improving the conditions of students with asthma who want to play football and has been used as a treatment (4).

In the fifth priority are performance characteristics. Among the performance features of emerging sports are the lack of need for some of these sports to have professional equipment, being cost-effective, facilitating interaction with other countries, accessing emerging economic markets and new business, creating peace through emerging sports, and equal opportunities for participation in sports. These performance characteristics of emerging sports contribute to attracting more athletes.

In the sixth priority, the community is considered a facilitator for the development of emerging sports. The acceptance of emerging sports from the perspective of the target community, lifestyle changes due to the technologization of the world, increasing people's motor literacy through emerging sports, and the community's enthusiasm and interest in emerging sports are facilitators that need attention. Emerging sports are also referred to as informal sports. Other researchers, in line with the findings of this research, state that relying on new concepts in sports participation has led them to conclude that changes in culture and methods in systems are necessary for sports development, so stakeholders in sports development can utilize the potential of informal participation in emerging sports (28). Introducing new sports in recreational centers and localizing new sports can attract more people's attention to these sports. The importance of sports in



people's health is a proven matter, but currently, people are interested in following informal sports in a new culture and informal environments (29). People choose emerging sports based on their performance, the positive feelings and motivation created in them, and their social impact on individuals (1). Spectators and fans, like in conventional sports, play an important role in the development of emerging sports. The importance of spectators is such that people who watch and follow sports, due to their interest in sports, try to acquaint others with these sports and, in fact, promote the emerging sport through word of mouth. Generally, there is a distinct difference between athletes and fans of traditional and emerging sports. Usually, these athletes are more self-sufficient and cautious (30). Creating a communication network between athletes and recognizing new sports leads to public acceptance and social support, thereby effectively making society aware of emerging sports and their uses. This public acceptance is made possible by correctly becoming aware of the effects of emerging sports. Accordingly, in line with the present research, Trivedi et al. (2020) also stated that their study shows the effect of social media communications in increasing sports participation among fans and the online community's involvement (31). These communications lead to greater attendance at emerging sports games.

The seventh priority is organizational barriers. Barriers at the organizational level and at the community level are placed in the seventh and eighth priorities, respectively, because, according to experts' opinions, the essential infrastructures have not yet been fundamentally developed and designed. Therefore, existing barriers do not have much ability to block the path of development of emerging sports. Among these barriers, sensitivity of the governance regarding the development of new sports can be mentioned (32). Governance and the government tend to focus more on sports that have fully developed and only require a little effort to excel in. However, the modern perspective does not accept this, which is why emerging sports in the country are in their initial stages. Generally, it is necessary for each of the country's executive agencies to be aware of their duties and their share in the development of mass sports, and governments can provide more suitable financial, human, and equipment resources to them based on each executive agency's share (11). The current platform for the development of emerging sports is extremely weak, and the main reason is the lack of scientific thinking, state-owned infrastructures, social and cultural barriers, legal barriers, lack of correct information and statistics, the

insignificance of mass sports, and the absence of infrastructures.

The eighth priority is barriers at the community level. The community is not as familiar with emerging sports as it should be, according to the experts participating in this research. Minimal familiarity of the community with emerging disciplines is a barrier to the development of emerging sports. Competitors of emerging sports are sports that have been invested in for many years and have attracted many fans, and emerging sports must compete unfairly with these competitors. Economic conditions cause physical activities not to be a priority for individuals, and only a few people can participate in physical activities. Kenyon et al. (2018), in line with the findings of this research, state that people's participation in sports activities has decreased due to economic problems (1). Therefore, innovation in the sports industry and offering general solutions for the popularization of sports can be effective. Participants' prior knowledge has a positive effect on adolescents' attitude and intention to participate. Sports organizations should consider marketing and educational strategies to improve the attitude of potential and current participants towards new sports (8). Vafaei Moghaddam et al. (2019), in their research in line with the present study, stated that by facilitating environmental factors and removing existing barriers, people will choose mass sports as leisure activities with peace of mind. They also stated that changes in the concepts of mass sports and increasing motivators are important factors that need to be created (12).

Emerging sports, to develop in the best possible form, need special attention to these sports disciplines. Some of these sports have developed in the country but have not reached their main position. The research results showed that operational infrastructures need to be reviewed and designed, and by designing processes fundamentally and investing in the field of emerging sports, facilities for these disciplines should be increased, and obstacles in the way of developing these sports should be removed. Therefore, it is suggested that future research should evaluate operational infrastructures in sports organizations regarding the development of emerging sports, examine strategies for introducing emerging sports, and evaluate the experiences of athletes participating in emerging sports.

## Authors' Contributions

Omid Ghomi: Contributed to the conceptualization of the research, led the qualitative section of the methodology, including the grounded theory methodology, and participated in the interpretation of qualitative data. Also involved in drafting and revising the manuscript.

Ali Mohammad Safania: Participated in the design and implementation of the quantitative section of the methodology, particularly in employing the Analytic Network Process (ANP) method for factor prioritization. Contributed to data analysis and interpretation, as well as manuscript writing and revision.

Abolfazl Farahani: Contributed to the selection and recruitment of experts for interviews, facilitated data collection, and participated in the analysis of qualitative data. Also contributed to the discussion of findings and implications within the manuscript.

Reza Nikabakhsh: Played a significant role in the analysis and interpretation of quantitative data using the ANP method. Contributed to the prioritization of factors and provided critical insights into the implications of prioritized factors for the development of emerging sports.

Mohsen Baqerian Farahabadi: Contributed to the conceptualization of the research, provided expertise in the field of emerging sports, and participated in the interpretation of both qualitative and quantitative data. Additionally, contributed to manuscript drafting and revision, ensuring clarity and coherence throughout the document.

Overall, all authors have contributed substantially to different aspects of the research, from conceptualization to

data analysis, interpretation, and manuscript preparation, ensuring a comprehensive and rigorous investigation into the identification and prioritization of effective factors in the development of emerging sports with a focus on mass sports.

## Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

## Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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## Declaration of Interest

The authors report no conflict of interest.

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## Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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