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Regular Physical Activity Among Iranian Gen Z: Key Influences on Participation Rates

Ali Saberi [1] | **Mohamad Kalantar** [2] | **Alireza Nazemi Bidgoli** [3]

1. Associate Professor, Faculty of Management and Accounting, College of Farabi, University of Tehran, Iran. Email: ali_saberi1364@ut.ac.ir
2. Master's Degree in Sports Management, College of Farabi, University of Tehran, Iran. Email: mohamadkalantar27@gmail.com
3. PhD Student in Sports Management, College of Farabi, University of Tehran, Iran. Email: alireza.nazemi@ut.ac.ir

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ABSTRACT

Generation Z's physical activity participation is a public health concern, yet research on its environmental, social, and motivational determinants remains limited. An exploratory sequential mixed-methods design was employed. In the qualitative phase, semi-structured interviews with 17 sports management experts identified five key factors: personal incentives, safety, the physical environment, peer influence, and sports facilities. Based on these findings, a 49-item Likert-scale questionnaire was completed by 384 adolescents (15–20 years old) in Qom Province, Iran. Quantitative data were analyzed using Structural Equation Modeling and Partial Least Squares. SEM analysis indicated good model fit (composite reliability = 0.86, Cronbach's alpha = 0.87, goodness-of-fit index = 0.46). Individual motivation emerged as the most significant factor (factor loading = 0.867), followed by safety (0.833), environmental factors (0.788), peer influence (0.737), and sports facilities (0.716). These findings emphasize the need for motivational, safe, and accessible physical activity settings for Generation Z. This study highlights key drivers of regular physical activity among Generation Z. The findings offer insights for policymakers, educators, and community planners to develop targeted interventions addressing motivational, environmental, and social factors.

Introduction

Engaging in regular exercise during adolescence yields significant health benefits, including improved cardiovascular and musculoskeletal health, reduced risk of chronic diseases such as diabetes, hypertension, and certain cancers, and enhanced mental well-being (Albini et al., 2025; Tambalis, 2022).Furthermore, physical activity fosters cognitive development, academic performance, and positive body image, effectively mitigating issues like body dissatisfaction across genders and body mass index categories (Gualdi-Russo et al., 2022; Latino & Tafuri, 2024). Importantly, active lifestyles established in youth often persist into adulthood, promoting lifelong health and reducing the burden of non-communicable diseases. The World Health Organization (WHO) recommends at least 60 minutes of moderate-to-vigorous physical activity daily for adolescents to achieve these comprehensive benefits (Ekelund, 2013). In 2018, WHO launched the "More Active People for a Healthier World" campaign, aiming for a 15% reduction in global physical inactivity by 2030 (Bull et al., 2020). Despite these well-established benefits and global

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initiatives, physical inactivity remains a significant public health challenge, particularly among younger generations (Tagare et al., 2025). Over 80% of adolescents worldwide, including 84.7% of girls and 77.6% of boys, consistently fail to meet these essential physical activity guidelines (Aubert et al., 2021; Guthold et al., 2020). This alarming trend raises substantial concerns about the future health and well-being of Generation Z (Gen Z), born after 1997.

Gen Z's immersion in technology and social media significantly influences their leisure time, often promoting sedentary behaviors (Dolot, 2018). This cohort exhibits higher obesity rates compared to previous generations, a trend directly linked to increased physical inactivity (Halasi et al., 2021). While adaptable and aware of health risks, the pervasive digital environment shapes their preferences, leading to a decline in traditional physical development parameters such as vital lung capacity and hand grip strength, alongside higher rates of overweight and mental health issues (Setko, 2019). The COVID-19 pandemic further impacted Gen Z's exercise patterns, fostering a shift towards online and group-based activities, though younger members (ages 16-19) show resistance to virtual seminars for promoting exercise (Kravalis et al., 2021; Mylsidayu & Bujang, 2023). Understanding the multifaceted influences on Gen Z's physical activity is crucial. These factors span environmental aspects (e.g., proximity, cost, facilities, safety), intrapersonal factors (e.g., motivation, perceived skill, competence), and social factors (e.g., peer and adult support) across all socioeconomic levels (Humbert et al., 2006; Leite et al., 2024) Community-based multilevel approaches emphasizing participation, partnerships, empowerment, and community support are often effective in promoting sustained engagement (Helsper et al., 2023).

In Iran, Generation Z constitutes a significant portion of the population, and their participation in sports is influenced by unique cultural, social, and environmental factors that have received limited attention (Asadolahi et al., 2021). Barriers such as restricted access to safe, gender-segregated sports facilities, high costs of sports activities, and cultural norms, particularly for young women, hinder their engagement (Kalani et al., 2018). Additionally, as sports fans in Iran’s growing sports industry, Generation Z demands interactive, diverse, and technology-driven sports experiences that can enhance their motivation for sustained physical activity participation (Hosseinzadeh et al., 2024; Jaberi & Salimi, 2024). These expectations, including diversity and social interaction, alongside infrastructural challenges, play a critical role in shaping this generation’s regular physical activity patterns.

Regular physical activity, defined as consistent engagement in exercise over time to maintain long-term health benefits, is critical for Generation Z to counter the rising trends of physical inactivity and associated health risks (Bácsné-Bába et al., 2021). In Iran, where 72.2% of high school adolescents fail to meet the World Health Organization’s recommended physical activity levels and 71.4% exhibit sedentary behavior, unique challenges such as limited access to safe sports facilities, cultural constraints, and low parental and peer support significantly hinder sustained participation, particularly among female students (Ziaei et al., 2020). Addressing these multifaceted barriers through targeted, culturally sensitive interventions is essential to foster regular physical activity among Iranian Generation Z, ensuring long-term health benefits.

Despite the well-documented benefits of physical activity and the urgent need to address global physical inactivity, research on Generation Z’s regular sports participation, particularly in Iran, remains significantly limited (Ziaei et al., 2020). Existing studies often focus narrowly on general physical activity, overlooking the complex interplay of intrapersonal (e.g., motivation, self-efficacy), social (e.g., peer and family support), and environmental (e.g., access to facilities, cultural norms) factors that uniquely shape this demographic’s engagement (Asadolahi et al., 2021; Kalani et al., 2018). Moreover, the role of Generation Z as sports fans, with their expectations for inclusive, interactive, and technology-driven sports environments, is rarely explored, despite its potential to enhance sustained participation (Hosseinzadeh et al., 2024; Jaberi & Salimi, 2024). This gap is particularly critical in Iran, where a dynamic sports culture is constrained by challenges such as inadequate infrastructure and gender-specific barriers. The absence of comprehensive models

integrating these diverse factors limits the ability of policymakers, educators, and sports managers to design effective, culturally relevant strategies for promoting regular physical activity. This study aims to address these gaps by developing a holistic framework that examines the key drivers and barriers to Generation Z's sports participation in Iran. By providing actionable insights, this research seeks to inform evidence-based, community-driven interventions that empower Iranian Generation Z to adopt regular active lifestyles, support the modernization of the sports industry, and promote lifelong health within Iran's unique socio-cultural context.

Methodology

This study employed an exploratory sequential mixed-methods approach to identify the factors influencing regular physical activity participation among Generation Z. It consisted of both qualitative and quantitative phases. In the first phase, qualitative data was gathered through semi-structured interviews to uncover key factors and identify relevant components. Each interview lasted approximately 45–60 minutes and was conducted between April and June 2023, following a pre-designed interview guide based on existing literature on sports participation. The second phase involved quantitative analysis, testing and validating these factors on a larger sample. The quantitative data collection occurred from July to September 2023. This combination of qualitative and quantitative methods provided a comprehensive analysis, ultimately leading to the development of a robust model for understanding the factors that affect regular physical activity participation among Generation Z.

Statistical population and sampling

The current research has been done in two qualitative and quantitative parts:

Qualitative Section: The target population for this section consisted of 17 university experts in the field of sports management, who were purposefully selected to participate in semi-structured interviews. This group included university professors and researchers specializing in physical activity and sports participation. The selection criteria included having at least 5 years of academic or research experience in sports management and familiarity with youth physical activity trends. Interviews continued until theoretical saturation was achieved, ensuring comprehensive coverage of relevant themes. This study employed thematic analysis based on the framework established by Braun and Clarke (2006), which facilitates the identification, analysis, and reporting of patterns (themes) within qualitative data (Braun & Clarke, 2006).

Quantitative Section: Quantitative Section: The target population for this section included adolescents and young adults aged 15 to 20 residing in Qom Province. Utilizing the Krejcie and Morgan table, an appropriate sample size was determined based on the overall population size.The sample size was calculated to ensure a 95% confidence level and a 5% margin of error, following the guidelines of Krejcie and Morgan (1970). A multi-stage cluster sampling method was employed to ensure a more accurate representation of the target population. This involved dividing Qom Province into geographic clusters, randomly selecting clusters, and then selecting participants from schools and community centers within those clusters (Krejcie, 1970).

Data Collection Technique

Semi-structured interviews are a valuable qualitative research tool, offering flexibility and depth in data collection (Ruslin et al., 2022). They enable researchers to explore predetermined topics while also adapting to new insights that emerge during conversations. When researching complicated topics, like how Generation Z consumers view sustainability, this approach is especially helpful (Dabija et al., 2020). Researchers create interview guides based on existing literature and theoretical frameworks, while also ensuring ethical considerations and ongoing reflection. The interview guide included open-ended questions focusing on barriers, facilitators, and motivators of physical activity among Generation Z, with interviews audio-recorded and transcribed verbatim for analysis. Semi-structured interviews help maintain focus, explore ideas, and deepen understanding of the subject matter (Smith & Caddick, 2012).

In the quantitative phase, the data collection tool used was a questionnaire designed based on the findings from the qualitative phase. This questionnaire was developed using a five-point Likert scale ranging from "strongly agree" to "strongly disagree." The questionnaire items were derived from themes identified in the qualitative phase, focusing on factors influencing regular physical activity participation among Generation Z. To ensure structural and content validity, the questionnaire was reviewed by sports management experts, and items were refined based on their feedback to align with the study's objectives. Questionnaires were distributed among the selected sample in schools in Qom Province, following the multi-stage cluster sampling method. Incomplete or inconsistent responses were excluded to ensure data quality. A five-point scale allows for more nuanced responses, which can result in more reliable data collection than scales with fewer options (Malik et al., 2021).To measure the reliability of the research tool, Cronbach's alpha and composite reliability (CR) indices were used. The results indicated that the Cronbach's alpha value for the questionnaire was 0.87, and the composite reliability was 0.86, demonstrating a high level of reliability for the measurement tool (Tavakol & Dennick, 2011). Additionally, convergent validity was confirmed with an Average Variance Extracted (AVE) of 0.66, ensuring that the questionnaire constructs adequately captured the intended factors (Fornell & Larcker, 1981).

Data Analysis

The data obtained from qualitative interviews were analyzed using open coding. Initially, preliminary codes were extracted from the interviews; then, similar codes were categorized and combined. This process followed Braun and Clarke's (2006) thematic analysis framework, involving six steps: data familiarization, initial code generation, theme searching, theme review, theme definition, and final reporting. Coding was performed manually, with 132 initial codes grouped into 5 main themes (Braun & Clarke, 2006). Finally, key components related to the regular physical activity participation of Generation Z were identified. Quantitative data were analyzed using structural equation modeling (SEM) and the partial least squares (PLS) method. This analysis was conducted using SmartPLS software (version 3.3) to evaluate the relationships between the identified components and regular physical activity participation. This method was used to test the fit of the research model and to assess the impact of the identified components from the qualitative phase on the regular physical activity participation of Generation Z (Hair et al., 2021). The results of the analyses were evaluated using fit indices such as composite reliability (CR), average variance extracted (AVE), and the coefficient of determination (R^2). The composite reliability index (0.86) and average variance extracted (0.66) indicated that the model demonstrates good convergence and fit. The R^2 values for the model's endogenous variables ranged from 0.68 to 0.74, indicating strong explanatory power, and the Goodness of Fit (GOF) index was 0.46, exceeding the threshold of 0.35 for a strong model fit (Fornell & Larcker, 1981).

Results

First, the qualitative results are organized around the key factors influencing regular physical activity participation, with a focus on individual motivation, safety, environmental conditions, the role of social support, and the accessibility of sports facilities. Subsequently, quantitative rankings are presented to highlight the statistical impact and predictive relevance of each component, providing a comprehensive view of how these factors collectively contribute to long-term physical activity among Generation Z. In the qualitative part of this research, data analysis was conducted in three consecutive stages: open coding, combining and revising codes, and extracting sub-themes. In the first stage, open coding was used to identify and record primary codes from the interview data. These codes expressed various viewpoints and factors affecting Generation Z's participation in physical activities. In the second stage, similar and related codes were combined and categorized into primary conceptual groups, aiming to reveal recurring patterns and gain a deeper understanding of the data. Finally, by reviewing the conceptual groups, 13 sub-themes were extracted, including fitness, psychological factors, security, and the roles of parents and friends. These sub-themes served as key components in subsequent analyses. After extracting the sub-themes, the researchers re-examined and categorized them, ultimately identifying five main themes, each representing a key aspect influencing the participation of Generation Z in regular physical activities. These main

themes included the role of peers, sports facilities, individual motivations, safety and security, and environmental conditions. Each of these themes encompassed several sub-components. For example, the theme "Role of People Around" included components such as parental support, the role of friends, and teachers' encouragement. The following table display the main themes and their related sub-themes separately. These themes provide a comprehensive overview of the factors affecting the regular participation of Generation Z in physical activities and served as the foundation for the quantitative section and subsequent statistical analyses.

Table 1. Indicators Affecting regular Physical Activity in Generation Z

Row	Research Dimensions (Primary Themes)	Sub-themes (Components)
1	**The Role of Peers**	Parents
		Friends
		Teachers
2	**Sports Facilities and Amenities**	Sports Venues
		Sports Goods and Equipment
3	**Individual Motivations**	Fitness
		Social Factors
		Psychological Factors
4	**Security and Safety**	Security
		Opportunities for Sports
		Safety
5	**Environmental Conditions**	Weather
		Environmental Quality

Next, the first round of the Delphi questionnaire was designed as a two-option (yes or no) format to help confirm or reject items and to collect new suggestions for any overlooked concepts. This questionnaire was resent to all members of the Delphi community, and their feedback on the items and components was carefully reviewed. Items deemed irrelevant by the consensus of the Delphi community were excluded from the questionnaire, while several terms and components were added at the discretion of the Delphi members. In the next step, these changes were validated, resulting in a finalized questionnaire consisting of 49 items, five general indicators, and 13 components, which was approved for distribution to the quantitative community.This verification process will directly impact the accuracy and reliability of the research results and will help establish a more comprehensive framework for future quantitative analyses.

Table 2. Basic Pattern Design

The Role of Peers
Parents
1. Parental Participation in Physical Activity and Sports
2. Presence of Sports Background in the Family
3. Presence of Medical History in the Family
4. Avoidance of Family Conflicts in Sports Activities
Friends
5. Athlete Friends as Active Role Models
6. Feeling of Joy and Vitality While Exercising with Friends
7. Receiving Motivation from Friends and Compliments
8. Being Present in Physical Activity Locations and Encouraging Each Other
Teachers
9. Teachers' Familiarity with Sports Techniques and Exercises and Their Implementation
10. Teachers' Participation in Physical Activity as Role Models for Adolescents
11. Organizing Sports Competitions and Purchasing Prizes for Adolescents
12. Participating in Physical Activity and Sports with Students
Sports Facilities and Amenities
Sports Venues
13. Presence of Sports Complexes (Stadiums, Gyms, Pools)
14. Presence of Natural Sports Venues (Mountains, Ski Resorts, Beaches, and Lakes)
15. Presence of Public Sports Venues (Park Sports Equipment, Outdoor Sports Fields)
16. Presence of Venues and Spaces Suitable for Different Social Groups

Sports Goods and Equipment
17. Availability of Sports Apparel (Clothing, Shoes, Socks, ...)
18. Availability of Sports Equipment Specific to Each Sport
19. Provision of Sports Goods and Equipment for All Social Classes (Especially Low-Income Groups)
Individual Motivations
Fitness
20. Body Aesthetics
21. Weight Loss
22. Improvement of Motor and Physical Posture (Such as Walking and Standing Postures)
23. Positive Body Image
Social Factors
24. Development of Greater Social Interactions with Others
25. Improvement of Teamwork
26. Sports Competition with Others
Psychological Factors
27. Relief of Psychological Stress and High Emotion
28. Physical Health
29. Mental Health
30. Increase in Self-Confidence and Self-Esteem
Security and Safety
Security
31. Existence of Moral Security (Prevention of Unauthorized Filming)
32. Presence of Security for Personal Belongings in Sports Venues
33. Security of Access and Movement to Sports Venues
34. Presence of Law Enforcement in Sports Venues
Safety
35. Safety of Sports Structures
36. Safe Sports Equipment
37. Availability of Venues and Spaces Suitable for Different Social Groups
38. Maintenance of Cleanliness and Hygiene
Opportunities for Sports
39. Distance of Sports Venues from Residences
40. Availability of Transportation to Sports Venues
41. Presence of Women-Only Sports Venues
42. Costs of Using Facilities
Environmental Conditions
Weather
43. Preference for Mild Weather over Cold Weather
44. Avoidance of Cold Temperatures, Wind, Ice, Snow, Rain, and Darkness
45. Heat of the Air
46. High Humidity (Tropical Weather)
Environmental Quality
47. Quiet and Calm Sports Venues
48. Pleasant Quality of Ventilation in Sports Venues
49. Presence of Sports Venues Away from Polluted Areas

After conducting qualitative analyses and extracting concepts and themes, the quantitative phase of this research commenced. In this section, data were collected through a questionnaire distributed to the statistical community. Table 3 presents descriptive information about the age of the respondents.

Table 3. Descriptive information about the age of the subjects

Age	Gender		Frequency	Percentage
	Men	Women		
15	33	34	67	17.4
16	27	29	56	14.6
17	37	40	77	20.1
18	31	30	61	15.9
19	32	32	64	16.7
20	29	30	59	15.4
Total	**189**	**195**	**384**	**100**

Based on the data presented in Table 3, out of a total of 384 subjects, the highest percentage (20.1%) corresponds to those aged 17, which includes 77 individuals. Following that, 18-year-olds represent 15.9%, and 19-year-olds account for 16.7%. Additionally, 17.4% of the subjects were 15 years old, 14.6% were 16 years old, and 15.4% were 20 years old. Furthermore, regarding the gender distribution, out of a total of 384 respondents, 49.2% were men and 50.8% were women.
Table 4 provides information about the mean and standard deviation of indicators affecting the participation of Generation Z in regular physical activity.

Table 4. Average and standard deviation of research model indicators

Variable	Mean and standard deviation	Skewness	kurtosis	Minimum	Maximum
The Role of Peers	4.02 ± 0.61	-0.612	0.026	2.25	5
Sports Facilities and Amenities	4.41 ± 0.65	-1.34	1.84	2	5
Individual Motivations	4.4 ± 0.55	-1.25	1.09	1.82	5
Security and Safety	4.3 ± 0.67	-0.954	0.369	2	5
Environmental Conditions	4.19 ± 0.67	-1.12	1.01	1.06	5

Table 4 presents the mean and standard deviation of the factors influencing Generation Z's participation in physical activities. Since each statement offers five response options, a score of 3 is considered the average. The results show that the average for all components is above 3, indicating a favorable situation within the statistical population. Notably, the variable "sports facilities and amenities" has the highest average, at 4.41.
To evaluate the normality of the variables, which in turn affects the normality of the model's residuals, the Kolmogorov-Smirnov test was employed. In this test, if the significance level is greater than 0.05, the null hypothesis (that the distribution is normal) is not rejected at the 95% confidence level. Table 5 presents the results of the Kolmogorov-Smirnov test for the various variables:

Table 5. Examination of data distribution using the Kolmogorov-Smirnov test

Variable	Z-score	p-value	Distribution Status
The Role of Peers	0.115	0.14	Normal
Sports Facilities and Amenities	0.105	0.2	Normal
Individual Motivations	0.11	0.2	Normal
Security and Safety	0.103	0.2	Normal
Environmental Conditions	0.09	0.2	Normal

Based on the values presented in Table 5, since the significance level for all variables exceeds 0.05 (Sig > 0.05), the null hypothesis (normality of distribution) is supported, leading us to conclude that the statistical population has a normal distribution.
The research questionnaires were validated for content validity by expert professors at the university, and convergent validity was confirmed using the average extracted variance of the research indicators. The AVE values of the latent variables, along with the Cronbach's alpha coefficient and composite reliability, were used to assess the reliability of the research model (using SmartPLS software). These results are presented in Table 6.

Table 6. The values of the Average Variance Extracted,Cronbach's Alpha, and Composite Reliability

Indicator	Component	CA	CR	AVE	Results
Physical Activity Participation	The Role of Peers	0.902	0.918	0.919	Confirmed
	Sports Facilities and Amenities	0.859	0.865	0.904	Confirmed
	Individual Motivations	0.940	0.943	0.947	Confirmed
	Security and Safety	0.869	0.870	0.910	Confirmed
	Environmental Conditions	0.951	0.954	0.950	Confirmed

The data in Table 6 show that the AVE values for all latent variables exceed 0.5, confirming acceptable convergent validity of the research model. Additionally, the Cronbach's alpha and composite reliability values for all indicators are above 0.7, indicating good reliability. Therefore, the reliability and convergent validity of the model for the factors influencing sustained physical activity participation in Generation Z are deemed appropriate. The table of correlations between the latent constructs of the research model is used to assess the discriminant validity of the research model.

Table 7. Correlation Coefficients of the Latent Constructs

Constructs	The Role of Peers	Sports Facilities and Amenities	Individual Motivations	Security and Safety	Environmental Conditions
The Role of Peers	0.842	----	----	----	**----**
Sports Facilities and Amenities	0.837	0.868	----	----	----
Individual Motivations	0.621	0.793	0.743	----	----
Security and Safety	0.508	0.696	0.467	0.579	----
Environmental Conditions	0.716	0.862	0.578	0.498	0.789

As shown in Table 7, the square root of the AVE for each construct exceeds its correlations with other constructs, confirming the discriminant validity of the research model. To examine the priority of the influencing factors on regular physical activity participation among Generation Z, Confirmatory Factor Analysis (CFA) was conducted using SPSS software version 25.

In Table 8, the KMO test value of 0.851, with a chi-square of 1672.2 and significance level of 0.001, confirms the model's statistical significance. Among the factors, "Individual Motivation" has the highest loading, followed sequentially by "Safety and Security," "Environmental Conditions," "Role of Peers," and "Sports Facilities and Equipment."

The model's fit was assessed through several key criteria using SmartPLS software. The first criterion was the significance of the t-values, where values above 1.96 (at a 95% confidence level) indicate a good fit. All items, except for item 62, had t-values greater than 1.96, confirming that the model's relationships are statistically significant. Next, the R^2 values for the endogenous variables were considered. Values above 0.33 indicate a good fit, and all variables exceeded this threshold, indicating a satisfactory structural model fit. To assess the model's predictive power, the Q^2 values were calculated. A value greater than 0.15 suggests moderate predictive power. All constructs had Q^2 values above 0.15, confirming the model's strong predictive capability. Lastly, the global model fit was evaluated using the Goodness of Fit (GoF) index. With a calculated value of 0.46, which is above the threshold of 0.35 for a strong fit, the model demonstrates a strong overall fit.In conclusion, the model of influencing factors on regular physical activity participation in Generation Z is robust, with good structural fit, significant relationships, strong predictive power, and an excellent overall fit.

Discussion and Conclusion

The aim of this research was to identify the factors influencing sustained participation in physical activity among Generation Z. Using a systematic model, five main categories were identified as clusters: personal motivations, safety and security, environmental conditions, the influence of others, and sports facilities and amenities.

The study identifies personal motivation as the most significant factor driving sustained physical activity among Generation Z, with a strong factor loading of 0.867 in the structural model. This motivation encompasses three key subcomponents: fitness, social influence, and psychological aspects. Respondents identified personal motivation as their main reason for maintaining regular physical activity. The primary motivations include achieving a desired body shape, losing weight, improving posture, fostering a positive body image, building social connections, and engaging in

athletic competition. Adolescents' body image and exercise habits are greatly influenced by their peers, with young women being especially vulnerable to social pressures related to fitness and thinness (Li et al., 2023). Although fitness and body image are powerful motivators for many people and are confirmed by other scholars as key drivers of higher activity levels, they are not always relevant for all groups, highlighting the diverse reasons people choose to exercise (Garcia, 2024). To leverage these insights, Iranian sports administrators and policymakers should promote the holistic benefits of physical activity—particularly its contributions to mental well-being and social connectedness—through community programs tailored to the preferences of Generation Z as digital natives. These efforts should also address cultural barriers, such as limited access to gender-segregated sports facilities for women.

According to the report, the second most crucial element in promoting Generation Z's continued physical activity is the safety and security factor, with a loading of 0.833. Three important subcomponents were identified: sports opportunities, safety, and security. Research indicates that these factors are essential in encouraging young people to engage in regular physical activity. Asadolahi et al. (2021) found that of the seven primary factors impacting Iranian young women's engagement in sports, safety and security was one of the most important and young Iranian women, who have several obstacles when it comes to exercising, want safe and secure surroundings more than others (Asadolahi et al., 2021). In a similar vein, (Humbert et al., 2006) discovered that for young people from low-SES communities to engage in physical exercise, contextual factors—such as safety—are crucial (Humbert et al., 2006). To address these barriers, policymakers and sports administrators in Iran should prioritize developing safe, gender-segregated sports facilities, improving hygienic infrastructure (e.g., locker rooms and gyms), and ensuring secure access routes to venues. These measures can significantly enhance sustained physical activity participation among Generation Z, especially women, aligning with their need for safe and culturally appropriate environments.

The study found that the third most important factor affecting Generation Z's ability to maintain physical exercise was environmental conditions, which had a factor loading of 0.788. Within this category, climate and environmental quality emerged as key subcomponents. Favorable climates, such as moderate temperatures and low levels of air pollution, encourage outdoor sports and recreational activities (Willwerth et al., 2023). Additionally, environmental quality, including clean air, low noise pollution, and well-maintained surroundings, significantly affects motivation and the ability to engage in exercise (Calogiuri & Chroni, 2014). However, urban challenges in Qom, such as air pollution and limited green spaces, often hinder outdoor activities, particularly for youth seeking accessible venues. While some studies suggest that extreme weather prompts a shift to indoor or virtual fitness alternatives (Willwerth et al., 2023), It is recommended that urban planners focus on developing clean, accessible, and attractive public parks and sports fields to increase participation. Expanding sports programs in schools can also be effective. In addition, the use of digital tools and virtual challenges can complement these programs and play an important role in attracting a new generation.

Another important factor in encouraging Generation Z to engage in long-term physical activity is the influence of peers, with a factor loading of 0.737. This dimension includes three components: parental involvement, friendships, and teachers. Previous studies have emphasized the vital role of parents in promoting physical activity and healthy lifestyles among children (Mylsidayu & Bujang, 2023), which aligns with the findings of this study, indicating that children’s motivation is strongly influenced by their parents’ attitudes toward peer influence and physical activity. Furthermore, friendships and social networks play a central role in shaping physical activity behaviors (Tamura et al., 2024). However, this influence can be double-edged. In some social contexts, peer pressure may actually discourage exercise—especially when physical activity is undervalued or when positive role models are lacking (Li et al., 2023). Recent studies also show that online fitness communities and influencers are reshaping how teenagers engage with physical activity, sometimes prioritizing virtual challenges over in-person participation (Kravalis et al., 2021). Overall, the results underscore the importance of supportive social environments—both offline and online—in promoting sustained physical activity among Generation Z. For policymakers, educators, and parents, recognizing the dual role of peer

influence and digital media is essential for designing effective physical education programs and promoting long-term health in younger generations.

The fifth factor influencing Generation Z's sustained engagement in physical activity was identified as the availability of sports facilities and equipment, comprising two subcomponents. Notably, this factor received the lowest priority among respondents. Nevertheless, previous research highlights the critical role that access to appropriate facilities and equipment plays in encouraging physical activity among youth. A supportive and well-equipped sports environment contributes significantly to physical education and overall participation (Halonen et al., 2015). Despite these established benefits, the lower prioritization observed in this study may reflect a generational shift influenced by digital culture. As Generation Z increasingly navigates digital environments, their preferences tend to favor convenience and technology-mediated solutions (Setko, 2019). This transition suggests that traditional approaches alone may no longer suffice to motivate physical activity. Accordingly, integrating modern digital tools—such as virtual fitness platforms, gamified exercise routines, and interactive technologies—with conventional sports infrastructure may offer a more effective and appealing strategy. A hybrid model of this nature could better address Generation Z's preferences, particularly in terms of accessibility, frequency of engagement, and a holistic approach to health and wellness.

Although this study has limitations, including its cross-sectional design which captures only a single point in time and limits understanding of how participation patterns evolve, it provides valuable insights into factors influencing Generation Z's regular physical activity. The qualitative sample of sports management specialists and the quantitative focus on adolescents in Qom Province may restrict generalizability. Future research should employ longitudinal and experimental methods with larger, more diverse samples to better capture the dynamic and culturally influenced nature of physical activity behaviors in Generation Z. This approach is crucial to developing effective, adaptable strategies that align with their changing lifestyles, values, and technological environment, ultimately supporting long-term health and active living.

Ethical Considerations

Compliance with ethical guidelines: Ethical points have been observed.

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