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Modeling the National Pattern of Sports Development in Iranian Families

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A B S T R A C T

The aim of the present study was to provide a model for analyzing and managing the development of family sports in Iran. The research method was a mixed-method approach, combining quantitative and qualitative research. In the qualitative section, an exploratory and systematic approach was used. The qualitative population included two parts: the human community (managers, professors, coaches, etc.) and the informational community (books, articles, documents, media, etc.). Sampling was done based on theoretical saturation through purposive sampling (19 individuals and 84 documents). In the quantitative section, a questionnaire was distributed and collected among the human community through purposive and convenient sampling (215 individuals). The research tools included a library study and structured exploratory interviews in the qualitative section, and a questionnaire in the quantitative section. The validity of the qualitative tools was assessed and confirmed based on the legal and scientific credibility of the statistical sample, expert opinions, and the agreement coefficient between coding evaluators. In the quantitative section, content validity and model fit indices were used. For data analysis, multi-stage coding and a systematic analysis approach were employed in the qualitative section, and structural equation modeling in SmartPLS software was used in the quantitative section. The identified research framework in the qualitative section included four general perspectives: family capacities for sports participation (5 dimensions and 16 components), ecosystem capacities for family sports development (5 dimensions and 20 components), mechanisms of family sports participation (6 dimensions and 26 components), and outcomes of family sports participation development (4 dimensions and 17 components). The nature of the relationships between variables in the model was determined based on causal relationships and systematic analysis. Additionally, challenges and strategies for family sports development were determined according to the model framework. It can be said that the development of family sports emerges from the systematic interaction and integration of the components of the two perspectives: family and ecosystem, in the process of sports participation. The ultimate goal is to achieve sustainable development of civic sports and social health centered around the family institution.

Keywords: *sports development, civic sports, family sports, development model.*

1. Introduction

According to evidence, despite the positive societal attitude toward the known benefits and advantages of sports activities, sports still do not hold a significant place in family life in Iran, and sports products are not a fixed part of household consumption and leisure patterns. The approximate per capita sports participation in Iran is less than 20%, whereas in most developed countries, it is over 70% (Saffari & Latifi Fard, 2018). This issue is one of the

main reasons for the low indices of well-being and social vitality in the country. While improving public health has always been a concern for government officials and social experts and has been a central focus in the country's macro social and cultural policymaking and social critiques. Creating a healthy and vibrant society requires promoting an active lifestyle and enriching leisure time, in which sports participation plays a key role due to its high economic efficiency and dynamic and lasting functions. Numerous studies have proven the beneficial and lasting physical and psychological effects of sports across various demographics, and there are many scientific and empirical pieces of evidence regarding the known benefits of physical activity and sports participation; however, national reports still indicate a high percentage of inactive individuals (Faghfouriazar, 2023; Ghafouri et al., 2019; Javadipour & Saminia, 2013; Keramati, 2021; Razavizadeh Tabadkan & Jajarmi, 2019). Therefore, interventions to change citizens' lifestyles are urgently needed.

The features and importance of sports participation have led to extensive research in our country over the past few decades. However, most of the research has focused on the strategic analysis of public sports. For instance, Javadipour and Saminia (2013) conducted a strategic analysis of public sports in Iran (Javadipour & Saminia, 2013). Although numerous studies have presented models for public sports (Banar et al., 2018; Saffari & Latifi Fard, 2018), family sports have been studied very limitedly. Saffari et al. (2018) in examining the impact of participating in family walking events on promoting public sports culture showed that the priorities for internalizing sports were participation in sports, sports performance, awareness of sports, sports attitudes, sports motivation, transmission of sports values, growth of sports ethics, and sports coverage (Banar et al., 2018; Saffari & Latifi Fard, 2018). Dastoom et al. (2014) in examining the status of family sports leisure in Rasht city showed that family sports leisure was mostly non-participatory and urban recreation was more prevalent than out-of-town recreation. Approximately, with an increase in the number of family members and income level, urban recreation decreased and out-of-town recreation increased, and vice versa (Dastoom et al., 2014).

In foreign studies, the frameworks for development approaches and modeling have mainly focused on physical activity and sports behavior patterns or national public sports development models. The socio-economic model of sports participation (Van Tuyckom, 2015), the England Sports Framework (2004), the Canadian Sports for Life Model (2007), the European Public Sports Model (2004), the Recreational Sports Management Model (2005) are among the most important models in this field. Shaul and Graman (1998) examined the impact of cultural assimilation on the importance of family and nature-related recreation and showed that diversity within ethnic groups is a cultural value and has a significant impact on the benefits of family-related recreation (West & Merriam Jr, 2009). West and Merriam (2009) in examining outdoor recreation and family cohesion stated that healthy outdoor recreation provides for and increases family cohesion (West & Merriam Jr, 2009).

The conducted studies have mainly identified and analyzed the demographic, psychological, behavioral, social, cultural, and other factors affecting sports participation and families, and so far, no specialized research based on modeling methods has examined family sports in the country. Therefore, there is a need to provide scientific models for the analysis and planning of family sports. On the other hand, family sports activities are very changeable and dynamic and need to be examined and provided with information for their management and development in line with environmental changes. Moreover, there are still many questions, informational needs, managerial ambiguities, and cultural challenges in the field of family sports that require scientific and practical research. Furthermore, the foundation and basis of sports management are having information, and obtaining the necessary information is possible through research and needs assessment. Based on needs assessment and obtaining information from citizens, sports services can be provided to the target groups. In this regard, numerous studies have proven the beneficial and lasting physical and psychological effects of sports across various demographics, and there are many scientific and empirical pieces of evidence regarding the known benefits of physical activity and sports participation; however, national reports still indicate a high percentage of inactive individuals. Therefore, interventions to change citizens' and families' lifestyles are urgently needed. Moreover, the management and planning of family sports development require awareness of the urban living environment structure and its continuous monitoring because the level of individuals' sports participation and the level of sports programs in each community are highly diverse.

Therefore, there is a need to provide a scientific framework for the management and development of family sports in the country, and this study aims to design and

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explain a model for the development of family sports in the country.

2. Methods and Materials

The present study was mixed-method, combining quantitative and qualitative approaches, and was applied in nature. The qualitative part used an exploratory systematic approach and an interview-based method. The quantitative part used a descriptive-survey method and field data collection. In the qualitative section, the statistical population included two parts: the human community (managers, professors, coaches, etc.) and the informational community (books, articles, documents, media, etc.). Sampling was done purposively to reach theoretical saturation (19 individuals and 84 documents). Research tools in the qualitative section included a library study and structured exploratory interviews. The validity of the qualitative tools was assessed and confirmed based on the legal and scientific credibility of the statistical sample, expert opinions, and the agreement coefficient between coding evaluators.

In the quantitative section, content validity and model fit indices were used. The questionnaire was distributed and collected among the human community through purposive and convenient sampling (215 individuals). For data analysis, multi-stage coding and a systematic analysis approach were employed in the qualitative section, and structural equation modeling in SmartPLS software was used in the quantitative section.

Data analysis began concurrently with data collection in three stages of coding. After extracting the codes, they were categorized; constant comparison revealed differences and similarities between these codes; categories were separated or merged to shape the theory in this process. Existing sources and texts were also used to complete the theory. Data collection continued until the researcher was confident that further work would add nothing new to their knowledge. After conducting 19 interviews over six months, data analysis indicated that no new data were added to the previous data, as a high percentage of the extracted data from the last interviews were repetitive. Therefore, the interviews were concluded upon reaching theoretical saturation.

Finally, the research model was specialized in a Delphi session with six individuals holding PhDs in sports management and having managerial activity in the field of public sports. The variables and relationships between them were edited and completed. In the quantitative section, content validity and model fit indices through structural equation modeling in SmartPLS software were used.

3. Findings and Results

The research findings extracted from the statistical population using various tools were organized into a framework and conceptual model after coding stages. They include four general perspectives: family capacities for sports participation, ecosystem capacities for family sports development, mechanisms of family sports participation, and outcomes of family sports participation development. The identified factors with the highest frequency in sources and the greatest relevance to the nature and structure of family sports are as follows.

The family capacities for sports participation perspective includes five factors: demographic structure of the family, family leisure and recreation culture, family consumption style, family behavioral type, and family health and movement literacy. The ecosystem capacities for family sports development include factors such as the sports market and industry, cultural and social environment of sports, strategic and executive management of public sports, environmental sports facilities and services, and the public education and sports culture system. Additionally, the mechanisms of family sports participation include factors like family sports values and needs, family sports knowledge, family sports attitudes, sports media and virtual consumption by the family, family sports participation, and the achievements and feedback of family sports participation. The outcomes of family sports participation development include lifelong family sports participation, institutionalization of sports in the family basket, sustainable development of national civic sports, and sustainable national health development (Table 1).

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Table 1

Three-Stage Coding of Categories Extracted from Qualitative Survey

Code 2	Code 1	Frequency
Family Demographic Structure	Level of family income and living welfare	8
	Educational status of family members	7
	Occupational status of family members	5
	Gender composition of family members	4
	Geographic location of family residence	4
Family Leisure and Consumption Style	Tendency towards an active or inactive lifestyle in the family	9
	Family members' interaction with reference groups and society	10
	Decision-making patterns for family purchases and consumption	6
	Family's purchasing power for leisure consumption	5
Family Health and Movement Literacy	Knowledge of health principles and the role of sports	8
	Awareness of physical activity principles and movement habits	6
	Family study on physical health and well-being	3
Family Behavioral Structure	Personality type of family members	10
	Individual psychological states (e.g., self-confidence, depression, etc.)	6
	Family time management	5
	Relationships and intimacy among family members	11
Sports Market and Industry	Government expenditure on public sports	9
	Growth and prosperity of the national and regional sports market	6
	Brand positions of sports brands among other market brands	9
	Status of sports micro-markets and local sports service markets	5
Cultural and Social Sports Environment	Globalization of sports	6
	Status of sports personalities and roles in society (athlete, coach, etc.)	4
	Competition of sports with other recreational and leisure patterns in society	3
	Status of sports events and symbols in society	14
Environmental Sports Facilities and Services	Per capita dedicated spaces for family sports	11
	Accessibility of sports spaces with family participation capability	8
	Safety and security of sports spaces with family participation capability	9
	Quality and suitability of facilities with common family sports activity patterns	11
Strategic and Executive Management of Public Sports	Policy-making and planning for family sports development in relevant organizations	7
	Provision and allocation of necessary resources for implementing public family sports programs	9
	Division of labor among organizations and stakeholders for family sports development	7
	Continuous evaluation and monitoring of public family sports development programs and actions	9
Public Education and Sports Culture System	Social marketing for family sports activities	9
	Availability of public education patterns of physical and sports activities in urban spaces	5
	Production of appropriate and diverse media content for institutionalizing sports in families	3
	Use of various information dissemination methods regarding public sports events	10
Family Sports Knowledge and Movement Literacy	Awareness of the benefits of sports activities	8
	Watching sports educational films and programs	12
	Reading materials related to sports activities	13
	Awareness of the principles and stages of physical and technical preparation for chosen sports activities	10
	Knowledge of the type of talent and sports capability level of family members	9
	Health and general wellness knowledge of family members	7
Family Sports Values and Needs	Value of effort for health in family culture	3
	Family sports needs	9
	Family members' perception of the benefits of sports activities	10
Family Sports Media and Virtual Consumption	Following sports virtual pages and media by family members	9
	Engaging in virtual sports entertainment by family members	8
	Membership in sports groups on social networks by family members	13
	Managing time spent in social and media virtual spaces	3
Family Sports Attitudes	Family members' perception of their physical appearance	6
	Family members' interest in sports activities	6

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	Positive feelings of family members towards being in sports spaces	9
Family Sports Participation	Ability of family members to appropriately and properly engage in chosen sports activities	8
	Skill acquisition in chosen sports disciplines by family members	8
	Family members' accompaniment in sports activities	11
	Proper engagement in favorite sports activities	3
	Focus on the element of skill learning and enjoyment in sports participation	7
	Improving sports performance levels	10
Family Sports Participation Outcomes and Feedback	Physical achievements (e.g., fitness) from sports participation	6
	Psychological achievements (e.g., mental health) from sports participation	11
	Occupational achievements (e.g., reduced work effects) from sports participation	6
	Social achievements (e.g., socialization) from sports participation	5
Lifelong Family Sports Participation	Receiving appropriate feedback from family sports activities	7
	Diversifying sports activities	11
	Taking out sports insurance for family members	10
	Goal-oriented and program-based sports activities	12
Institutionalizing Sports in the Family Basket	Status of sports goods among family leisure goods	6
	Expenditure for sports services in line with family leisure culture	4
	Preference for sports over other competing leisure patterns	2
	Dependency of sports on the consumption of other leisure and recreational goods	8
Sustainable National Civic Sports Development	Empowering and integrating the family through sports participation	9
	Ensuring family physical and mental health through sports participation	8
	Boosting the public sports services market	6
	Institutionalizing sports participation in society	5
	Sanitizing collective sports participation spaces	6
Sustainable National Health Development	Enriching Iranian family leisure	8
	Sanitizing Iranian family recreation	5
	Improving family health and vitality indices	6
	Reducing family physical and psychological harm	10

To assess model fit, the measurement model's reliability, convergent validity, and discriminant validity were used. The reliability index for assessing internal reliability includes three criteria: factor loadings, Cronbach's alpha, and composite reliability. Convergent validity indicates the correlation of a construct with its indicators, while discriminant validity shows the relationship of a construct with its indicators compared to its relationship with other constructs.

The outer model (measurement model) indicates that the items considered for measuring each of the main factors possess sufficient validity. The strength of the relationship between the items and the corresponding factors is assessed by factor loading and their significance with the t-statistic. The results of the outer model (measurement model) are presented in Table 2.

Table 2

Convergent Validity (AVE) Coefficients of Each Variable

Dimensions	AVE
Public Education and Sports Culture System	0.560
Family Sports Values and Needs	0.612
Environmental Sports Facilities and Services	0.510
Sports Market and Industry	0.494
Sustainable National Health Development	0.540
Sustainable National Civic Sports Development	0.516
Family Behavioral Structure	0.533
Family Sports Knowledge and Movement Literacy	0.499
Family Sports Participation Outcomes and Feedback	0.584
Family Demographic Structure	0.569
Family Health and Movement Literacy	0.530
Family Leisure and Consumption Style	0.555
Cultural and Social Sports Environment	0.546

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Family Sports Participation	0.494
Family Sports Media and Virtual Consumption	0.506
Strategic and Executive Management of Public Sports	0.547
Institutionalizing Sports in the Family Basket	0.530
Family Sports Attitudes	0.565
Lifelong Family Sports Participation	0.507

Figure 1

Model with R^2 Values

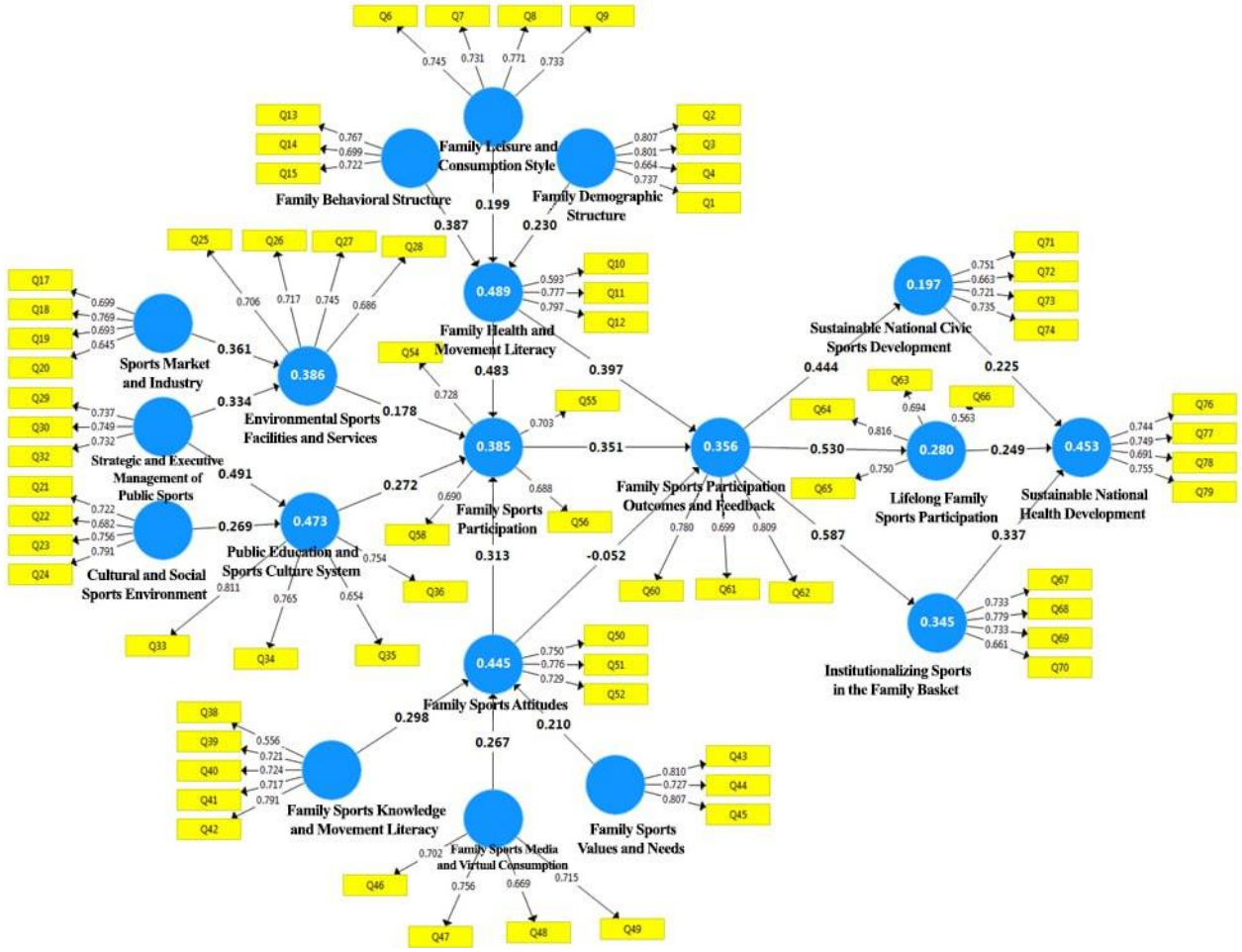

Table 2 presents the AVE indices of the model. As observed, the results indicate suitable convergent validity criteria (AVE).

For assessing the discriminant validity of the measurement model, two matrices of latent variable correlations and the Fornell-Larcker criterion are used. Based on the correlation results and AVE roots, the discriminant validity of the model at the construct level is confirmed according to the Fornell-Larcker criterion. Additionally, the latent matrix results indicated that the correlation of each construct with itself was higher than its correlation with other constructs. Consequently, the model's discriminant validity was confirmed.

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Table 3

Questionnaire Reliability Coefficients

Dimensions	Cronbach's Alpha	Composite Reliability
Public Education and Sports Culture System	0.737	0.835
Family Sports Values and Needs	0.703	0.825
Environmental Sports Facilities and Services	0.701	0.806
Sports Market and Industry	0.700	0.796
Sustainable National Health Development	0.716	0.825
Sustainable National Civic Sports Development	0.700	0.810
Family Behavioral Structure	0.726	0.774
Family Sports Knowledge and Movement Literacy	0.745	0.831
Family Sports Participation Outcomes and Feedback	0.713	0.807
Family Demographic Structure	0.746	0.840
Family Health and Movement Literacy	0.709	0.769
Family Leisure and Consumption Style	0.733	0.833
Cultural and Social Sports Environment	0.723	0.827
Family Sports Participation	0.701	0.796
Family Sports Media and Virtual Consumption	0.720	0.804
Strategic and Executive Management of Public Sports	0.703	0.783
Institutionalizing Sports in the Family Basket	0.702	0.818
Family Sports Attitudes	0.718	0.796
Lifelong Family Sports Participation	0.731	0.801

As shown in Table 3, all latent variables have Cronbach's alpha and composite reliability values above 0.70, indicating that the model has suitable reliability (both Cronbach's alpha and composite reliability).

Given that almost all path relationships between factors, except for the relationship between sports attitudes and family sports participation outcomes and feedback, are greater than 1.96, all relationships are significant. This significance indicates the correct prediction of the research model relationships.

Table 4

R-Squared Coefficients of Endogenous Variables

Dimensions	R Square
Public Education and Sports Culture System	0.473
Environmental Sports Facilities and Services	0.386
Sustainable National Health Development	0.453
Sustainable National Civic Sports Development	0.197
Family Sports Participation Outcomes and Feedback	0.356
Family Health and Movement Literacy	0.489
Family Sports Participation	0.385
Institutionalizing Sports in the Family Basket	0.345
Family Sports Attitudes	0.445
Lifelong Family Sports Participation	0.280

Table 4 shows that the R2 values of all research variables are much higher than 0.19 and are in the range of 0.33 or greater. This means that the structural model has a moderate fit.

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Table 5

Q2 Predictive Power Index Coefficient

Variables	SSO	SSE	Q2 = 1 - (SSE/SSO)	Predictive Power
Public Education and Sports Culture System	620.000	468.676	0.244	Relatively strong
Family Sports Values and Needs	465.000	465.000	Exogenous	Exogenous
Environmental Sports Facilities and Services	620.000	509.764	0.178	Medium to high
Sports Market and Industry	620.000	620.000	Exogenous	Exogenous
Sustainable National Health Development	620.000	483.408	0.220	Medium to high
Sustainable National Civic Sports Development	620.000	562.527	0.093	Relatively moderate
Family Behavioral Structure	465.000	465.000	Exogenous	Very strong
Family Sports Knowledge and Movement Literacy	775.000	775.000	Exogenous	Very strong
Family Sports Participation Outcomes and Feedback	465.000	379.143	0.185	Medium to high
Family Demographic Structure	620.000	620.000	Exogenous	Exogenous
Family Health and Movement Literacy	465.000	355.529	0.235	Relatively strong
Family Leisure and Consumption Style	620.000	620.000	Exogenous	Exogenous
Cultural and Social Sports Environment	620.000	620.000	Exogenous	Exogenous
Family Sports Participation	620.000	515.997	0.168	Medium to high
Family Sports Media and Virtual Consumption	620.000	620.000	Exogenous	Exogenous
Strategic and Executive Management of Public Sports	465.000	465.000	Exogenous	Exogenous
Institutionalizing Sports in the Family Basket	620.000	516.767	0.167	Medium to high
Family Sports Attitudes	465.000	360.237	0.225	Relatively strong
Lifelong Family Sports Participation	620.000	540.373	0.128	Relatively moderate

Table 5 shows that the model has moderate to high predictive power since the predictive power of most constructs is close to or greater than 0.15.

Given that the GOF criterion is equal to 0.451, based on Wetzels et al. (2009), the overall model fit is confirmed to be "very strong."

Table 6

Results of the Relationship Between Variables in the Final Model of Family Sports Development in Iran

Independent Variable	→	Dependent Variable	Beta	T Statistics (|O/STDEV|)	p
Sports Market and Industry	→	Environmental Sports Facilities and Services	0.361	4.323	0.001
Strategic and Executive Management of Public Sports	→	Environmental Sports Facilities and Services	0.334	4.023	0.001
Strategic and Executive Management of Public Sports	→	Public Education and Sports Culture System	0.491	6.141	0.001
Cultural and Social Sports Environment	→	Public Education and Sports Culture System	0.269	3.100	0.002
Family Behavioral Structure	→	Family Health and Movement Literacy	0.387	4.830	0.001
Family Leisure and Consumption Style	→	Family Health and Movement Literacy	0.199	2.289	0.022
Family Demographic Structure	→	Family Health and Movement Literacy	0.230	2.866	0.004
Family Sports Knowledge and Movement Literacy	→	Family Sports Attitudes	0.298	2.945	0.003
Family Sports Media and Virtual Consumption	→	Family Sports Attitudes	0.267	2.569	0.001
Family Sports Values and Needs	→	Family Sports Attitudes	0.210	1.931	0.010
Environmental Sports Facilities and Services	→	Family Sports Participation	0.178	2.263	0.024
Public Education and Sports Culture System	→	Family Sports Participation	0.272	3.289	0.001
Family Health and Movement Literacy	→	Family Sports Participation	0.483	10.635	0.001
Family Sports Attitudes	→	Family Sports Participation	0.313	3.819	0.001
Family Health and Movement Literacy	→	Family Sports Participation Outcomes and Feedback	0.397	6.268	0.001
Family Sports Participation	→	Family Sports Participation Outcomes and Feedback	0.351	3.762	0.001
Family Sports Attitudes	→	Family Sports Participation Outcomes and Feedback	0.052	0.529	0.597
Family Sports Participation Outcomes and Feedback	→	Sustainable National Civic Sports Development	0.444	5.891	0.001
Family Sports Participation Outcomes and Feedback	→	Lifelong Family Sports Participation	0.530	6.833	0.001
Family Sports Participation Outcomes and	→	Institutionalizing Sports in the Family Basket	0.587	9.119	0.001

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Feedback					
Sustainable National Civic Sports Development	→	Sustainable National Health Development	0.225	2.928	0.004
Lifelong Family Sports Participation	→	Sustainable National Health Development	0.249	2.553	0.011
Institutionalizing Sports in the Family Basket	→	Sustainable National Health Development	0.334	3.498	0.001

4. Discussion and Conclusion

The aim of this study was to provide a model for analyzing and managing the development of family sports in Iran. In the qualitative section, the identified research framework included four general perspectives: family capacities for sports participation (5 dimensions and 16 components), ecosystem capacities for family sports development (5 dimensions and 20 components), mechanisms of family sports participation (6 dimensions and 26 components), and outcomes of family sports participation development (4 dimensions and 17 components).

This study adopted an exploratory approach to identify a specialized framework. The framework, resulting from three levels of coding, encompassed four general perspectives: family capacities for sports participation, ecosystem capacities for family sports development, mechanisms of family sports participation, and outcomes of family sports participation development. Essentially, the determining factors in family sports participation are categorized into these four general perspectives based on their role and nature. These general perspectives align with the perspectives introduced in the Safary Public Sports Model (2012), the general triadic model (structural, environmental, behavioral), the Khatibzadeh Sports Activity Model (2016), and the Benar et al. Sports Participation Model (2018) (Abedi et al., 2019; Banar et al., 2018; Saffari & Latifi Fard, 2018).

The family capacities for sports participation perspective includes five factors: family demographic structure, family leisure and recreation culture, family consumption style, family behavioral type, and family health and movement literacy. These components indicate that the family, as the smallest social unit, has various structural and functional characteristics. Therefore, family sports participation is specialized in some aspects, differing from general public and civic sports. Studies have shown that changing the lifestyle and methods within families can improve family life quality through a mix of active and inactive methods, where demographic, leisure, behavioral, and consumption characteristics of the family do not have a precise overall relationship with the level of active recreation, but generally, a moderate degree of these variables correlates with higher levels of active recreational participation compared to low or high levels (Dastoom et al., 2014). Studies reported that lower social classes use active leisure less than affluent classes, consistent with the study's findings. Therefore, there are significant differences in leisure activities among different social classes, and social class can predict the style, time, and pattern of sports participation (Abedi et al., 2019; Banar et al., 2018). Hashemi and Moradi (2010) reported that the level of family sports engagement, family support for sports activities, family attitude towards sports, and the acceptance of sports among family members directly affect individuals' sports socialization. Dionigi et al. (2012) found that the nature of the family is related to its members' sports participation. Wheeler (2015) reported that family sports culture can be transferred between families, primarily as habits and behaviors.

The ecosystem capacities for family sports participation development include factors such as the sports market and industry, cultural and social sports environment, strategic and executive management of public sports, environmental sports facilities and services, and the public education and sports culture system. For example, research has shown that individuals relatively influenced by favorable environmental factors and having the necessary participation background are more likely to follow this path (model) more easily and participate in sports for the first time (Vandendriessche et al., 2012). In this regard, sports ecosystem management (sports organizations) is responsible for positive and constructive intervention in individuals' common sports activity patterns and plays a more significant role in encouraging people towards sports participation compared to other ecosystem factors (Banar et al., 2018).

The mechanisms of family sports participation include factors such as family sports values and needs, family sports knowledge, family sports attitudes, family sports media and virtual consumption, family sports participation, and the achievements and feedback of family sports participation. Previous scientific experiences have shown that despite positive recognition and attitudes towards sports and awareness of its benefits, sports participation initially depends on the individual's health, time, place,

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skill, and companionship conditions for physical activity (Dollman & Lewis, 2010). Saffari et al. (2013) found that the internalization of sports, sports participation, sports performance, sports awareness and attitudes, sports motivation, transmission of sports values, growth of sports ethics, and sports coverage were the priority factors in influencing public sports culture through family walking events (Saffari & Latifi Fard, 2018). Zhang and Tian (2010) described new interpretations of family sports, highlighting family sports centers, sports volunteering, physical movement entertainment, life enrichment, fitness and health, and interpersonal family communications as the most important functions of modern family sports (Zhang & Tian, 2010).

The outcomes of family sports participation development include lifelong family sports participation, institutionalizing sports in the family basket, sustainable national civic sports development, and sustainable national health development. Sustainable family sports development is considered a form of social intervention, where the family, as a reference group in society, seeks to create opportunities for sports participation. Based on the model of influencing factors, ultimately, participation factors and capability lead to family sports development. Therefore, family sports participation is the outcome of the interaction between family-based contextual factors and structural environmental factors. Kay and Spaaij (2012) stated that sustainable sports development directly depends on the position of sports within families (Kay & Spaaij, 2012).

The nature of the relationships between variables in the model was identified based on causal relationships and systemic analysis. Additionally, challenges and strategies for family sports development were determined according to the model framework. In the quantitative section, the relationships between variables were tested using software based on data extracted from questionnaires, and the final research model had good fit and significant relationships between variables. According to the research findings, it can be concluded that family sports development emerges from the systematic interaction and integration of the components of the two perspectives: family and ecosystem, in the process of sports participation, with the ultimate goal of achieving sustainable civic sports development and social health centered around the family institution. The development of family sports can be interpreted as resulting from the interaction between the family perspective and context with structure and environment, and their outcome in the participation process and capability, aiming for sustainable development. Most research has indicated that sports participation depends on socio-economic status with other behavioral and managerial intermediaries. Studies have shown that environmental factors provide the basis for sports participation and influence other factors over a lifetime of sports. In general, since citizens' sports participation is part of their leisure consumption (leisure is an optional category), individual factors such as demographics, psychology, behavior, and others are directly determinant, and environmental factors ultimately need to guide these individual components towards sports activity.

Finally, it should be noted that family sports development in the country faces challenges based on the conceptual model framework of this research. Many modern sports functions are not valued in traditional family cultures, there is a lack of public awareness about the benefits of physical activity, physical activity is often viewed as specialized, individuals are reluctant to start sports in clubs, the knowledge of sports is limited in the public literacy of society, sports activities are fragmented and uncoordinated among responsible organizations, and there is a lack of flexibility in these structures for cooperation and a weak culture of work-life balance in families.

To address these mentioned barriers and develop family sports based on the designed model in the country, the following strategies are suggested: reviving and recognizing various traditional games and sports along with introducing new and fun sports to families, providing packages containing supportive and recreational equipment in public sports spaces and distributing low-cost sports equipment (including shoes, clothes, balls, badminton rackets, etc.) to low-income and needy families, symbolic actions like family cycling on specific days of the year, creating sports and wellness counseling stations in public recreational spaces, and developing separate sports spaces in city and suburban parks for families.

Authors' Contributions

M.B.H. conceptualized the study, designed the research methodology, and supervised the data collection process. He also led the qualitative section, conducting structured exploratory interviews and performing multi-stage coding and systematic analysis. M.N., the corresponding author, was responsible for the quantitative data analysis using structural equation modeling in SmartPLS software,

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interpreted the results, and led the drafting and revising of the manuscript. R.R. contributed to the development and validation of the research tools, supported the literature review and data collection, and assisted in the analysis of qualitative data. All authors participated in discussing the findings, critically reviewed the manuscript for important intellectual content, and approved the final version for publication.

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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