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Hygge in Iran? The Lived Experience of Physical Activity of Older Adults in the Neighborhood Environment in Tehran

Authors' contribution:

A) conception and design of the study
B) acquisition of data
C) analysis and interpretation of data
D) manuscript preparation
E) obtaining funding

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Abstract

Physical activity is considered one of the most important components of daily activities and a healthy lifestyle for the older adult to achieve well-being. The purpose of this study is to explore older adults' views on physical activity in the neighborhood environment. This study is qualitative and interpretive in nature. In this research, thematic analysis was used to identify, analyze and report patterns in the qualitative data, employing Braun and Clarke's six-step inductive approach. Twenty-four active seniors in the Ekhtiarieh neighborhood of Tehran were interviewed in person. The purpose of the interview was to probe into the deep layers of the interviewees' mindset and obtain valid information. The analysis of the data yielded *Hygge* as the global theme, and the three main themes of joyful emotions and behavior (Wellness Hygge), perceived social support (Neighborhood Hygge), and safety and security, as well as eight sub-themes. Although Hygge derives Danish culture and its national identity, The creation of a Hygge subculture in the neighborhood through physical activity can be considered as a collective effort to deal with the contradictions in the society with happiness. The findings of this research have been chosen as inspiring concepts for a better and healthier life, to reproduce simple cultural elements that do not exist in the situation of the local culture, by borrowing from the the culture of Denmark, the happiest country in the world.

Keywords: active aging, joyful emotions and behavior, perceived social support, safety, security

Introduction

The world's population is aging (Alves et al., 2020), and improving the quality of life of older adults is an important global health issue (WHO, 2002). Previous studies have shown that mental well-being is associated with healthy lifestyle behaviors and can have a protective effect on maintaining health and increasing life expectancy (Martín-María et al., 2020). Mental well-being has two distinct components: experience well-being and evaluation well-being. Experience well-being refers to the positive and negative emotions that people experience in their daily lives, while evaluation well-being can be defined as cognitive judgments about life satisfaction or about various specific areas of life, such as one's job, family and partner (Martín-María et al., 2020).

Physical activity is an important component of daily activities and a healthy lifestyle for the older adult to achieve well-being (Carl et al., 2020). Factors that affect one's physical activity vary throughout life, including political, individualistic, social and structural interventions (Ulijaszek, 2018). Furthermore, the role of the physical

or "built" environment in supporting or inhibiting levels of physical activity has attracted attention in the last few decades (Barnett et al., 2017; Cerin et al., 2014; Duncan et al., 2021; Kärmeniemi et al., 2018; King et al., 2019). Ulijaszek (2018) stated that the built environment creates a physical form of human communities as an environment for human activities that can form patterns of physical activity. Places, buildings, and neighborhoods that make up the most visible parts of the built environment create space for the individual body and the social body to engage in behaviors and actions that can affect levels of physical activity. Kim et al. (2020) have attributed the active lifestyle of residents to the social and cultural norms in their neighborhoods. Schutzer and Graves (2004) also considered non-supportive environments as barriers to physical activity. Drawing upon the evaluation well-being of the older adult, happiness and joy should also be mentioned. Happiness is an internal condition; from the moment a person reflects on his or her life experience and evaluates it well. It is based on mental evaluation (Lepp, 2018). A review of past studies shows that happiness and a neighborhood-built environment are highly correlated (Abdullah & Zulkifli, 2018; Elshater, 2016; Shiue, 2012; Somarriba Arechavala et al., 2022). Wenz (1977) considered non-verbal, social, and psychological behaviors and the economic status of neighborhoods as indicators of relative happiness. However, the point is that happiness is mental, and people have different perceptions and ideas of what an ideal neighborhood should possess. For example, some do not like their homes to be close to a playground while others do not find it problematic. Thus, the environmental and social characteristics of a neighborhood can bring positive or negative emotions to its residents.

Generally, previous research relating the characteristics of the built environment to health behaviors falls into the category of "neighborhood effects" studies. Also, the approach used in previous research on active aging and the neighborhood-built environment is often location-based. Our approach in this research is people-based (focused on understanding and adapting the perspectives of people living in the neighborhood, not just physical characteristics). Also, our emphasis in this research is on the well-being of the older adult in the neighborhood with an emphasis on active aging. Thus, the purpose of this study is to explore older adults' views on physical activity in the neighborhood environment. To what extent have we been able to take advantage of the potential abilities of the field of culture to grow and promote sports and physical activity in our society?

Field of Study

Different groups of older adults living in the Ekhtiarieh neighborhood of Tehran, an optimal geographical location in District 3 that accommodates the older adult in Tehran, engage in group and individual sports activities at different hours of the day. According to the Walk Score measure (2022), the walkability in this neighborhood has a score of 88, which makes this neighborhood very walkable (This neighborhood has the highest score of walkability from the neighborhoods in Tehran's District 3). Arghavan Park is located in Shahid Kolahdooz St., South Dibaji St., and is in one of the populated centers of District 3 in the Ekhtiarieh neighborhood with suitable access. This park can be considered an important neighborhood place for the physical activity of the older adult.

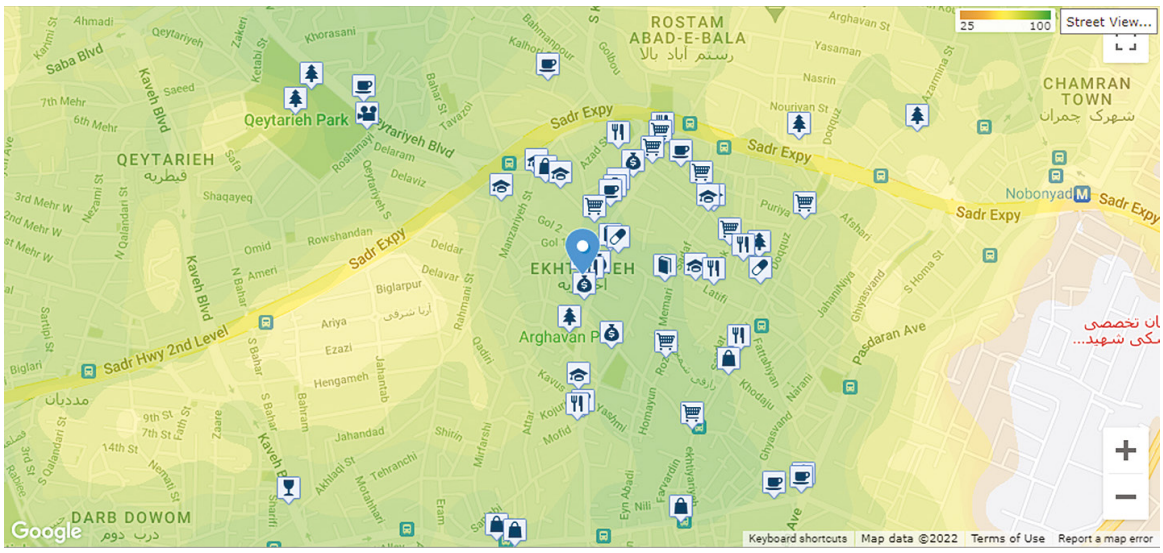

Figure 1. Walkability map of Ekhtiarieh neighborhood based on Walk Score

Figure 2. Field of Study Images

Methodology

Research design

The processes and assumptions underlying the translations of the qualitative data occur iteratively during and after data collection. It is the researcher's responsibility to make known the processes for identifying patterns, constructing descriptions, and developing interpretations to trace the logic of the analysis. Thematic data analysis is a widely used qualitative method where the classification of data into units of analysis is integral. Thematic analysis tries to determine what the data tells us through data coding and analysis and is described by Braun and Clark (2006) as "a flexible and useful research tool, which can potentially provide a rich and detailed, yet complex account of data". It can recognize, analyze and report patterns in the textual data of interviews (Braun, & Clarke, 2006). Using thematic analysis, this research has tried to find a suitable model to define active aging in the neighborhood environment in Iran by generating themes inductively from the patterns in the data that are informed by existing knowledge from the literature.

Participants

The population in this study was the older physically active adult in the Ekhtiarieh neighborhood in Tehran. The participants in this study were selected based on purposive sampling (Green & Holloway, 1997), which is a judgment sampling. In other words, the individuals who were selected had the most desirable characteristics for providing the necessary data because they had personally experienced the event (Sekaran, 1992). It is interesting to note that all participants were willing to participate in the study and welcomed the chance to use their experiences as a source of information.

Data collection

The data were collected through in-depth unstructured interviews to allow the participants to freely describe their experiences. According to Van Manen (2016), the interview is the best way to enter the world of human experiences. The interviews lasted between 20 and 50 minutes. The number of participants for the interviews was based on the data saturation rule. It meant to obtain a range of views of the older adult about their lived experience of physical activity in the neighborhood and their interpretation (Nieswiadomy, 1988). Twenty-four active seniors in the Ekhtiarieh neighborhood were interviewed in person. At the beginning of the interview, a few general questions were asked such as: Why do you exercise and remain physically activity? Why do you choose the neighborhood space for your physical activity? What motivates you to do more physical activity in your neighborhood?

As the interview went on, other questions were asked focusing on the objectives of the research. All interviews were recorded and then transcribed. During the interviews, the non-verbal messages of the participants were noted and recorded. At the end of each interview, a summary of the interview was presented to the participant to obtain a final confirmation of the perceived content of the interview.

Data analysis

For the analysis of the qualitative data, the theme analysis method was used to identify, analyze and report the patterns (themes in the data). In this method, the data coding process takes place with no attempt to adapt it to a pre-planned coding framework (or theme format). In the inductive method, the thematic analysis is based on the data. In this research, Braun and Clarke's six-step inductive approach was employed (Braun, & Clarke, 2006)

I. The first step is becoming familiar with the data
II. The second step is generating the initial codes from the data
III. The third step is searching for themes
IV. The fourth step is reviewing the themes
V. The fifth step is defining and naming themes
VI. The last step is preparing a report

Trustworthiness

In this study, credibility, transferability, dependability, and confirmability were used to obtain valid and reliable data. Credibility refers to the extent to which the structure and meaning of the phenomenon are properly represented (Lincoln et al., 1985). To observe the "credibility" of the research, only people with rich experiences in physical activity in the neighborhood were included in the study. The minimum criteria for the interview were having more than one year of residence and experience of physical activity in the neighborhood. Transferability refers to the extent the research findings can be extended to other environments. An attempt was made in the present study to achieve this important goal by fully presenting the findings. Dependability indicates the coherence of internal processes and how a researcher can examine the changing conditions of the phenomenon (Lincoln et al., 1985). To achieve "dependability", two experts reviewed the research process and confirmed the results. "Confirmability" refers to the extent to which a researcher's findings are corroborated by others who review the research or study or its results (Lincoln et al., 1985). Confirmability is achieved through careful review and revision of the data, interpretations, and findings of this study and comparing them with previous studies so that other researchers can understand the experiences, track the data, and achieve similar results.

Findings

The themes obtained from the interviews are the result of trying to explain and interpret the perception and experience of the older adult doing physical activity in the neighborhood. The aim was to gain a deeper and richer insight into this phenomenon. Three main themes and eight sub-themes were extracted from the findings that depict the older adult's perception and experience of physical activity in the neighborhood:

a) Joyful emotions and behavior (Wellness Hygge)

One of the main themes extracted from the data, which was frequently seen in the observations and referred to in the interviews, was "joyful emotions and behavior (Wellness Hygge)". emotions and behavior of the older adult, based on the happiness of the neighborhood-built environment, affects their activity. Below this main theme is *Mudita* as a sub-theme. (Mudita is a term in Pali and Sanskrit meaning to enjoy the happiness and well-being of others). In line with the sub-theme of *Mudita*, Nahid (a pseudonym), a 69-year-old woman said:

"When I come to the neighborhood and see people talking happy and laughing, it makes me happy too."

A joyful environment is another sub-theme below the main theme of "joyful emotions and behavior (Wellness Hygge)". This sub-theme means older adults can create enough small joyful moments in the neighborhood. In this regard, while greeting other neighbors in the neighborhood during the interview, 71-year-old Farzaneh (a pseudonym) said:

"Yesterday, my friends and I decided to go and buy fish after a morning walk in the park. We talked all the way and laughed. We arrived there at 10.05 and we were happy on the way home. The walk on the streets of the neighborhood took about two and a half hours."

Mahboubeh (a pseudonym), a 68-year-old woman, said:

"The doctor has said that I must walk, it is obligatory, but I choose this space for walking because of the green space and the trees especially when the wind blows, the leaves fall, or when it rains. I come here for a walk because I like the environment more."

Sports Philic/Walk Philic is another sub-theme identified under the theme of "joyful emotions & behavior (Wellness Hygge)". Philia (word for love) is an intentional response to promote well-being. In this regard, Koorush (a pseudonym) said:

"I love walking, for example, I walk to Dowlat Street, but I don't take the car, I work in Tajrish, and sometimes I do not even take the car on purpose, I walk from Tajrish to work. I walk for at least one hour a day. Sometimes I run into a friend too, so it takes an hour or two!"

Khashayar (a pseudonym), a 79-year-old man, also said:

"I enjoy walking and exercising. If I don't exercise, I will get really sick."

b) Perceived social support (Neighborhood Hygge)

One of the main themes frequently observed and referred to in interviews was "Perceived social support (Neighborhood Hygge)". Emotional support as a sub-theme is below this main theme. Emotional support in a neighborhood can be beneficial as a protective factor that interacts with risk factors to decrease the likelihood of negative health outcomes among older adults. Social

support has been shown to help alleviate stress. In this regard, 71-year-old Dariush (a pseudonym) said:

"Time goes by even if we don't come here. But if we don't come here, we die of loneliness. I call this guy (pointing to his friend) let's go for a walk."

Afarin (a pseudonym), an 84-year-old woman, said:

"Because here in this neighborhood we met and we grew up. If we go somewhere else, we do not know who to talk with. We have been together in this place for years. I always come here, we see each other, and we pour our hearts out here. I mean we come to talk with our friends, to walk and talk."

Reza (pseudonym), a 67-year-old man, said:

"We come to the park to exercise, to be together. When a person exercises, especially with others, he puts aside his problems and concerns. It does not matter if it is for a short time or a long time."

Hadi (a pseudonym), a 72-year-old man, said:

"It's now many years that we have been coming to our neighborhood park to play sports. This is a neighborhood, and now we are all friends. We greet each other. It looks like an office. Sir, why didn't you come yesterday? Why weren't you here yesterday? Just like an office. Here is a neighborhood environment. Yes! I have a sense of family. We are all friends and it gives me energy. If I go to that corner, I see my friends and we go there and talk, talk, and laugh. This is the best thing! What is life then?"

Another sub-theme under the main theme of "Perceived social support (Neighborhood Hygge)" is information support. Information support is defined as messages that involve knowledge or facts. In this regard, 68-year-old Fataneh said:

"At this age, you may not be the model of the day, but you should know the information of the day. It's the same for me here. We talk about everything."

Homeira (a pseudonym), a 73-year-old woman, also said:

"After the walk, I will sit here and talk to our friends. We talk about our food, about the things we bought. We talk about everything new we have found."

A lively neighborhood is another sub-theme below the main theme of "Perceived social support (Neighborhood Hygge)". A lively neighborhood is a place or situation in the neighborhood that is lively and exciting because many things are happening; a neighborhood where the older adults believe that life is a continuous motion. Narges (a pseudonym), a 79-year-old woman, also said:

"The atmosphere in our neighborhood is really good, Dowlat Street is a marketplace. Everything is around us. For instance, there is only one crossroads from our home to the Qanat crossroads, where you can find everything, old shops, old businesses, and ... I mean, it's so rich in business and everything is there, everything is fine. If you don't find something in a shop, you can go to another shop nearby. Anyway, we feel easy."

65-year-old Fahimeh (a pseudonym) said:

"Sometimes we gather together in the neighborhood park for exercise and walking, but mostly to have tea, or eat cake, or even pottage. It is very good, especially now that it is not possible to party in these corona[-virus] conditions. It is very good that we all see each other. We like to meet each other here."

c) Safety and Security

"Safety and security" was another main theme that was frequently observed and mentioned in interviews. Security in the neighborhood-built environment is under this main theme. In this regard, 68-year-old Nazanin (a pseudonym) said:

"Our neighborhood is safe. If a doper dares to come to the park, I won't get scared since our men, I mean male neighbors, are here."

Ardeshir (a pseudonym), a 65-year-old, also said:

"This is a very good neighborhood. Thanks to God there is nobody to bother. There is a lot of security in the park. These workers (gardeners and guards of the park) are like bodyguards. Some women even exercise at five in the morning when it is still dark, but thanks to God, the security of the neighborhood is very good."

Other seniors also made comments during the interviews. In a multi-person conversation, someone said:

"We have been in this neighborhood for many years. We come and go. We've not seen anything here (neighborhood park) because there are guards here, and the security is very good."

Safety in performing activities as a sub-theme is also included under this theme. In this regard, 68-year-old Nazanin (a pseudonym) said:

"I come from Dolat Street early in the morning and, since it is crowded, I walk here. Then I walk backward in the street facing the park (South Dibaji) to put no pressure on my knees, then I start walking in the park."

Ata (a pseudonym), a 70-year-old man, also said:

"Playing and exercising in the neighborhood is very enjoyable. But if the municipality or the authorities can set up one or two more ping-pong tables, and move this table and bodybuilding equipment, that would be better. I almost hit the window pane of the praying room several times, God have mercy on me. There should be some space where we can move back and forth. If a fence is built around the playground, so that the ball does not go out, there will be a lot more participation!"

Discussion

This study examines the specific dimensions of the neighborhood environment from the perspective of older adults and explains the physical activity status of older adults in the neighborhood. Due to the direct presence of the researcher, it was possible to examine the missing issues and predict the relationships and causes in this field. The results obtained in this study, which has an interdisciplinary perspective of sports management and urban planning, can bring important tips and interpretations for those involved in sports for older adults and urban planners.

According to the results, Hygge is a central theme in this research. Hygge is a word of Norwegian origin but influenced by Danish culture (Howell & Sundberg, 2015). It is more of an empirical atmosphere than an object. Hygge experiences vary from country to country, but what they all have in common are intimacy, togetherness, coziness, and comfort (Wiking, 2016). Hygge in the neighborhood environment in Iran can be considered as an example of the formation of a subculture, considering the role of important and basic values of the society. Obviously, the formation of subcultures has functions, and since Iran is one of the least happy societies, ranked 110 out of 146 countries, which is much lower than the world average (Norouzi Seyed Hosseini et al., 2023), the creation of a Hygge subculture in the neighborhood through physical activity can be considered a collective effort to deal with the contradictions concerning happiness in society.

The findings of this research have been chosen as inspiring concepts for a better and healthier life, to reproduce simple cultural elements that do not exist in the

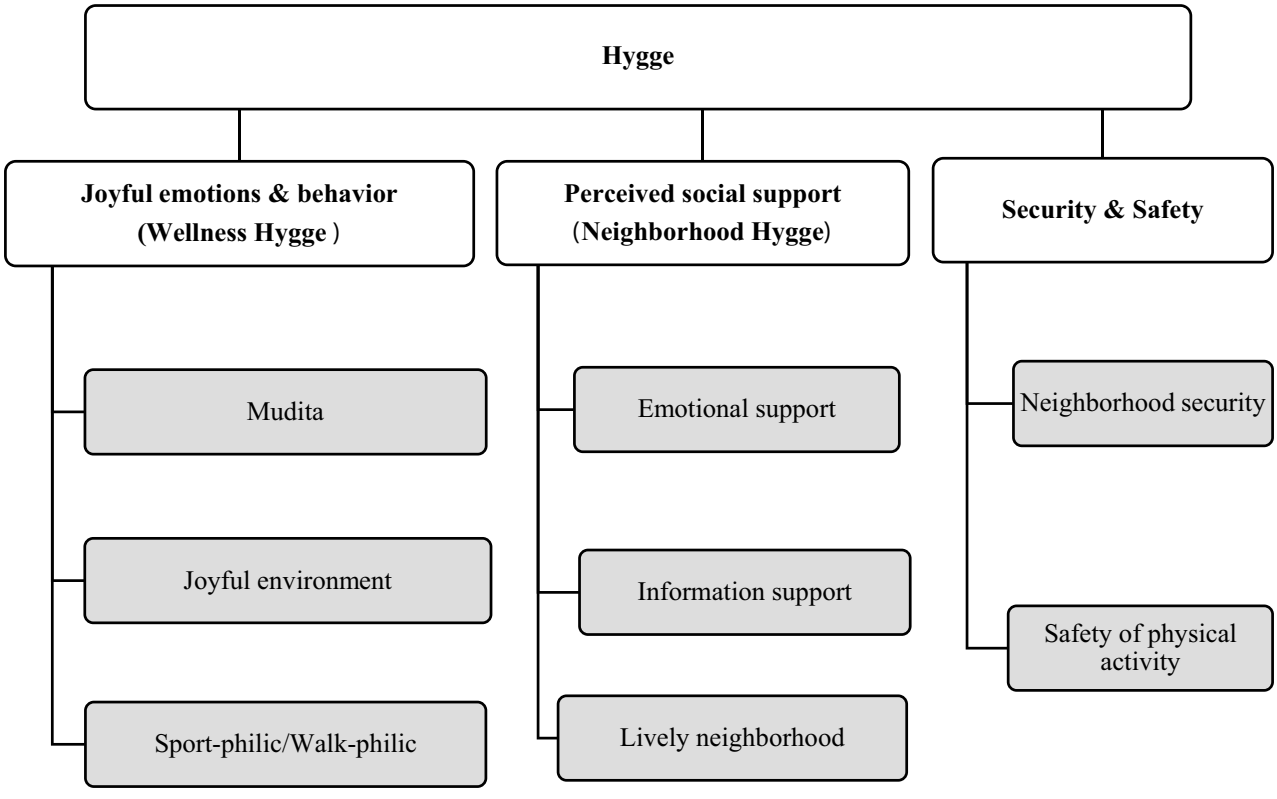

Figure 3. Summary of the research findings

local culture, by borrowing from the culture of Denmark, the happiest country in the world. Denmark, as one of the happiest countries in the world (World Happiness Report, 2023).

Hygge is more of a way of life, a way of making ordinary moments feel special, enjoyable, and meaningful. Wellness Hygge is also about creating a relaxing and emotional environment, about who you choose to surround yourself with and what you spend your time doing (Greife, 2018). Joyful emotions and behavior, one of the main themes below Hygge, reflects beliefs, ideas, and inner feelings about the joy of doing physical activity in the neighborhood-built environment for older adults, a feeling that depends on doing a certain activity and in a certain place. The important thing about joyful emotions is that this feeling of happiness is transient and only happens to older adults in the Ekhtiarieh neighborhood when they experience physical activity in the neighborhood. In this regard, there is strong evidence that having social connections and interactions (another component of hygge – spending time with friends and family) is beneficial for physical and emotional health.

Neighborhood hygge is about hanging out with close friends in the neighborhood. The most important social relationships are close relationships where moments can be experienced and understood with others. A place to share thoughts and feelings. A place where people both support and are supported. Being together is the essence and basis of hygge. This finding is consistent with the results of research by Everard et al. (2000), Van Cauwenberg et al. (2014), and Kang et al. (2018). Perceived social support means joining a trusted network in emergencies or everyday situations (Cobo-Rendón et al., 2020; Taylor, 2011). Perceived social support behind a secure relationship makes one feel valued. This secure relationship can be obtained from three sources: family, friends, and important people (Zimet et al., 1988). Older adults working in the Ekhtiarieh neighborhood play a supportive role in meeting the needs of their neighbors by establishing trusted social networks of friends. Besides being physically active, older adults establish social interactions, which is a motivator for being active in old age.

Safety and security are other key themes under Hygge. This finding is in line with the findings of Ball et al. (2001), Cerin et al. (2013), and Cheval et al. (2019). Security in the neighborhood refers to the rate of urban crimes. While insecurity in the city and neighborhood reduces interactions, security will lead to more citizen participation. Older adults who work in the Ekhtiarieh neighborhood consider the security of the neighborhood as a factor in being more active. Safety in activities is another factor in increasing the participation of older adults in the neighborhood. Safety means following all the principles that prevent unhealthy activities. Concerning the observations and the points mentioned in the interviews, the officials in charge can standardize and better arrange sports equipment, fencing, and separate spaces, floor and pave sidewalks, and increase the number of cycle lanes for physical activity and sports in the neighborhood.

Conclusion

Culture is one of the elements that distinguishes places from each other. The reproduction of simple cultural elements derived from different cultures, which do not exist in the local culture, causes the growth and reproduction of the indigenous culture. The experiences of active older adults in Tehran regarding understanding physical activity in the neighborhood environment are an example of this issue. Joyful emotions and behavior, perceived social support, safety and security in the neighborhood environment will be like a bright and warm candle in the culture of active aging in the neighborhood environment in Iran. Hygge is the Danish recipe for happiness and the new wellness trend from Scandinavia. Therefore, it is suggested that health promotion strategies in Iran take advantage of social activities and design and implement events based on physical activity that create a sense of nostalgia and happiness in older adults.

Finally, it should be mentioned that this research was conducted using a qualitative methodology. Although the study tries to interpret the meaningful behaviors of older adults and the interpretations they provide of themselves and others, the results of qualitative studies cannot be generalized. Despite the efforts of the researchers to consider participants with maximum diversity, one of the limitations of this research was the lack of access to the older adult with more cultural and social diversity in the environment of the neighborhood. Therefore, it is suggested that future researchers quantitatively examine the variables identified in this research, such as the relationships between aging, physical activity, and the neighborhood environment, as well as the effects of social pressure on active physical culture at the neighborhood level. It is hoped that this research can add new insight, however small, into the culture of active aging in the neighborhood environments of Iran.

Ethical considerations

This research has ethical approval ID IR.MODARES.REC.1400.174 from the ethics committee of Tarbiat Modares University.

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An Evaluation of Athletes' Opinions on Communication Barriers Caused by Coaches in the Interpersonal Communication Process

Authors' contribution:

A) conception and design of the study
B) acquisition of data
C) analysis and interpretation of data
D) manuscript preparation
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Abstract

Communication between athletes and coaches is essential in areas ranging from sporting performance to team cohesion, and a lack of proper communication between coach and athlete can cause many problems. This study aimed to assess the communication barriers caused by coaches as perceived by young adult athletes. Q methodology was used in the research design. The study group was recruited using the snowball sampling method, and a total of 27 athletes who met the criteria participated in the study. Principal component analysis was applied to analyze the data. It was concluded that the participants could be grouped under two factors, and a significance value of 0.50 was reached. In addition, communication barriers with athletes caused by coaches were analyzed in order of importance by giving Z-scores. As a result, the communication barriers arising from coaches were identified as discrimination, self-centeredness, bringing problems in their private life to work, having goals that conflict with the goals of athletes, inadequacies in knowledge transfer, and excessive expectations. This study reveals the adverse effects of communication barriers with coaches, especially early career athletes. It is also expected that the communication barriers identified will contribute to improved communication between coaches and athletes.

Keywords: Coach-athlete communication, communication barriers, Q methodology

Introduction

Coach and Athlete Communication

Athletic abilities and high-level performances are considered necessary prerequisites for success in all types of sports, especially in sports involving young adults. Intrinsic and extrinsic motivators can influence athletes' desire to exploit their abilities and perform effectively (Grolnick et al., 1997). Intrinsic motivation indicates that the behavior is exciting and enjoyable for the individual (Deci et al., 1994). Extrinsic motivation, on the other hand, indicates that an individual performs a behavior only to obtain the outcome of the behavior rather than to experience pleasure (Deci et al., 1991). For sports psychologists, how the coach communicates with the athlete in providing intrinsic and extrinsic motivation in sports is an important indicator of success (Poczwardowski et al., 2002). Negative or limited communication between the coach and the athlete may harm the athlete's intrinsic and extrinsic motivation process (Mageau & Vallerand, 2003).

Coaches play a crucial role in the lives of athletes and directly affect their performance, ability, and motivation (Black & Weiss, 1992). This may be due to the emotional bond arising from the communication between

coach and athlete, which enables athletes to receive support from their coaches even in issues that are not sports-related (Davis & Jowett, 2014). Therefore, proper communication is vital in developing and maintaining the athlete-coach relationship (Rhind & Jowett, 2010). The quality of this communication can be influenced by positive and negative factors (Jowett, 2007), and the communication style of the coach is a particularly important factor in the level of communication with the athlete. Some coaches have close communication with their athletes approaching the level of friendship. By contrast, some coaches have limited communication with their athletes during competitions and training sessions (Bergmann Drewe, 2002).

In addition, the personal characteristics of the coach influence and set limits on the level of communication between coach and athlete. Characteristics such as the age and gender of the coach, and their authority to reward and punish play a crucial role in athlete-coach communication (Thomlinson & Strachan, 1996). The influence of the coach in communication can also impact other areas of the athlete's life. In particular, coaches of young athletes are responsible for developing their skills and performance and ensuring that they enjoy the sporting experience (Smith & Smoll, 2002). In addition, coaches should have the necessary knowledge and skills to effectively assist young adult athletes with mental issues related to their discipline (Mason et al., 2015). In this context, since coaches have a significant influence on young athletes, how they communicate with young athletes is extremely important for personal and sports development. In addition to areas such as diet and nutrition, the coach's training has a significant impact on how athletes communicate with others (Tomlinson & Yorganci, 1997). It is clear that the coach, perceived as a significant figure, especially by young athletes, will strongly influence the athlete's success and performance, as well as their life in general. Communication between coach and athlete also ensures peace and harmony within a team of athletes. It is also crucial in difficult times, career transitions, and emotional crises (Jowett, 2005). It has been found that argumentative and overbearing communication by the coach leads to a decrease in the athlete's success and performance (Turman, 2008). In contrast, research has shown that open and honest communication is a vital element that enables coaches and athletes to share information and build trust (Martindale et al., 2007; López et al. & Côté, 2021). However, many factors limit and damage the communication between coach and athlete.

Communication Barriers between Coaches and Athletes

A communication barrier between coach and athlete can be considered one of the most important factors that damage and limit coach-athlete communication. Communication barriers are generally divided into attitudinal, behavioral, cultural, linguistic, and environmental (Rani, 2016) and commonly occur in the relationship between coach and athlete (Mikkelson, 2017). Poor communication can lead to adverse effects, leading both athlete and coach to be dissatisfied with their work together (Mikkelson, 2019). Various factors that hinder coach-athlete communication and communication in sports have been identified in the literature. Kristiansen, Tomten, Hanstad, and Roberts (2012) stated that the quality of their relationship and the communication between coaches and athletes is affected by the inexperience of coaches, the number of coaches that athletes have to deal with, and sociocultural issues.

Another study examined communication problems between athletes and coaches and found that these problems were related to language problems, conceptual differences, external factors, limited time, perception of ability, and negative attitudes and behaviors (Athanasios, 2005). Female athletes may experience communication barriers with their coaches for cultural reasons (Findlay et al., 2020; Solli et al., 2020). In this context, cultural background can limit or even prevent communication. Many recent studies on the relationship between athletes and coaches have been designed using quantitative research models (Lopez et al., 2021; Simons & Bird, 2022; Stephen et al., 2022; Wekesser et al., 2021). This study assesses young adult athletes' communication barriers with their coaches. Career barriers, the decline in sportive performance, and social and psychological difficulties can all be caused by a lack of communication between coach and athlete. This study aims to reveal the coach-related communication barriers that can be considered types of miscommunication and are thought to harm the athlete. Many studies have been conducted on athlete and coach communication. Some of these studies were conducted with adult athletes (Choi et al., 2020; Foulds et al., 2019; Stephen et al., 2022), while others were conducted with young adults and young athletes (Falcao et al., 2020; Simons & Bird, 2022; Wekesser et al., 2021). These studies examined the effect of the coach's communication style on athletes' psychological characteristics and performance. In the current study, we aimed to reveal coach-induced communication barriers with young adult athletes. In addition, the current study differs from other studies regarding the methodological model. Q methodology, which includes both qualitative and quantitative research methods, was used in the current study. Quantitative methods are based on the objective evaluation of data. Qualitative methods aim to uncover the facts behind the events. In order to analyze the research in depth, both methods were used here (Fetters & Freshwater, 2015).

Methods

Study Methods

In this study, examining the communication barriers between young adult athletes and their coaches, Q methodology was used. This methodology has a semi-qualitative and semi-quantitative structure, unlike other research methods used to reveal people's perspectives on a specific topic. In recent years, it has been applied and attracted attention in many scientific fields (Zabala et al., 2018). Q methodology is considered a mixed-method approach due to its structure. It is known as the "science of subjectivity" because it can reveal the subjective perspectives of the participants (Lundberg et al., 2020). Q methodology research deals, on the one hand, with the interpretation of the subjective thoughts of the participants about a subject, while on the other hand, numerically calculating the familiar and different opinions they have (Watts & Stenner, 2005). This study revealed communication barriers between athletes and their coaches, and the most important of these barriers were put forward numerically. In addition, in-depth interviews were conducted with the participants about the most important communication barriers. The fact that this study represents the participants' views both qualitatively and quantitatively and has a different design from other studies is why Q methodology was used. The study was designed with a combination of structural design, which supports the creation of questionnaires with the help of data obtained from similar studies, and unstructured design, which continues the research by creating questions using the data previously collected from the participants (Demir & Kul, 2011).

Working Group

Twenty-seven young athletes aged 18–20 participated in this study voluntarily. The participant athletes consisted of amateur individual and team athletes who have been doing licensed sports for at least ten years. Fifteen of the athletes were male and twelve were female. The research was conducted in Turkey. Athletes with communication barriers with their coaches were recruited using the snowball sampling method, a purposive sampling method. In this method, researchers start data collection with a few participants who meet the research criteria. The research then continues by inviting more participants who meet the research criteria and increases the sample in this way (Parker et al., 2019). In this study, the criteria for forming the study group were that the athletes had at least three years of working history with their coaches and had experienced communication barriers.

Data Collection Tools

A personal information form, semi-structured interview form, and questionnaire were used as data collection tools. The personal information form included how long the participants had been working with their coaches, and their age and gender.

In the qualitative dimension of the study, a semi-structured interview form developed by the researcher was used as a data collection tool. The interviews were conducted over approximately one month, and each lasted a maximum of 30 minutes. Studies on communication barriers were examined before determining the questions to be included in the interview form. In the study, the answers given by the participants during the interview were classified by the researcher according to their content. Question statements were grouped according to their subjects, and statements with similar content were combined in the same factor. As a result of the coding process, 24 question statements were evaluated in eight themes. As a result of the findings obtained from the interviews, different themes that caused the participants to experience communication barriers with their coaches were revealed. The participants then ranked the question statements within these themes in order of importance in the Q-string.

In the quantitative phase of the study, Q-string was used as a data collection tool. Q-string is a data collection tool in which question statements are placed in order of importance. As a result of the data obtained from the literature review and semi-structured interviews, 24 question statements were formed within eight themes expressing the communication barriers of young adult athletes with their coaches. The question statements were placed in the Q-array according to the forced distribution application. According to this application, the order of the items continues to decrease from neutral to minus and statements. Figure 1 shows the shape of the Q array in the range of +4 to -4, in which the athletes placed the 24 statements reflecting communication barriers with their coaches in order of importance.

Data Analysis

The data were analyzed with the PQMethod 2.35 program. In the study, the average scores given by the participants to the question statements were sorted according to their z-scores from higher to lower levels. Z-scores reflect the average of the participant's responses to the questions. The data collected through Q arrays were manually transferred to the PQMethod program. Principal component analysis was used to analyze the data. Varimax factor rotation was applied in the study. The varimax rotation procedure aims to obtain nameable and interpretable factors. This orthogonal rotation technique minimizes the number of positively or negatively loaded variables for each factor (Tabachnick & Fidell, 2001). In Q method research, the standard formula specified in Demir and Kul's (2011) study was used to identify people who responded differently from others to the question

Disagree				Neutral	Agree			
-4	-3	-2	-1	0	1	2	3	4

Figure 1. Q-String Used in The Research

statements. (=2.58 x (1 ÷√n) X was used for people who differed significantly from others.

The athletes who participated in the study were given a series of 24 questions and asked to place the statements in order of importance. The participants were asked to place the most important communication barrier in the +4 column and the least important one in the -4 column (Figure 1).

Results

In this research, studies in the literature on the structural model of communication barriers were examined. As a result of the information obtained from these studies, question statements were formed. In addition, according to the unstructured research design, the question "What are the communication barriers you experience with your coach?" was asked of 15 athletes. Question statements were formed from the answers obtained in the athletes' answers. As a result, 24 question statements and eight different themes emerged (Table 1).

In the study, the standard formula used in Q methodology research was used to determine which participants' answers to the question statements differed from each other (=2.58 x (1 ÷√n). In the study, the expression X was used to indicate that the total score obtained from the question statements placed in the Q-string in the range of -4 and +4 differed from the scores of other researchers (Table 2).

Table 1. Themes and question statements related to communication barriers

Self-Centeredness	The fact that my coach thinks that he knows everything best and does not seek the athlete's opinion causes a communication problem between us. (1) The fact that my coach thinks that he knows everything best and does not seek the athlete's opinion does not cause a communication problem between us. (13)
Personal Life Problems	My coach bringing negative issues in his personal life to his work environment negatively affects our communication. (2) My coach bringing negative issues in his personal life to his work environment does not affect our communication. (14)
Discrimination	My coach's gender discrimination prevents me from communicating. (3) My coach's gender discrimination does not affect the communication between us. (15) The fact that my coach does not treat everyone the same makes him quite repulsive to me, and I do not want to talk to him. (7) The fact that my coach does not treat everyone the same does not prevent me from communicating with him. (19)
Coach's Characteristics	My coach's harsh temperament and personality are one of the obstacles to communicating with him. (4) My coach is harsh temperament and personality are not an obstacle to communicating with him. (16) The fact that my coach is much older than me limits my communication with him. (5) The fact that my coach is much older than me allows my communication with him. (17) My coach's cultural values and beliefs make it difficult to communicate with him. (6) My coach's cultural values and beliefs make it easy to communicate with him. (18

Inadequacy in Knowledge Transfer	There are communication problems between us due to my coach's inability to convey what he knows. (9) There are no communication problems between us due to my coach's inability to convey what he knows. (21) My coach's lack of feedback on my performance and development reduces my willingness to communicate. (12) My coach's lack of feedback on my performance and development does not affect my willingness to communicate. (24)
High Expectation	My coach's high expectations of me cause problems between us when I fail. (8) My coach's high expectations of me avoid causing problems between us when I fail. (20)
Conflict of Purpose	When the goals of my coach and my individual goals do not match, there needs to be better communication between us. (10) When the goals of my coach and my individual goals do not match, there is communication between us. (22)
Lack of Knowledge	When my coach lacks knowledge about his field, my respect for him decreases and I do not want to communicate with him. (11) When my coach needs to learn more about his field, my respect for him does not decrease or affect my communication with him. (23)

Table 2. Factor distributions

Participant no.	Participant code	Factor 1	Factor 2
1	Participant1	0.2406	0.2513
2	Participant2	-0.1341	-0.2950
3	Participant3	**0.6470X**	0.1261
4	Participant4	0.1129	0.2560
5	Participant5	-0.1771	**0.5359X**
6	Participant6	-0.0783	-0.2049
7	Participant7	-0.1112	**-0.6965X**
8	Participant8	-0.1579	0.3017
9	Participant9	0.0694	-0.3840
10	Participant10	**0.7621X**	-0.2109
11	Participant11	0.0462	0.3577
12	Participant12	0.3869	-0.1714
13	Participant13	**0.6805X**	-0.0038
14	Participant14	**0.5291 X**	0.1930
15	Participant15	0.4040	0.2197
16	Participant16	**0.5843X**	0.0971
17	Participant17	**0.6458X**	0.4301
18	Participant18	**0.5438X**	-0.3839
19	Participant19	0.3970	0.3349
20	Participant20	0.4175	-0.3029
21	Participant21	0.4274	-0.3670
22	Participant22	0.0993	**0.5682X**
23	Participant23	0.0764	0.1525
24	Participant24	**0.5417X**	0.1324
25	Participant25	-0.2852	0.1826
26	Participant26	-0.0029	-0.3832
27	Participant27	0.4614	-0.3834

The correlation between the factors was found to be negative and of low severity (Table 3).

Table 3. Correlation between factors

Factors	Factor 1	Factor 2
Factor 1	1.0000	-0.0656
Factor 2	-0.0656	1.0000

Communication barriers originating from the coach should be listed in order of importance in the first factor. The question statements "The fact that my coach thinks that he knows everything best and that does not seek my opinion creates a communication problem between us" Z=2.292 (1); "My coach's gender discrimination prevents me from communicating" Z= 1.537 (3); and "My coach bringing negative issues in his private life into the work environment negatively affects the communication between us" Z=1.383 (2) received high scores (Table 4).

The result of the evaluation of the order of importance of the items in the second factor was as follows: "My coach's cultural values and beliefs do not make it difficult to communicate with him" Z= 2.12 (18); "The fact that my coach does not treat everyone the same makes him quite repulsive to me, and I do not want to talk to him" Z= 1.87 (7); and "When my coach does not have enough knowledge about his field, my respect for him decreases and I do not want to communicate with him'' Z=1.44 (11) (Table 5).

A significant difference was found in the comparison of the rankings of the discriminative statements in Factor 1 in Factor 2 (Table 6).

Table 4. Factor 1 item importance ranking (z scores)

Question Statements	Z-Score
The fact that my coach thinks that he knows everything best and does not seek my opinion causes a communication problem between us. (1)	2.292
My coach's gender discrimination prevents me from communicating. (3)	1.537
My coach bringing negative issues in his personal life to his work environment negatively affects our communication. (2)	1.383
My coach's harsh temperament and personality are one of the obstacles to communicating with him. (4)	0.821
The fact that my coach is much older than me limits my communication with him. (5)	0.766
My coach's cultural values and beliefs make it difficult to communicate with him. (6)	0.752
There are communication problems between us due to my coach's inability to convey what he knows. (9)	0.656
My coach's harsh temperament and personality are not an obstacle to communicating with him. (16)	0.482
The fact that my coach is much older than me allows my communication with him. (17)	0.253
My coach's lack of feedback on my performance and development does not affect my willingness to communicate. (24)	0.051
There are no communication problems between us due to my coach's inability to convey what he knows. (21)	-0.014
The fact that my coach does not treat everyone the same does not prevent me from communicating with him. (19)	-0.020
My coach's high expectations of me avoid causing problems between us when I fail. (20)	-0.086
When my coach needs to learn more about his field, my respect for him does not decrease or affect my communication with him. (23)	-0.142
When the goals of my coach and my individual goals do not match, there is communication between us. (22)	-0.206
When my coach lacks knowledge about his field, my respect for him decreases and I do not want to communicate with him. (11)	-0.230
My coach's lack of feedback on my performance and development reduces my willingness to communicate. (12)	-0.527
When the goals of my coach and my individual goals do not match, there needs to be better communication between us. (10)	-0.566
My coach's high expectations of me cause problems between us when I fail. (8)	-0.674
The fact that my coach does not treat everyone the same makes him quite repulsive to me, and I do not want to talk to him. (7)	-0.731
My coach's cultural values and beliefs make it easy to communicate with him. (18)	-0.736
The coach bringing negative issues from his personal life into the work environment does not affect our communication. (14)	-1.520
My coach's gender discrimination does not affect the communication between us. (15)	-1.565
The fact that my coach thinks that he knows everything best and does not seek my opinion creates a communication problem between us. (13)	-1.977

Table 5. Factor 2 item importance ranking (z scores)

Question Statements	Z-Score
My coach's cultural values and beliefs make it easy to communicate with him. (18)	2.12
The fact that my coach does not treat everyone the same makes him quite repulsive to me, and I do not want to talk to him. (7)	1.87
When my coach lacks knowledge about his field, my respect for him decreases and I do not want to communicate with him. (11)	1.44
The fact that my coach does not treat everyone the same does not prevent me from communicating with him. (19)	1.29

Table 5. Factor 2 item importance ranking (z scores)

The fact that my coach is much older than me allows my communication with him. (17)	0.82
When the goals of my coach and my individual goals do not match, there needs to be better communication between us. (10)	0.63
When my coach needs to learn more about his field, my respect for him does not decrease or affect my communication with him. (23)	0.45
My coach's cultural values and beliefs make it difficult to communicate with him. (6)	0.30
My coach's high expectations of me cause problems between us when I fail. (8)	0.26
My coach's gender discrimination prevents me from communicating. (3)	0.05
When my coach does not have enough knowledge about his field, my respect for him decreases and I do not want to communicate with him (23)	0.03
My coach's gender discrimination does not affect the communication between us. (15)	0.02
There are no communication problems between us due to my coach's inability to convey what he knows. (21)	0.12
The fact that my coach thinks that he knows everything best and does not seek the athlete's opinion causes a communication problem between us. (1)	-0.17
My coach's lack of feedback on the athlete's performance and development does not affect my willingness to communicate. (24)	-0.22
My coach bringing negative issues in his personal life into the work environment negatively affects our communication. (2)	-0.38
My coach's high expectations of me avoid causing problems between us when I fail. (20)	-0.40
The fact that my coach thinks that he knows everything best and does not seek my opinion creates a communication problem between us. (13)	-0.50
The coach bringing negative issues in his personal life into the work environment does not affect our communication. (14)	-0.55
My coach's harsh temperament and personality are one of the obstacles for me in communicating with him. (4)	-1.00
The fact that my coach is much older than me limits my communication with him. (5)	-1.27
My coach's harsh temperament and personality are not an obstacle to communicating with him. (16)	-1,33
My coach's lack of feedback on the athlete's performance and development reduce my willingness to communicate. (12)	-1.39
There are communication problems between us due to my coach's inability to convey what he knows. (9)	-1.61

Table 6. Distinguishing items of factor 1

Question Statements	Factor 1 Q	Factor 1 Z	Factor 2 Q	Factor 2 Z
The fact that my coach thinks that he knows everything best and does not seek my opinion causes a communication problem between us. (1)	4	2.29*	0	-0.17
My coach's gender discrimination prevents me from communicating. (3)	3	1.54*	1	0.05
My coach bringing negative issues in his personal life into the work environment negatively affects our communication. (2)	3	1.38*	-1	-0.38
My coach's harsh temperament and personality are one of the obstacles to communicating with him. (4)	2	0.82*	-2	-1.00
My coach's cultural values and beliefs make it easy to communicate with him. (18)	2	0.75*	4	2.12
There are communication problems between us due to my coach's inability to convey what he knows. (9)	1	0.66*	-4	-1.61
My coach's harsh temperament and personality are not an obstacle to communicating with him. (16)	1	0.48*	-3	-1,33

Table 6. Distinguishing items of factor 1

The fact that my coach is much older than me limits my communication with him. (5)	1	0.25*	-2	-1.27
The fact that my coach does not treat everyone the same does not prevent me from communicating with him. (19)	0	-0.02*	2	1.29
When my coach lacks knowledge about his field, my respect for him decreases and I do not want to communicate with him. (11)	3	0.23*	3	1.44
My coach's lack of feedback on my performance and development reduces my willingness to communicate. (12)	–1	-0.53*	-3	-1.39
When the goals of my coach and my individual goals do not match, there needs to be better communication between us. (10)	–1	-0.57*	2	0.63
My coach's high expectations of me cause problems between us when I fail. (8)	–2	-0.67*	1	0.26
The fact that my coach does not treat everyone the same makes him quite repulsive to me, and I do not want to talk to him. (7)	–2	-0.73*	3	1.87
My coach's cultural values and beliefs make it difficult to communicate with him. (6)	-2	-0.74*	1	0.30
The coach bringing negative issues from his personal life into the work environment does not affect our communication. (14)	–3	-1.52*	-2	-0.55
My coach's gender discrimination does not affect the communication between us. (15)	–3	-1.57*	0	0.02
The fact that my coach thinks that he knows everything best and does not seek my opinion creates a communication problem between us. (13)	–4	-1.98*	-1	-0.50

p<.05; (*)

Findings Related to Young Adult Athletes' Views on Communication Barriers with Coaches

Athletes' views on the theme of high expectations

"It is normal to win and lose in the competition process. As a result of my coach's high expectations of me, when I get results in competitions that do not meet his expectations or when I lose a race, we have problems for almost a week or two in terms of returning to our normal communication. There is a big distance between us in this process. I feel as if I have disappointed my coach, but the only problem is that there are too many expectations from me, and maybe this is the main reason I get results below the expected level of success in competitions." (Participant 1)

Athletes' views on the theme of private life problems

The fact that my coach talks to us loudly and angrily because of problems in his personal life is a significant obstacle to my belief that I will succeed both in training and matches. This causes a severe loss of morale and motivation. Being poorly treated as if the athlete is the cause of all the problems in his/her private life can cause athletes to react differently, and unrest can occur within the team." (Participant 2)

Athletes' views on the theme of lack of information and discrimination

"My coach's lack of knowledge about the field of sport he works in and that he favors the people he knows and is more interested in them is why I will never communicate with him again. While I work harder than anyone else and strive to perform, the fact that people who work less in competitions but have good communication with our coach are included in the squad is an important factor that distances me from the sport and the coach. In addition, the coach's training by rote and trying to communicate with the players by hearsay creates an artificial environment for communication. Especially after the information I gained in the field, I realized that my coach is not an expert. For these reasons, I do not

want to communicate with him even if he is my relative." (Participant3)

Athlete views on the theme of self-centeredness

"Athletes are the main reason for the coach's existence. In other words, athletes can be considered as the target audience of the coach. Therefore, when a coach looks down on his athletes and does not consult them in his decisions, he can become a repulsive person in the eyes of the athletes. The coach may know a lot, but what he or she knows is only realized when it is applied by the athletes on the field and motivated by the athletes. Therefore, one of the most important factors is the coach's self-righteousness, one of the main reasons for a big miscommunication." (Participant 4)

Athletes' views on the theme of goal conflict

"I want to tell you about a difficult situation I had in this regard. My coach made me play for a long time in a position where he thought I would do well, and my performance soon deteriorated even more than before. The main reason was that I did not want to play that position and had no experience in it. However, my coach insisted I play for a long time in a position I did not want to. Then I had to leave the team and go to another team." (Participant 5)

Athlete views on the theme of gender discrimination

"The fact that my coach discriminates between genders, favors his gender, and does not communicate enough with female athletes shows that he is a person who believes in stereotypes and makes judgements that will never change. In this case, I naturally do not want to communicate with him."(Participant 6)

Athletes' views on the theme of inadequacy in transferring knowledge

Many people around me say that my coach is very knowledgeable and skilful. However, I find it hard to believe this because my coach cannot communicate with young people and cannot convey what he knows to us in a way we can understand. Therefore, we cannot speak a common language." (Participant 7)

Athletes' opinions on the theme of a coach's characteristics

"Where the coach is from and what culture he/she comes from should not pressure the athletes. However, when my coach acts according to his/her cultural beliefs and values, there is inevitably injustice within the team. The fact that players from the same home town as the coach are given more privileges and are more interested in them in every aspect leads to a negative perspective towards the coach and reluctance to communicate with him." (Participant 8)

Athletes' opinions on the theme of insufficiency in knowledge transfer

The coach has a significant influence on the success and motivation of the athlete. For an athlete to be successful, the coach needs to have significant knowledge about the sport and has to make me believe that I will succeed on the field and motivate me with what he says. If he does not do that, there is a lack of purpose in the team, and everyone does their own thing. If my coach does not approach me, I will not go to him/her, because the coach is a trainer and a leader." (Participant 9)

Athletes' opinions on the characteristics of a coach theme

"If my coach makes jokes that I do not like in public or berates me in public, rightly or wrongly, it can lead to a complete breakdown of the bond between us. Being spoken to in a way that hurts my honour and pride because I cannot do what the coach expects during a training session causes my respect and love for my coach to evaporate, thus cutting off all communication between us." (Participant 10)

Athletes' views on the theme of a coach's characteristics

"My least favorite type of people are those who do not know what they are. It does not matter if they are old or young. If a person has an ego and uses derogatory expressions when talking to you, there is no point in talking to them. It is unacceptable for a coach to speak sarcastically and belittle the athlete in front of him/her as if the athletes are there for the coach to satisfy his/her ego." (Participant 11)

Athlete views on the theme of self-centeredness

When I started playing for the young adult A team from the B team, I started working with a different coach, but he was like a robot, yelling at everyone and talking nonsense. Also, because I was younger than the others, he was not interested in me when he should have been helping me adapt to the team, which made me move away from the team and my sport. If I was not a successful athlete, it was because of the coach and people like him." (Participant 12)

Athlete opinions on the theme of personal life problems

"My coach had a chronic illness. When the test results were good, he communicated very well with everyone, but when the test results were not good, he would put down everyone on the team. One day my coach said some unfair and unjust words to me because of his illness, which was enough for me to hate him." (Participant 13)

Discussion and Conclusion

The research evaluated communication barriers originating from coaches in terms of different themes. These themes are egocentrism, personal life problems, discrimination, characteristics of the coach, inadequacy in conveying information, high expectations, conflict of purpose, and lack of information. The question statements included in these themes were listed in order of importance in Factor 1 and Factor 2. The order of importance of these question statements within each factor varies.

In the current study, a high age difference between coaches and athletes was found to limit the communication between athletes and their coaches (Table 5. Z= 0.82). This can be considered a result of the way different generations communicate and the different interests and perspectives that develop over time (Çelik & Gürcüoğlu, 2016). This is a natural reason for communication barriers between athletes and senior coaches. Laios and Theodorakis (2001) determined that the negative attitudes of the coach and an age gap between the coach and the athlete cause miscommunication and that the athletes may not understand what the coach is saying to them. The current study determined a significant age gap between the coaches and the athletes; the coaches did not understand the athletes, creating a communication barrier between them (Table 5. Z= 0.82). This may be explained by the fact that when the age gap is large, the coach may not meet the expectations of a younger generation of athletes.

In the studies of Kassing and Infante (1999) and Choi, Jeong, and Kim (2020), it was found that a prescriptive and harsh style of communication on the part of coaches harmed the performance of their athletes. In addition, Sagar and Jowett (2012) revealed that coaches communicate negatively with athletes who cannot attain the goals they set. This situation creates a problematic relationship between coaches and athletes. In the current study, the coach's prescriptive and rigid communication style (Table 4. Z= 0.821) and differences in the coach's and the athlete's goals (Table 5. Z= 0.63) negatively affected the communication process. Coaches may become prescriptive and rigid in order to maintain seriousness and discipline within a team. In addition, the goals that the coach sets for the athlete may sometimes take more work to achieve. However, one possible reason the athlete may be unable to attain the goals may be a lack of communication or a negative relationship between the coach and the athlete.

Cranmer and Myers (2015) found that the type of personal communication between the coach and each athlete directly affected the group's friendship relations. When the communication between the coach and athletes was good, this positively affected all team relations. In the current study, the fact that the coach communicated well with the athletes who had similar characteristics to him, and the fact that he did not communicate well with athletes who were more different, were factors reducing team harmony and respect for the coach. This may be because the coach must make decisions objectively in this situation.

The quality of athletes' communication with their coaches does not just affect their performance but is a crucial factor in preventing psychological disorders in athletes. In the study of Bissett and Tamminen (2022), effective communication and support from the coach helped mitigate psychological problems. In the current study, the negative statements made by coaches towards athletes harmed the performance of the athletes. When the coach communicates negatively, it may adversely affect their athletes' personal development, especially when the athletes are young, leading to a loss of self-confidence and self-esteem.

Wachsmuth, Jowett, and Harwood (2022) evaluated some factors underlying the athlete-coach conflict. According to their study, the coach must have the right level of education to manage the training process successfully. In the current study, the coach's lack of knowledge limited the communication between the coach and the athlete (Table 5. Z= 0.45). The coach plays a vital role in guiding the athlete and the team correctly, using his knowledge. When this knowledge is not sufficient, the athlete's respect for the coach diminishes and a loss of morale may occur in the team. This situation can lead to sporting failures and is an obstacle to the personal development of athletes.

Lorimer and Jowett (2010) and Norman (2016) found that gender had different effects on athlete motivation and communication sustainability within the scope of athlete-coach relationships. In the current study, it was determined that the coach communicated better with those who were male and created communication barriers with athletes who were female (Table 4. Z = 1.537). This situation can be seen as resulting from the different beliefs and values held by individuals who have grown up in societies where communication between men and women is more limited (Barker & Zifcak, 1999).

Stanford, Healy, Sarkar, and Johnston (2022) emphasized that the personality traits of the athlete and coach affect the continuity of athlete-coach communication. In the current study, assuming he knows everything best and not prioritizing the athlete's opinion led to communication barriers (Table 4. Z= 2.292). This situation can be associated with the management style of the coach. Coaches with an autocratic approach do not take the athletes' opinions on board and only put their own decisions into practice.

The findings of this study revealed that communication barriers arising from coaches are caused by factors such as discrimination, self-centeredness, bringing problems in their private life to work, having goals that conflict with the goals of the athlete, inadequacies in knowledge transfer, and excessive expectations from athletes. As a result of the findings obtained from this study, it can contribute positively to eliminating negative factors in coaches' communication with athletes and to the intra-team communication of coaches.

Recommendations

- It is recommended that other researchers in this field investigate athlete-coach communication barriers arising from athletes.
- Future studies could be designed to evaluate coach and athlete communication regarding gender differences.
- Athlete-coach communication barriers could be further evaluated regarding the ages of the coach and the athletes.

Limitations of the Research

This research was limited to 27 athletes with communication barriers with their coaches. It is also limited to Q methodology with its mixed research features. The data analysis was limited to statistical procedures such as thematic coding and factor analysis based on the athletes' answers.

Conflict of Interest Statement

The authors declare that they have no conflict of interest.

Note

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Causes and Consequences of Iranian Elite Athletes' International Migrations

Authors' contribution:
A) conception and design of the study
B) acquisition of data
C) analysis and interpretation of data
D) manuscript preparation
E) obtaining funding

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Abstract

This study aimed to identify the causes and consequences of international migrations of Iranian elite athletes. This research was conducted using the qualitative method and Glaser grounded theory approach**.** The statistical population included senior managers in the Ministry of Sports and Youth and national sports federations, expert researchers in this field, professional athletes who have emigrated or were on the verge of emigration, and coaches in professional sports teams in Iran. Twenty-six people were selected through theoretical sampling and snowball methods. The data collection tool was a semi-structured individual interview. The Glaser approach was used to analyse the data, including two main stages of actual and theoretical coding. During the actual coding process, 468 primary statistical codes were identified, and 68 subcategories and 11 main categories were subsequently identified. The categories were divided into three general dimensions: "Factors affecting", "Consequences", and "Strategies" concerning "elite athletes' emigration "; in the theoretical coding stage, the final model of the research was outlined. Identifying the causes and consequences of the emigration of elite athletes can significantly help the authorities to recognise problems in this area and provide appropriate solutions to retain adequate human capital in the country. We attempted to examine and present the causes and consequences of the emigration of Iranian elite athletes in the form of a model.

Keywords: Elite athletes, grounded theory, migration

Introduction

Elite and efficient human capital play a fundamental role in various economic, social, political and cultural fields in every society (Salimi & Khodaparast, 2018); Also, human capital is one of the essential factors in development, which depends on maintaining human capital. In other words, human capital is considered as both a means and a goal of development (Gruzina, Firsova & Strielkowski, 2021) and is defined as knowledge, skills, experiences, abilities and knowledge concentrated in people, which has a positive effect on growth and performance improvement (He, Wang & Martínez-Fuentes, 2020); therefore, human capital is vital in order to improve innovation (Salimi & Khodaparast, 2019).

Currently, one of the crucial factors concerning poverty in developing countries is the lack of efficient and effective human capital. Moreover, a country that has a significant outflow of human capital will face major problems in the long term (Lulle, Janta & Emilsson, 2021). Emigration – crossing the political borders of countries and changing residence for a long time (more than one

year) (Castelli, 2018) – is a long-term decision that depends on many factors, such as income, politics, education and quality of life (Qin & Zhu, 2018). International migration is mainly related to the population that migrates from economically less developed regions to advanced regions (Chamie, 2020). This migration pattern, directly and indirectly, affects countries' economic and social development capabilities and often leads to more migration (Remeikiene & Gaspareniene, 2019). On the other hand, this phenomenon can hinder development and progress in these countries in three ways: costs of losing and replacing human resources, and damage to human capital and social capital (Ungruhe & Agergaard, 2020).

As development progresses, human capital is strengthened (Salimi & Khodaparast, 2021), connections with international networks increase, aspirations increase, credit constraints decrease, and all these changes lead to increased migration. It seems that the most important of these factors is the increase in the level of education and international communication, which both stimulates and facilitates migration (Clemens & Postel, 2018); most notably, empirical studies generally show that highly skilled people are more likely to migrate than unskilled people (Oleribe & Fuente, 2022). Therefore, the emigration of highly educated people from developing countries can have an impact on the total human capital in these countries. On the other hand, lack of job satisfaction and low quality of life in the country of origin increases the desire to migrate abroad (Torrisi & Pernagallo, 2020). Also, the existence of opportunities and positions for career growth and the existence of incentives will directly affect the impact of brain drain (Wanniarachchi, Kumara & Jayawardana, 2022).

The phenomenon of elite emigration is formed by the competition of countries to benefit from people's knowledge. To the extent that, in some cases, they even give these people citizenship of the country in exchange for skills (De Haas, Natter & Vezzoli, 2018). The official and unofficial statistics presented regarding the extent of the phenomenon of elite migration from Iran indicate the fact that, currently, the departure of elite human forces is widespread and has become a problem in the country as people migrate to foreign countries in search of greater security or a better life (Jantan, Falahi & Seyfi, 2015). According to the latest official statistics provided by the United Nations, Iran ranks third among the 72 developing countries in the world for brain drain of its population (Javadzadeh, 2015).

Elite emigration is not limited to lawyers, engineers or academics; it has also expanded in sports. Sports emigration refers to the departure of athletes and coaches from their countries to continue their professional careers abroad (Jansen & Engbersen, 2017). In recent years, the migration of elite Iranian athletes to developed countries has been on the rise, so much so that the emigration of 28 national team athletes from various disciplines, including individual sports, coupled with the emigration and asylum of national referees and coaches in 2019, is a matter of concern. This trend has continued in subsequent years (Zivari et al, 2023). However, it is essential to note that the migration of elite athletes is not always detrimental to the home country. Their participation in more extensive and significant sports arenas can bring valuable knowledge and experience back to their country of origin, enhancing the performance of national teams and inspiring young athletes. However, this only materializes when the athletes return to their home country, sharing what they have learned or achieving accolades for their homeland (Spaaij, Luguetti & Ugolotti, 2022). The current research delves into the permanent emigration of elite Iranian athletes, which has significantly increased in recent years, even leading to changes in their citizenship. Such a scenario could deprive Iran of these influential human assets, and by suggesting unfavorable conditions in Iran, it might weaken the country's national brand on a global scale.

Various social, political, economic, cultural and athletic factors lead elite Iranian athletes to consider migrating to other countries and, in some cases, even changing their nationality (Rojo, Marques & Starepravo, 2022). Among these, economic conditions play a particularly significant role. The financial challenges faced by Iran, much of which are related to the sanctions imposed in recent years, have had wide-ranging negative impacts across various sectors of the country. Sport is no exception to this, especially since the primary sports structure in Iran is state-funded, with most of its financial resources provided by the government. This situation has led many sports organizations in the country to face budgetary and financial constraints, affecting various aspects of professional sports, including the facilities and equipment provided, allowances, contract amounts, hiring foreign coaches and players, and so on. All of these factors have contributed to the dissatisfaction of elite Iranian athletes (Khodaparast, 2023). Additionally, Iran's political, social, and cultural environment can be another significant influencer on the migration decisions of these athletes; the country largely retains traditional and religious norms, which result in specific behavioral and speech restrictions on individuals. Notably, a significant portion of the emigration involves female athletes, who face even more important cultural and religious constraints in Iran, such as mandatory wearing of the hijab or certain sports being perceived as male domains. This issue is even more pronounced in the country's smaller towns and significantly influences the decision to migrate (Bagherzadeh & Shariati, 2021). Furthermore, these restrictions on women's sports have resulted in many discriminations compared to men's sports, leading to increased dissatisfaction among female athletes. Moreover, Iran's sports officials and managers

neglect many sports disciplines, even those that bring medals. Discriminatory and unfair allocation of resources, attention, opportunities, and financial and non-financial support is made primarily for a few popular sports, with soccer at the forefront. All these factors can significantly impact the migration decisions of elite Iranian athletes (Khodaparast, Soltan Hoseini & Salimi, 2018).

Existing research on refugees and forced migrants includes a wide range of issues, experiences and impacts and is closely related to political developments and policy-making (Spaaij et al., 2019). Ryba, Elbe and Darpatova-Hruzewicz (2020) believe that the liberalisation of immigration policies in many developed countries has facilitated the speed of transnational migration for people who want accommodation or temporary residence for work, a better lifestyle, and safer working and social conditions. In this way, the international migration of athletes in various sports fields has increased. Orlowski, Wicker & Breuer (2016) also believe that the work migration of athletes is affected by economic, social, political, competitive, geographical and cultural factors. Among these issues, we can mention financial issues, lack of meritocracy, problems in international laws and world federations, social freedoms, immigration laws of immigrant-receiving countries, the neglect of the athletes' conditions by the federations, the existence of non-sports managers, the indifference of officials, the inefficiency of managers and the lack of spiritual support. Also, Chao Lee, Mei Ko & Han Huang (2021) showed in their research that the combination of "attractive" factors such as financial benefits, job opportunities, similarities in language and culture, and self-improvement and "repulsive" factors, including institutional regulations, salary gaps, and lack of opportunities for career development, have driven the migration of Taiwanese professional baseball players.

Given the growing number of elite athletes emigrating from Iran in recent years, which has become a significant and widely discussed topic among officials, media, and the Iranian public, this study examines the reasons for and consequences of such migration. The emigration of a country's elite athletes, like the emigration of other professionals, is associated with various causes and outcomes. One cannot deem it an entirely negative or positive phenomenon because human capital, especially young and skilled labour, plays a crucial role in a country's economic, social, and cultural growth and development. Their migration to other countries can provide opportunities to participate in major sporting arenas, interact with different prominent sports personalities, achieve international recognition, acquire new training and experiences, enhance the performance and training of national teams, and motivate the country's young athletes. These are all positive outcomes of elite athletes' migration. However, the migration of Iranian elite athletes in recent years has predominantly been for permanent departure, acquiring new citizenship, and representing another country in competitions. This means that, despite Iran investing heavily in nurturing these valuable human resources, other nations benefit instead when it is time to reap the benefits. Part of the country's national wealth and resources is transferred abroad, which has consequences in various sectors of the country and can potentially tarnish the national prestige and the global standing of the country's brand. On this basis, the study aims to explore the primary reasons for the emigration of Iranian elite athletes and the most significant implications it can have for the country. The findings will be presented in a conceptual model.

Research Method

Current research uses the method of a descriptive survey. In this research, a qualitative approach and Grounded Theory method was used as the most scientific method of this approach, since in order to identify the indicators related to the subject of the research, it was necessary to analyze data that were collected in an unstructured form (Amin, Sukamdi & Rijanta, 2021). The Grounded Theory method includes three approaches: the 'systematic' approach associated with Strauss and Corbin, the 'emergent' approach related to Glaser, and the constructivist approach presented by Charmaz (Qureshi & Unlu, 2020). This research used Glaser approach, also called Classical Grounded Theory (Sing & Estefan, 2018).

The emergent approach in Grounded Theory is achieved by passing through three main steps of coding: open coding (freely coding the text of the interviews or other data to find the main category), selective coding (coding focused on the main category) – these first two steps are called substantive coding – and theoretical coding (connecting the main category to other selected categories) (Chun Tie, Birks & Francis, 2019). In the Grounded Theory method, data collection and open coding co-occur (Mokgohloa et al., 2021). In fact, the open coding process begins after the completion of the first interview; the data are analyzed and a label is considered for each one (Charmaz & Thornberg, 2021); then they are conceptually grouped, and finally basic codes (categories and their characteristics) are produced as the output of this stage. In this coding stage, accessible data collection continues until the effects of the main category, which is the participants' main concern, appear. In order to choose a category as a main category, several criteria can be considered, the most important of which are: being central, being related to other categories, continuous repetition in data, and spending more time to reach saturation (Rieger, 2019).

In the selective coding stage, one of the open codes is chosen as the main category, and other basic codes

may be the characteristics of that main category or be related to it. At this stage, coding is done only for the main and related categories, and unrelated data are not considered (Biaggi & Mbaleka, 2018). In other words, this stage begins when the main category is determined, and subsequent sampling is carried out to develop the theory. This stage continues until the main category and related categories are saturated, and saturation occurs when more and newer features are not obtained from the data (Kosar & Kasapoglu, 2021). The theoretical coding stage also conceptualizes how categories relate to each other and usually occurs when sorting and integrating notes (Pieterse, 2020). Note-taking takes place in all stages of basic research and includes the researcher's ideas about concepts, features and how they relate. After data saturation, the notes are sorted to provide a conceptual framework for the theory, so that the relationship between the main category and other categories is revealed. In general, two stages of open and selective coding deal with classifying the data; And the theoretical coding stage connects the categories obtained in the previous stages. Also, this stage determines the relationship of the categories with the central category, and thus the final theory is formed (Allen & Davey, 2018).

The statistical population of this research includes people who are experts, have opinions, or have experience in the field of the research topic, such as high-ranking managers in the Ministry of Sports and Youth and national sports federations, expert researchers in this field, professional athletes who have emigrated or are on the verge of emigrating and coaches of professional sports teams in Iran. Since in qualitative research, the goal is to find people with a wealth of information in the field of the research topic, incidental sampling is usually avoided (Naderifar, Goli & Ghaljaie, 2017). In the current research, the theoretical sampling method (one of the main features of the Grounded Theory) (Foley et al., 2021) and the snowball sampling method were used. The researchers undertook the sampling with the theoretical saturation index in mind. To start, several managers related to the field of emigration of elite athletes and several elite athletes who have emigrated or are on the verge of emigration were selected through theoretical sampling, and semi-structured interviews were conducted with them. The interview method is used to collect data because, in Grounded Theory method, interviews provide the most desirable kind of data (Abdullah Alamri, 2019). Following this, those who were interviewed were asked to introduce other people who could provide additional data concerning the research subject (snowball sampling). These people were also interviewed. This process continued until the researcher discovered that the data received was becoming repetitive and more data would not be obtained. In qualitative research called the theoretical saturation index (Hennink & Kaiser, 2022).

In accordance with the steps and processes mentioned above, 26 research community participants were interviewed. During the interviews, repetition in the received information was observed from the 19th interview, and the data reached theoretical saturation from the 22nd interview. To be sure, however, the interview continued until the 26th person. Part of the data was also collected through articles, authoritative books, authoritative scientific and news sites, and library studies. Table 1 shows the demographic characteristics of the statistical sample of the research.

Table 1. Demographic characteristics of the statistical sample of the research

Specialty	frequency	Frequency percentage	Education			Work experience (years)		
			bachelor	master	PhD	1-10	11-20	>20
Migrated professional athletes	4	15.38	1	2	1	1	3	-
Professional athletes on the verge of emigration	6	23.08	1	3	2	2	4	-
Deputies of the Ministry of Sports and Youth of Iran	4	15.38	-	-	4	-	1	3
Presidents of National Sports Federations of Iran	2	7.70	-	-	2	-	1	1
Deputies of National Sports Federations of Iran	3	11.54	-	1	2	-	2	1
Coaches of Iranian professional sports clubs	3	11.54	-	2	1	1	1	1
Research professors in the field of athlete migration	4	15.38	-	-	4	-	1	3
Total	26	100	2	8	16	4	13	9

Trustworthiness is used to measure validity and reliability in qualitative research. It consists of four more detailed concepts: credibility, transferability, conformability and dependability (Coleman, 2021). In order to check the credibility, the research findings were studied by the research participants. They studied the presentation and the proposed model, and their opinions were applied. In order to check the transferability in the various stages of data coding, sufficient information regarding the applicability of the research findings in other scientific fields was determined. Also, to achieve conformability, the manuscripts and notes related to the research were given to another researcher, his findings were compared with the current research findings, and the necessary similarity was confirmed. Retesting methods and the percentage of agreement observation were also used to check the compatibility or dependability of the research. For this purpose, five interviews were selected from among the conducted interviews and, in the retest method, each of them was coded twice with a 15-day interval between tests by the researcher. In the percentage of agreement observation method, two knowledgeable researchers in the field were invited to participate in the research as coders. In each interview, similar codes were marked as agreement, and dissimilar codes were marked as disagreement. Finally, with the help of the following formula, the accuracy and reliability of the research were evaluated. The results obtained are shown in Table 2.

According to Table 2, the reliability obtained in the retest method and the intrasubject agreement method using the mentioned formula is 85% and 80%, respectively, which is higher than 60%. Therefore, coding trustworthiness is confirmed.

Findings

In the open coding phase, 468 primary codes were identified. Table 3 shows parts of the text of several interviews and the primary codes extracted from them as examples.

$$\text{intra-subject agreement percentage} = \frac{\text{Number of times} \times 2}{\text{Total number of codes}} \times 100\%$$

Table 2. Calculation of reliability by retest method and intra-subject agreement method

row	Interview title	Number of codes		Number of agreements		Number of disagreements		Reliability (percentage)	
		Retest	Intra-subject agreement	Retest	Intra-subject agreement	Retest	Intra-subject agreement	Retest	Intra-subject agreement
1	second	41	38	18	16	5	6	87%	84%
2	ninth	28	26	12	10	4	6	85%	76%
3	eleventh	32	41	14	17	4	7	87%	82%
4	nineteenth	34	39	16	16	2	7	94%	82%
5	twenty-second	26	32	11	14	4	4	84%	87%
	Total	161	176	69	71	23	34	85%	80%

Table 3. Examples of open coding of interviews

	Part of the interview texts	Extracted Initial Codes
Parts of interviews with elite athletes who have migrated or are on the verge of emigration	In Iran, the importance given to men's sports and the support they receive in various sectors is much less for women. For instance, the contract amounts for women in sports are significantly lower than for men. Training facilities and sports camp programmes for women are far more limited. The rewards that female athletes receive compared to their male counterparts are much lower; the television broadcast of women's matches is weak due to their dress code and hijab. Hence, fewer sponsors support women's sports in Iran. In many cities in Iran, due to traditional beliefs and specific religious and social conditions, active participation of women in some sports is impossible. All these issues are among the significant reasons that some elite female athletes in Iran are encouraged to migrate and acquire a new nationality.	1. Lesser importance and attention by officials towards women's sports in Iran 2. Limited opportunities and advancement in some sports for women due to cultural, religious, and social conditions in Iran 3. The issue of female athletes' dress code and hijab in Iran 4. Discriminations related to training facilities, contract amounts, and television broadcasts of men's and women's sports events in Iran
	As an athlete, when I compare my personal and professional living conditions with those of athletes of the same discipline and level in a developed country, my motivation to migrate and leave Iran intensifies. This is because that individual's social position and personal and professional situation seem much better than mine.	1. Concerns of elite athletes regarding retirement and their living conditions in Iran 2. Officials' neglect of elite athletes and their feelings in Iran 3. The potential for further growth and progress of elite athletes by migrating to another country
	A professional athlete in Iran trains for years to participate in a significant sporting event. However, when faced with an Israeli opponent, the managers and officials compel him to withdraw from the competition, erasing the results of all his efforts.	1. Emphasis on strict political beliefs and tendencies in Iranian sports 2. Officials' neglect of athletes' efforts in Iran
	A professional athlete in Iran trains for years to participate in a significant sporting event. However, when faced with an Israeli opponent, the managers and officials force him to withdraw from the competition, rendering all his efforts fruitless.	1. Emphasis on hardline political beliefs and tendencies in Iranian sports 2. Officials' negligence towards athletes' efforts in Iran
	Many of my athletic and non-athletic friends have migrated, even accepting citizenship of a new country, or are preparing for permanent migration. This could tarnish Iran's reputation in other countries, further motivate Iranian youths to migrate, and emphasize the incompetence of the country's managers and politicians.	1. Elite athletes' belief in the adverse political and managerial conditions in Iran 2. Negative impact of permanent emigration of elite athletes on Iran's national brand 3. Influence of friends on the issue of permanent migration of elite athletes from the country
Sections of interviews with sports coaches, heads and deputies of sports organizations, and research scholars on the migration of athletes	Sports in Iran depend heavily on the government, and the laws and conditions for privatization are pretty stringent and complicated. Moreover, the country's economic problems mean that the budget allocated for sports is insufficient. This situation results in the dissatisfaction of elite Iranian athletes and increases their inclination to migrate from the country.	1. State control over Iranian sports and its heavy reliance on the government budget 2. Economic issues of the country and insufficient budget allocation to sports 3. Structural and legal problems concerning privatization of sports in Iran

	Part of the interview texts	Extracted Initial Codes
	Many countries aiming to strengthen their sports sector adopt policies to attract elite athletes from other nations, luring them with attractive offers. Meanwhile, international sports organizations also provide significant support concerning the migration and change of athletes' nationalities. This has further exacerbated the emigration issue among our country's athletes.	1. Policies of many countries to attract top athletes from other nations and develop their sports 2. Support from international sports organizations on the migration and change of nationality of athletes
	In Iran, most of the budget and attention is directed towards football, neglecting other sports disciplines like Taekwondo, wrestling, etc., which also win medals. This inequality and discrimination can motivate athletes from these disciplines to migrate from Iran. Consequently, the country's sports talent pool and national sports prowess in these areas become weakened.	1. Inequity and discrimination among different sports disciplines in Iran 2. Weakening of Iran's sports talent pool in some disciplines 3. Deterioration of national sports prowess in Iran

In the second coding phase, the overlapping codes obtained in the previous step were merged, and 68 subcategories and 11 main categories were identified. The obtained categories can be divided into three general dimensions, the first dimension of which is "factors affecting the emigration of elite athletes", the second dimension is "the consequences of the emigration of elite athletes", and the third dimension is "control solutions of elite athletes' emigration". Next, Table 4 shows the categories and subcategories related to "factors affecting the emigration of elite athletes" in the selective coding stage.

Table 4. Categories and subcategories of "Factors affecting the emigration of elite athletes" in the selective coding stage

Category	row	Concept
Political-legal factors	1	Existence of simple and specific laws regarding emigration (facilitation of issuing visas, obtaining citizenship of countries, etc.) and the support of international sports and non-sports organizations for this issue
	2	The policy of developed countries in attracting elite athletes to strengthen the power of their national sport and weaken the national sport power of developing countries
	3	Applying political and economic sanctions against Iran by other countries and weakening the global status of this country's national brand
	4	Limited Olympic quota and other international competitions in some sports for each country
	5	Political instability in Iran
	6	The strong dependence of sports on the government in Iran, the allocation of insufficient funds for it, and the existence of complex and challenging laws regarding the transfer of various parts of sports to the private sector
	7	The ineffectiveness of the management system in Iran and the dominance of personal relationships, and the emphasis on political tendencies in the selection of managers and officials in sports and non-sports in the country
	8	Strict political and religious laws and pressures in Iran's social and sports environment (such as forcing Iranian athletes not to compete against opponents from Israel)
	9	The neighbourhoods of Iran with immigrant countries
	10	Failure of the Iranian government to provide the necessary support incentives to investors in the professional sports sector and elite athletes who start sports businesses in the country.

Category	row	Concept
Socio-cultural factors	1	Weak patriotism of elite athletes
	2	Tendency to live in a modern environment (versus a semi-modern and traditional environment)
	3	Insufficient sports communities in Iran
	4	Cultural and religious restrictions and lack of social and civil liberties in Iran (issue of hijab, closed space and imposed patterns of behaviour)
	5	Low value of sports activities among people in the community
	6	The weak social status of elite athletes and the lack of attention of officials and mass media in Iran towards their achievements and honours
	7	Discriminating religious, ethnic and gender attitudes regarding elite athletes and not appreciating their feelings in Iran
Economic factors	1	The lack of stability and vagueness of the economic future in Iran and the budget and income problems of the country's sports organizations
	2	Lack of allocation of necessary facilities regarding the personal and professional life of elite athletes in Iran
	3	The difference in welfare and income status in Iran and advanced countries and the presentation of significant financial and non-financial offers by advanced countries to elite athletes
Professional factors	1	The lack of meritocracy and the existence of nepotism in different parts of professional sports in Iran
	2	Severe differences of opinion of elite athletes with the management structure of federations, national team coaches and other sports officials of the country
	3	Lack of knowledge and awareness of sports officials about the primary and vital needs of sports centres and elite athletes
	4	Injustice and discrimination inside and outside the field of sports (unequal distribution of facilities, opportunities and extreme attention of sports managers to popular media sports such as football and lack of attention to other medal-winning sports)
	5	Lack of access of elite athletes to coaches and training courses commensurate with the high level of championship sports
	6	Lack of distribution of sports facilities, equipment and technical infrastructure following the high level of championship sports and based on the real needs of elite athletes
	7	Have a better chance of participating in the Olympics and other world competitions in the destination country
	8	Lack of planning of federations concerning the presence of elite athletes in world tournaments
	9	Lack of professional and coherent leagues with the ability to generate income in some sports
	10	Inability of the country to host major sporting events such as the Olympics, World Cup, etc.
	11	Lack of an organized, purposeful and coherent system for talent identification and talent management following international standards and indicators in the country's sports
	12	Ambiguity in the future of sports and careers for elite athletes
Personal factors	1	Kinship relationships in the destination country
	2	Reduction of national interests and affiliations and dissatisfaction with the political and social structure of the country, and lack of feeling of freedom
	3	Proving sports abilities to others and ensuring a promising sporting future in the destination country
	4	Lack of development of individual life indices in the country
	5	Learning new experience
	6	Problems related to the national identity (citizenship) of elite athletes in the country
	7	Elite athletes' concerns about retirement and providing comfort and welfare conditions for themselves and their families in Iran
	8	Observing the favourable conditions of Iranian elite athletes in teams of other countries as an incentive to emigrate
	9	The difference between people in the degree of positivity to phenomena, the hierarchy of needs and the tendency to hedonism

Table 4 identifies five set of factors – political-legal, cultural-social, economic, professional and personal – as the main categories affecting the emigration of elite athletes, including 41 subcategories. Table 5 displays the categories and subcategories related to "consequences of elite athletes' emigration" in the selective coding stage in the form of four main categories – sports consequences, economic consequences, social-cultural consequences and security-political consequences, from a total of 12 extracted subcategories.

Table 6 also shows the categories and subcategories related to "elite athletes' emigration control solutions" in the selective coding stage, in the form of two main categories of incentive solutions and policy solutions from 15 extracted subcategories.

Table 5. Categories and subcategories of "Consequences of emigration of elite athletes" in the selective coding stage

category	row	concept
Sports Consequences	1	Weakening the power of national sports in Iran
	2	Weakening the sports gene bank of Iran
	3	Impairing the popularity and acceptance of elite athletes and public dissatisfaction with this group in Iran
	4	Deprivation of opportunities from other domestic athletes through spending material and non-material resources to nurture elite athletes who have immigrated to Iran
Economic consequences	1	Loss of financial resources of the country of origin when investing in the upbringing of elite athletes and large sums of money leaving the country when using them
Social-cultural consequences	1	Inducing a sense of hopelessness and social frustration in the community and youth in Iran
	2	Increasing the emigration rate among elite youth through validation of the migration phenomenon in Iran
	3	Reducing the effect of athletes' validation on cultural and social issues in Iran
	4	Placing athletes from one country against each other in a foreign tournament and creating psychological pressure on the people of that country
Security - Political Consequences	1	Inducing the feeling of inefficiency in the political and managerial system of the country
	2	Weakening the national brand of the country in the world through losing elite athletes as cultural ambassadors and identity-making tools of the community
	3	Political activities of elite athletes against their country when immigrating to a country with a political regime opposed to Iran

Table 6. Categories and subcategories of "Strategies to control the emigration of elite athletes" in the selective coding stage

Category	row	concept
Incentive strategies	1	Considering the appropriate facilities regarding military service (such as reducing the time or even eliminating it, etc.) for elite male athletes
	2	Providing professional facilities related to continuing education, employment, housing, etc. for elite athletes
	3	Development of individual and social life indices
	4	Membership of elite athletes in the general assemblies of the relevant sports federations
	5	Employing elite athletes in programmes related to the development of sports at the basic levels and improving the status of a sport

Category	row	concept
Policy strategies	1	Approving laws related to financial and non-financial support of the government to elite athletes of all sports and reassuring them
	2	Formulating long-term and structured programmes by the country's sports managers regarding the development of sports talents in various fields
	3	Handing over a significant part of Iran's sports to the private sector, providing special concessions from the government to investors in this area, and less involvement of politicians in sports decisions
	4	Codified plans for federations and sports clubs for more revenue and financial independence
	5	Focusing on and adhering to meritocracy in different parts of the country's sports and avoiding family connections and personal decisions
	6	Familiarizing elite athletes with the rules, regulations and legal principles of professional sports
	7	Providing special privileges and facilitating the rules for starting a sports business through the elite athletes
	8	Providing programmes to strengthen the sense of patriotism of elite athletes
	9	More attention of mass media and officials to elite athletes and their involvement in the country's sports decisions
	10	More justice among elite athletes in various sports and not focusing solely on football

In the third step of data analysis, which is the theoretical coding stage, the researcher seeks to combine and integrate the categories and subcategories obtained in the actual coding stage in a communication model. This coding stage allows the researcher to think analytically about the possible link between the categories.

In the Glaserian approach to the Grounded Theory method for combining actual codes, patterns have been introduced that are not unique and that even significantly overlap with each other. Also, one family can strengthen another family and create a new family. In fact, in each of the coding groups, without providing a specific schematic pattern, Glaser refers to a set of words, each of which can be a guide in combining the actual codes and leave the researcher free to combine the categories and model without determining the way the words are linked.

For instance, four examples of a coding family are:

1. The 6 C`s Family: a set of words related to causes or factors, results or consequences, contingencies, text, conditions and covariances.
2. Type family: a set of words that refer to types, such as forms, styles, classes, etc.
3. Process family: a set of words that refer to processes, such as stages, phases, chains, progressions, etc.
4. Cultural family: This family includes a set of words that refer to cultural phenomena, such as social norms, social values, social beliefs, etc. (Xudong & Liang, 2020).

With the investigations carried out by the researcher regarding the relationship of categories and subcategories with each other, it seems that in the current research, the "6C's family" provides the possibility of integrating the

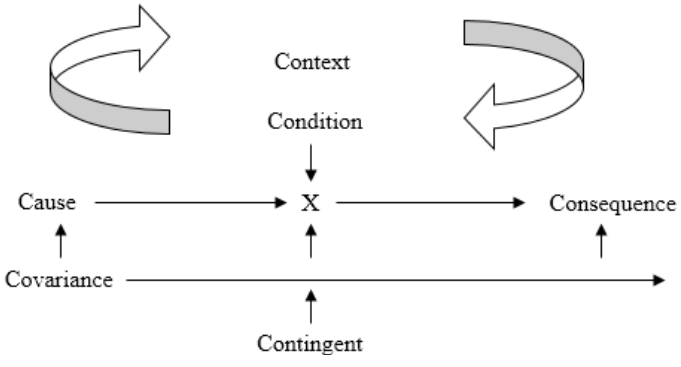

Figure 1. Glaser 6C family model (Neill & Coyne, 2018)

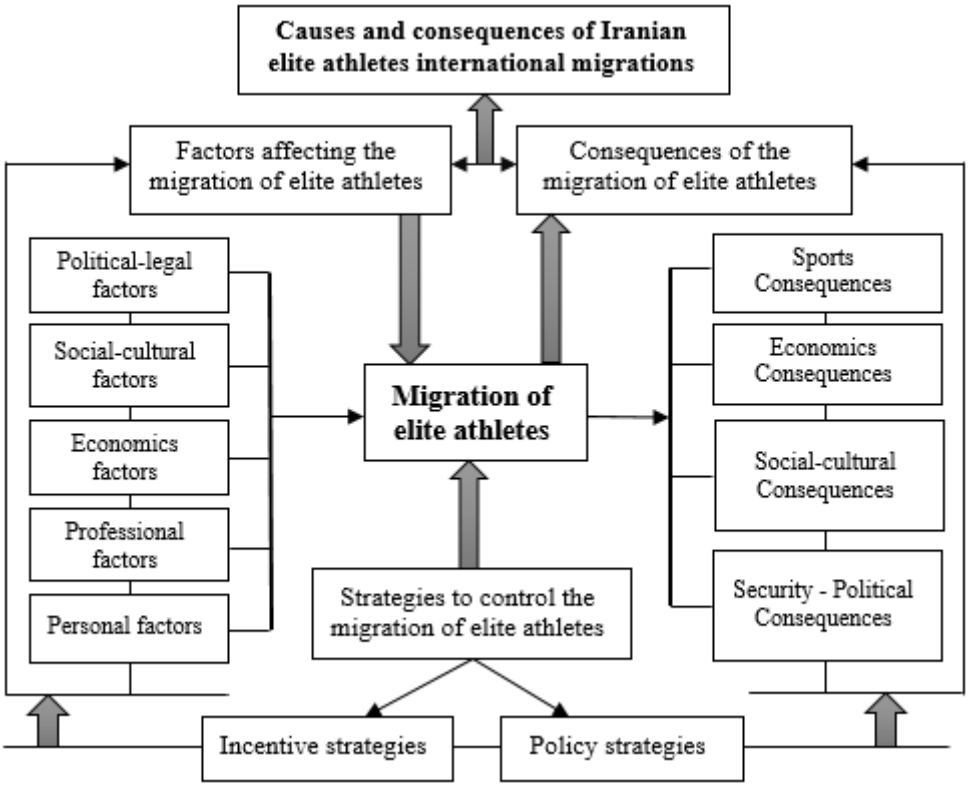

Figure 2. Pattern from data analysis in the theoretical coding stage

categories in the best possible way. The following figure shows this framework.

Finally, the model obtained from the research is demonstrated in Figure 2.

Discussion and Conclusions

The issue of the emigration of elite athletes, who are a symbol of a nation in international forums, as a sociological phenomenon is affected by various factors and will have various consequences and reflections on the growth and development process of countries. According to the current research findings, among the factors influencing the emigration of elite Iranian athletes, some factors are seen as more significant and prioritized by the interviewees. This is because most interviewees emphasized these factors and dedicated more interview time to them. These factors are, in order, economic factors, political-legal factors, socio-cultural factors, professional factors, and personal factors. With regards to each of these categories:

- For economic factors, the interviewees highlighted the "lack of stability and uncertainty of the economic future in Iran, as well as budgetary and revenue challenges faced by the country's sports organizations."
- Concerning the political-legal factors, the interviewees pointed out the "imposition of political and economic sanctions against Iran by other countries and the diminishing of Iran's national brand on the global stage."
- Regarding socio-cultural factors, they mentioned the "cultural, religious, and spiritual restrictions, the diminishing of social and civic freedoms, such as issues related to the hijab, the restrictive societal environment, and imposed behavioral patterns."
- For professional factors, the interviewees emphasized the "lack of meritocracy and performance orientation, as well as the prevalence of nepotism across various sectors of professional sports in Iran."
- In terms of personal factors, they spoke of the "desire to prove one's athletic abilities to others when placed in the right conditions and the assurance of a bright sports future in the destination country."

A detailed examination of these factors has been carried out in the continuation of the research.

As mentioned, the most critical component related to economic factors is the "lack of stability and uncertainty of the economic future in Iran and the budgetary and

income issues of the country's sports organizations" as this issue weakens and reduces the income opportunities, welfare and facilities related to the scientific and sports elites of this country. Also, bad economic conditions can broadly indicate the unfavourable state of the country in other political, social and cultural dimensions, because if a country is economically in a suitable growth condition, it shows less corruption among the rulers and politicians, more cultural and social development of the society and the correct implementation of the laws. It also shows the efficiency of the various organizations and institutions of the country, which can significantly reduce the desire of elite athletes to emigrate from the country. In addition, the country's economic stability is an important issue in the phenomenon of the emigration of Iranian elite athletes. In countries like Iran, where the economy is in an unstable state, prices and inflation increase and purchasing power and the level of well-being decrease, causing dissatisfaction among different sections of society, including elite athletes. Moreover, in the country's inflationary conditions, the value of the national currency decreases with the increase in the exchange rate. Therefore, instability in the economy increases the risk of different economic activities in different sectors, including sports, after which the volume of production activities, services, and investment in various sports sectors will decrease and lead to more dependence of sports on government budgets and job insecurity for Iranian elite athletes. This causes their unemployment and lack of sufficient income, both at working age and in retirement. They take jobs that are lower status than they expected, which, in addition to the economic effects, has a damaging psychological effect. The athletes in this study believe unemployment or having a low income is a significant deterrent in Iran. Especially in disciplines with no organized league, athletes cannot consider sports their primary source of income and see their professional future as unstable. Additionally, they stated that during their presence in training camps and competitive trips to other countries, they distinctly feel the difference in welfare conditions. The inadequate financial and economic infrastructure in Iran also diminishes the limited financial support from the government for sports. In such circumstances, they tolerate economic pressures to a certain extent, but when they reach a point where continuing in these conditions no longer seems logical, deciding to migrate becomes the most logical solution.

Political-legal factors are among other factors affecting the emigration of Iranian elite athletes. For example, sanctions have created problems for this country in various sectors, including professional sports and related actions. Problems such as not being able to issue bank guarantees and transfer money abroad, problems in issuing visas for the participation of Iranian athletes in some world tournaments, the suspension or unclear status of important sports contracts and memorandums with other countries, problems related to the import or export of sports goods, and the termination of cooperation of many companies or organizations with the country's sports are all issues that can lead to a decline in the quality of Iranian sports. Along with the negative publicity in the international media, this adds to the weakening of Iran's national brand at the global level and creates more motivation for the emigration of Iranian elite athletes. In addition, to strengthen or improve the state of their national sports, some countries have sought to establish more accessible rules and policies regarding the acceptance of elite immigrant athletes and granting them citizenship. Also, international sports organizations, such as the International Olympic Committee or international sports federations, also support this issue in many cases.

The incompetence and inefficiency of Iran's management system can be another essential political-legal factor affecting the emigration of elite athletes in this country. This factor, along with the harmful effects it will bring to various aspects of the country's administration, has led to the presence of politicians and their political tendencies in the country's sports and their interference in the elections of sports organizations and boards. In doing so, politicians try to appoint people follow their demands and policies, rather than considering the needs of the athletes of that discipline. This issue can threaten the professional future of elite athletes with poor decisions, such as banning participation in an important and global event or not competing and facing an athlete from a country with policies contrary to their own country. As a result, some athletes prefer to migrate to other countries and compete for those countries in order to maintain and improve their professional future. Indeed, according to the views of some sports directors, deputies and research professors who participated in this study, what leads to the dominance of strategic thoughts in the field of sports and its further growth and progress is managerial stability and the elimination of political interference, which are rarely seen in Iran's sports.

On the other hand, sports in Iran strongly depend on the government, and due to its spread in various public, championship and professional sectors, more than the budget allocated for it is needed, especially in the championship and professional sectors. In the meantime, a tiny share of sports has been given to the private sector and the amount of government support for this sector is minimal. There are also complicated rules for this handover, which makes the process very time-consuming, tiring and expensive, so that many investors have less desire to invest in and support professional sports and its income-generating benefits have not been well presented to them. The continuation of these conditions strengthens the dependence of sports on the government and reduces

their dynamism, making generating income in sports a severe problem. This issue reinforces the motivation of many elite athletes to emigrate from the country.

Iran's social-cultural factors also influence the emigration of elite athletes from this country because a society that is not in a suitable position in this regard is bound to be indifferent to the status of sport and its elite athletes. Currently, sport is considered as one of the essential indicators of development in any society, and neglecting it is considered a weakness of that society's culture. The existence of such conditions has caused the feelings and wishes of elite athletes not to be appreciated as the country's human capital, and the officials and mass media have been indifferent towards them. As a result, it discourages them from their own society and can be the basis for the decision of elite athletes to migrate to other countries. Another significant factor influenced by cultural-social aspects is the weakening sense of patriotism and nationalism that affects the emigration of elite Iranian athletes. According to participants in this research, there has been an increase in societal indifference and a departure from collective identity in recent years, which can impact individuals' perceptions of their national identity. The feelings of individuals, including elite Iranian athletes, towards their society and country are more influenced by a sense of injustice, social satisfaction, and public trust than by personal factors. Consequently, it might be argued that the current state of Iranian society diminishes the elite athletes' perception of their national identity, reduces the difficulty of detaching from national and identity ties, makes migration hardships more bearable, and thus leads to an increase in the migration of elite Iranian athletes to other countries.

Also, in countries such as Iran, there are many cultural, religious and political restrictions that reduce the social and civil liberties of people, including elite athletes. Imposed behavioral patterns also emerge. According to the athletes participating in the study, they must adhere to specific behavioral patterns during competitions, camps, and deployments that have no connection to their athletic performance and go against their wishes, thereby curtailing their freedoms. Most of the athletes in this research believe restrictive societal rules are a significant factor in their decision to migrate from Iran. Requirements stemming from the type of governing system in Iran, found mainly in countries with religious governance, have led to a clause in the constitution named "upholding Islamic values." This clause, alongside "protecting the system's interests," has imposed various restrictions on many of the personal freedoms of the Iranian populace, including elite athletes. Differing interpretations of these clauses have sometimes prevented the formation of women's teams, hindered sending teams to certain competitions, forced athletes to refrain from competing with certain countries and obliged athletes to follow specific behaviors. Therefore, it could be said that insisting on these non-technical issues has not been ineffective, even when it comes to discrimination against minorities, ethnicities, sports branches, and women's sports, leading to an increase in the migration of elite Iranian athletes from the country.

Issues like the mandatory observance of the Islamic hijab for women athletes, the implementation of imposed behaviour patterns and the closed space that, in many cases, encourages elite athletes to live in a modern environment and away from traditional and religious prejudices, is the basis for their migration to other countries. It should be noted that all of these restrictions in Iran are much greater for women than for men. Female professional athletes in this country are paid much less than male professional athletes. There are many problems and limitations on professional sports facilities and equipment, and women need to be better supported by the government and the private sector. Also, as regards Iran's political and religious conditions, the issue of women athletes' clothing when participating in international sports competitions is of great concern to officials and managers. In some cases, their participation in some international competitions is prevented. This issue can waste years of the athlete's effort and make her angry and upset. The attention of the authorities to the wearing of the hijab by female athletes has caused proper media coverage of their sports events in the country, and this issue itself is one of the important reasons that fewer financial sponsors are willing to support women's sports in the country. Even after years since the issue of women entering sports stadiums was raised, many women in Iran are not allowed to enter sports stadiums. Only in a small number of large cities and only for selected competitions are a limited number of women allowed to participate, and this depends on meeting the conditions set for them in terms of clothing. In recent years, all of these issues have caused the dissatisfaction of many women in this country and their protests. It is also known to be one of the factors that have deprived Iran of the possibility of hosting many sports events.

Other factors affecting the emigration of Iranian elite athletes are professional factors, the most important of which is non-compliance with a system of meritocracy and the relationship-oriented system in the country's sports, which is a significant problem in management and search for talent in professional sports. It is also considered an obstacle to its development. Most of the researchers, administrators, deputies and sports coaches participating in this study emphasized that managing organizational environments, including sports organizations, inherently requires a comprehensive understanding of the nature of the groups and the duties of those under supervision, which in turn requires general and specialized skills and competencies. They stated that the existing management system in Iranian sports organizations disregards the

necessary expertise and principles for management. However, the dominance of non-technical and non-performance-based criteria leaves no room for the activities of specialized individuals. In fact, the selection of managers in the field of professional sports based on the existence of relationships, rather than competence, has led to the weakening of the country's sports management structure. Their lack of understanding of the professional sports environment and the primary and vital needs of elite athletes is basis for the emergence of many injustices and discriminations within and outside of disciplines in the sports environment. In addition, it causes unequal distribution of facilities, opportunities and their extreme attention to some popular media fields such as football and little attention to other areas of sport. To the extent that it is even possible in some fields, coherent and organized professional leagues will not be created. Such issues increase dissatisfaction and disagreement between athletes and the authorities and provide the conditions for elite athletes to migrate after receiving attractive financial and welfare offers from other countries.

Various personal situations are also a key factor affecting the phenomenon of elite athletes' emigration from Iran. One of the most important is the athlete's effort to prove himself and his sports capabilities to others if he is placed in more favourable conditions, achieves more sports successes, and criticizes the existing conditions in his country. Moreover, Many Iranian elite athletes have migrated to gain new experiences and stand alongside other famous athletes and coaches, improving their work and professional resumes and the favourable living and working conditions of other elite athletes and their success, which gives them stronger motivation. Another important issue related to the personal aspects of emigration is having better and more personal and family comfort, prosperity and gaining confidence in the future. Even during retirement, it reduces related worries and leads to a more peaceful life, which is a powerful motivator for elite athletes to migrate. Consequently, according to the participants in this research, it can be said that personal factors can play a significant role in choosing the path to achieve professional goals. Individuals have varying character traits, such as their degree of optimism, their hierarchy of needs, an inclination towards hedonism, levels of motivation, and emotional dependencies. These factors can influence their decision to pursue professional goals in a different environment.

The migration of elite athletes can bring many positive and negative consequences in various economic, sports, cultural-social and security-political dimensions for the country of origin and destination. Currently, the economic development of countries depends on their human capital more than any other factor. Human capital is known as the most crucial tool for achieving development in a country, in such a way that if a country has sufficient natural resources and capital, but insufficient and efficient human resources, it will not be successful. Certainly, one of the most influential human capitals for any country and symbols in international forums are its elite athletes. The activity of elite athletes at the championship and professional level is a place where huge sums are exchanged at the global level in the sports industry. If a country does not succeed in maintaining its elite athletes, after spending money on their education and training, it will not be able to perform correctly and attract the sports elites of other countries. In this way, a one-way flow will be formed to the benefit of the immigrant-receiving countries, mostly developed countries, and to the detriment of the immigrant-sending countries, mostly developing countries. Over many years, this issue, along with other factors affecting the economy of a country, can slow economic growth in developing countries and deepen the gap between them and developed countries, due to developing countries exporting their elite human capital to advanced industrial countries in order to accelerate the economic growth and development of those industrialized countries.

Another issue concerning the emigration of Iranian elite athletes is the social-cultural consequences for the country. Elite athletes usually attract the attention of people. Many of their actions, behaviours and words are broadcast in the media and many young people choose them as their role models. If they decide to emigrate for a brighter personal future and express dissatisfaction with the country's internal conditions to justify their move, they can induce a sense of despair in the country and strengthen social frustration among young people, leading to an increased rate of migration, particularly among young people and the elites.

The security-political consequences are another critical effect of the emigration of Iranian elite athletes. These people, as essential human capital and cultural ambassadors of the country, have induced a sense of inefficiency of the political and administrative system of the country among their fellow citizens and globally. This can significantly reduce the status of Iran's national brand, which is determined by a set of political, cultural, social and economic factors. Because the state of a country, politically and managerially, will determine the performance of politicians and officials in other economic, cultural and social dimensions. If the political and managerial dimension of the country is weak, other dimensions will not have suitable and acceptable conditions. As a result, the continuation of these conditions increases the desire of elite athletes and other country elites to migrate.

According to the above, in order to deal with the phenomenon of the emigration of Iranian elite athletes, different incentives and policy solutions could be employed. Incentive strategies provide internal and external incentives to Iranian athletes and top sports talents in order to

encourage them to stay in the homeland. These incentives include the provision of facilities related to employment, housing and marriage, men's military status, continuing education in related fields, the membership of elite athletes in the general assemblies of sports federations of the relevant fields, and so on. It is possible to help develop sports talents and gain honour for the country with the proper education and training of elite athletes from the beginning of their activities, as well as the development of individual and social life indicators, providing them with professional facilities and familiarizing them with professional laws, regulations and legal principles.

Political strategies can also be very effective in dealing with the emigration of elite athletes. Among the most meaningful solutions, we can enumerate the approval of laws related to providing more financial, livelihood and social welfare facilities for elite athletes and the approval of laws related to financial and spiritual support of professional sports. When an issue becomes law, its implementation becomes necessary and many obstacles are removed from its implementation. In addition, the government should consider special conditions and privileges for investors in professional sports so that it can transfer a large part of the country's sports to the private sector, create a more competitive environment in sports, and provide more financial income for sports. Other important and effective strategies are less involvement of politicians in professional sports affairs and emphasis on meritocracy instead of family connections. In this way, qualified people take over the management of different sports sectors of the country and can make appropriate plans for their growth and development with their knowledge, by treating athletes of different fields with more justice, imagining a hopeful future for them in terms of personal and professional life, and encouraging them to stay in the country and make it proud.

Competing interests

None of the authors have financial, interpersonal, or other connections to other people or organizations that would create a conflict of interest.

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Motivations and Expectations of Olympic Volunteers: Building a Legacy of Personal Development as a Key Factor for the Success of Sports Mega-Events

Authors' contribution:

A) conception and design of the study
B) acquisition of data
C) analysis and interpretation of data
D) manuscript preparation
E) obtaining funding

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Abstract

The scientific breakthrough in understanding the role of sports volunteers, as well as the importance of motivation and expectations management in decision-making, has boosted several studies, helping to reinforce the conceptual idea of a sports legacy, especially in relation to the participation and involvement of Olympic volunteers. In this sense, and reinforcing this idea, this study aimed to analyse and measure the perception of sports volunteers regarding the motivations and expectations arising from their participation in the Rio 2016 Olympic Games. The study followed a quantitative-descriptive and inferential methodology, with a validated sample of 828 responses collected through a semi-structured questionnaire adapted from the original VMS-ISE motivation scale. The results point to a reinforcement of the perceived importance and value associated with participation in the Olympic Games that translate into high levels of motivation and satisfaction by most of the volunteers involved. The most valued factors were the feeling of pleasure promoted by the experience, the possibility of personal and professional development, the passion for the Olympic Games, and the passion for sport. The majority of the candidates validated the post-event expectations as having exceeded their initial ones, and 92.0% of the volunteers would participate in a similar event again. The study allows the reinforcement of sports volunteers intentions and expectations, while validating and confirming previous studies on the importance of motivation and personal development in a successful recruitment strategy that fosters regular and consolidated participation of previous volunteers.

Keywords: Sports management, volunteer development, sporting events, olympics, sports legacy

Introduction

The field of scientific research in sports science has grown substantially and globally in recent decades, and is today a very relevant and pragmatic area of science with a broad, deep, and multidisciplinary level of knowledge (Puig, 2016; Biernat & Piątkowska, 2020a; Glebova et al., 2022; Teixeira et al., 2022; Seguí-Urbaneja et al., 2023). This growth, which has been particularly strong in the last decade, both in terms of quality and quantity, enables the understanding of various areas of intervention in sport to be consolidated, not only in relation to a better understanding of the relationship between sport, societies and other organisations (Czupich, 2020; Mestre et al., 2023; Teixeira et al., 2023a), but mainly in understanding humans from different perspectives, realities and contexts (Pietrzak & Tokarz, 2019; Biernat & Piątkowska, 2020b; Biernat et al., 2020).

As a source of scientific interest and study, sport has several areas of observation and analysis that allow many questions to be asked and answers to be found to a variety of important issues in society (Skinner & Engelberg, 2017; Hills et al., 2019; Szczepaniak, 2020; Picamilho et al., 2021). One of the areas that has contributed to a better understanding of the sporting phenomenon on different levels is sports management (Cunningham et al., 2021; Sesinando & Teixeira, 2022; Hammerschmidt et al., 2023). Its consolidation as an academic area of reference has allowed a deep understanding about the various interactions in the structure and organisation of sport in different realities and countries (Lis, 2020; Lis & Tomanek, 2020), finding answers to various conceptual paradoxes (Teixeira, 2019; Sesinando et al., 2022), as well as allowing the development of a deeper knowledge about the actors involved in sports activity in national, regional and international contexts (Teixeira, 2009; Teixeira & Ribeiro, 2016; Sesinando et al., 2023).

The world of sport is diverse and multidisciplinary, as are the responsibilities, objectives, and purposes of those who participate in it, and the contribution of sports management as an academic area of excellence in the definition of high standards of research and results obtained is undeniable (López-Carril et al., 2019).

If we consider the main scientific advances from a global perspective, we see that one of the hot topics with great potential for growth has been the deepening of knowledge on sports mega-events, both in terms of their structure, organisation and main characteristics (Vegara-Ferri et al., 2018; Cerezo-Esteve et al., 2022; Ludvigsen et al., 2022; Reis et al., 2023) and in relation to their different stakeholders (Annear et al., 2019). Among other things, the results obtained in different studies allow a multidimensional analysis of the holding of sporting mega-events and their impacts on society (Barandela et al., 2018). In this sense, it is essential to monitor the evolution and modernisation of societies through new research that increases and differentiates knowledge from different perspectives (Kokolakis et al., 2020; Teixeira et al., 2023b).

Regarding the organisation of a sports mega-event such as the Olympic Games, considered by the international community to be the biggest and most prestigious sporting event in the world (Diop et al., 2022), several studies have been carried out by researchers from different countries in an attempt to better understand this particular reality (Ahn, 2018; Groschl, 2021).

Although different approaches exist, the vast majority has focused on studying the possible sporting, economic and social impacts arising from holding this type of event (González-García et al., 2023). More recent studies have followed research lines that also include concern and interest in its relationship with environmental and sustainability issues at various levels (Radicchi, 2013; Gulak-Lipka & Jagielski, 2020; Salgado-Barandela et al., 2021; Annesi et al., 2023), thus increasing the available indicators when speaking about the Olympic legacy and its effects over time (Koutrou et al., 2016; Thomson et al., 2019).

Within this framework, other lines of thought and research have also emerged that have sought to analyse and identify a wide range of characteristics of the stakeholders involved in the sporting spectacle, particularly in understanding interests, desires, motivations, emotions, and expectations (Vetitnev et al., 2018; Theodorakis et al., 2019; Nagel et al., 2020). The interest in studying these indicators has produced several investigations with the aim of deepening knowledge about spectators, fans, and athletes, among other actors, as well as about the sports volunteers involved in the organization and execution of sports mega-events (Erturan-Ogut, 2014; Dickson et al., 2015; Bańbuła, 2017), in an attempt to identify patterns and behaviors that can contribute to further advances in scientific knowledge on this topic.

Sport is a global phenomenon of masses perfectly validated by the international community, regardless of the economic, social, or cultural context of each geographical region (Hautbois et al., 2020). It is also recognized as a factor that engenders strong emotions, feelings of belonging, belief and unity, which may be revealed in different ways (Moradi et al., 2020). These feelings are present in all expressions of sport, assuming, however, particular relevance and significance when we speak of global sporting events (Holmes et al., 2018).

Events such as the Olympic Games are enormous generators of interest and expectations, mainly because they are events that take place over time, respecting a calendar that occurs every four years (Dubinsky, 2019). The organization of this mythical event creates a unique and particular connection when compared to other large scale sporting events, above all in relation to the anxiety, expectation and deep desire to host the event by the host country and its population, but also for the opportunity to see the best athletes in the world compete against each other in a variety of distinct disciplines (Jensen et al., 2014; Santos, 2019; Kim et al., 2022).

On the other hand, and no less important, it also promotes the interest to contribute, participate and gain new knowledge and skills of thousands of volunteers who seek to be part of the history of each Olympic edition (Oliveira et al., 2020). The desire to be involved and participate in a sports mega-event, as well as the expectation that this experience will allow personal and professional intellectual gains and enrichment, increases motivation and interest when this possibility becomes real.

It is this interest and motivation that has intrigued several researchers from different academic areas, especially regarding the decision-making process, expectations and motivations for their involvement (Wilks, 2014; Bańbuła,

2021). Several researchers have tried to establish, through different lines of research, transversal key points in the better understanding of Olympic volunteers motivations, thus allowing insights from different perspectives as to the main reasons for this desire for participation without economic compensation (Hallmann & Harms, 2012; Bakhsh et al., 2021).

Although it is not yet perfectly conceptualized from the scientific point of view, at the end of the 2000s the first signs and evidence of an idea of legacy arose within the scope of sports volunteer activity, especially regarding participation in the Olympic Games (Koutrou et al., 2016; Doherty & Patil, 2019; Chen et al., 2022). Some researchers have sought to establish a theory that indicates the possibility of a relationship between the interest and motivations of Olympic volunteers in different editions, in order to leverage not only the involvement and regular participation in sporting events, but also to establish guidelines that allow the best candidates to be recruited (Lachance et al., 2021).

One of the objectives of the researchers is that their positioning and analysis may contribute towards the definition of more effective and audacious recruitment strategies positioned in the long term, thus ensuring that sporting organizations have access to tools and knowledge that is differentiated and of exceptional quality. This combination of factors, when well designed, can have an extremely positive impact, not only on the success of each event, but also on the volunteers' perception of a unique and remarkable experience (Kim et al., 2019b; Won et al., 2021).

The relevance of this symbiosis between volunteers and sports mega-events is particularly important if we consider that the planning and execution of events such as the Olympic Games are increasingly complex and varied, requiring multidisciplinary excellence and rigor in execution, planning and organization protocols by individuals who, depending on the task or actions to be performed, need to possess knowledge with different degrees of expertise (Herold et al., 2020). On the other hand, the executive and operational committees have grown little, not keeping up with the necessary logistic and operational capacity to develop their activity without the use of a large number of volunteers (Angosto et al., 2021).

As a result, the role of sports volunteers has gained greater prominence in receny Olympic editions, making their participation essential, not only due to the substantial increase of inherent responsibilities and distinct fields of action, but also due to the fact that these events involve a whole process and execution of highly detailed tasks before and after the event that go far beyond its simple official duration (Groschl, 2021). Without the presence, dedication and commitment of the thousands of volunteers involved, these events simply would not be able to run with the tremendous success we have seen in recent years (Lamb & Ogle, 2019; Won et al., 2021).

However, if there is a pressing need to resort to and use thousands of volunteers to guarantee the success of the event, their recruitment allows a substantial reduction in operating costs (Yoo et al., 2022). In this sense, and with their role being doubly relevant, the recruitment strategies should prioritize not only stimulating the participation of highly motivated individuals, but also seeking to correspond to the expectations and attract those with higher levels of qualification (Alexander et al., 2015).

For this to become a reality and to aspire to an idea of an Olympic legacy in sports volunteering (Doherty & Patil, 2019), it is necessary to continue observing and considering the main reasons that lead thousands of different individuals to seek an experience of this type. The basis of a successful strategy must involve incentives and rewards that are suited to the expectations and motivations of future candidates (Dickson et al., 2014).

It is crucial, therefore, to continue mapping all the dimensions involved in the organization of a sports mega-event. The deeper and wider this knowledge base, the more targeted will be the understanding of the different fields of intervention of Olympic volunteers, while simultaneously allowing identification of the specific areas of action where the most qualified volunteers can make a difference, thus reinforcing their importance in the operational and logistic chain (Alexander et al., 2015; Koutrou & Pappous, 2016).

In events of this dimension, the volunteers develop a vast number of tasks with distinct complexities and demands, but all of them are important, highlighting the accompaniment and support to athletes and technical staff, first aid, competition referees and judges, media, sponsors and partners, political and governmental authorities, technical and logistic multilevel support in different spaces and sports venues, among many others, thus becoming a vital part of the whole Olympic system (Chen et al., 2022; Dickson & Darcy, 2022).

The volume of studies already undertaken about volunteers in different editions of Olympic Games and large-scale sporting events identifies the search for greater knowledge and the acquisition of tools and professional experience as one of the main motivations and desires to be achieved through their participation (Okada et al., 2022).

These outputs explicitly contribute to the idea that, conceptually, a strategy for recruiting Olympic volunteers should prioritize and identify aspects that stimulate regular volunteering by experienced individuals, and with professional curricula that can easily be adapted to a context of multi-level demands (Kim et al., 2019a), while at the same time regenerating the activity through new candidates, who bring expectations and motivations that this experience will be important for their future (Kim et al., 2019b).

Establishing key factors in the development of volunteer programmes is now essential, not only for a specific event, but mainly for the importance of volunteer participation in the continued success of each Olympic edition and its long-term legacy (Sorrentino et al., 2020). The greater the knowledge of the host organisations, the greater the commitment of volunteers and, as such, the greater the excitement, passion, and motivation, resulting in a better experience for all. Volunteers have very clear objectives and want to feel the value of this experience.

As a response to the need to further explore this specific field of Olympic volunteers' expectations and motivations, several authors have developed measurement and analysis scales, such as the STVMS, OVMS, MVS, VMS-ISE, which have enabled many researchers to obtain comparison indicators on the involvement and interest of volunteers in participating in sporting events, especially sports mega-events (Lucidi et al., 2008; Bang et al., 2009; Bang & Chelladurai, 2009; Li et al., 2016; Kim & Cuskelly, 2017).

Olympic volunteers increasingly perform tasks of high responsibility and complexity. This area of study is essential and will continue to develop in order to attract the best volunteer profiles. The impacts and corresponding effects of sports mega-events in the short, medium, and long term are much more than purely economic, social, sporting or cultural; they are also about human development.

The main objective of this study was to analyse a group of volunteers who participated in the 2016 Rio Olympic Games, in an attempt to establish and identify the main motivations and expectations that led them to make the decision to volunteer, as well as to assess their perception and recognition of the importance of the event in their personal and professional development and degree of satisfaction after the conclusion of the Olympic Games.

Based on these presuppositions and wishing to contribute to the study of Olympic legacies, we have posed three questions that will allow us to reinforce the existing knowledge, thus establishing a comparison not only in relation to the past, but mainly for future studies. The three starting questions are the following:

Q1: Is the Olympic experience perceived by volunteers as important in personal and professional enhancement and development in an unequivocal way?

Q2: When the Olympic experience is perceived as positive for volunteers, does it increase their interest and desire to repeat it again?

Q3: Is there a common pattern regarding the expectations and motivations of volunteers to participate in the Olympic games, regardless of gender, age and academic qualifications?

Methods

The study followed a quantitative-descriptive approach, using descriptive and inferential statistical methods and techniques for data analysis and treatment.

We set out to collect primary data based on the original 29-item motivation scale validated by Bang, Alexandris and Ross (2008), i.e., the Motivation Scale of International Sporting Events (VMS-ISE), which was translated not only into the official language of Brazil (Brazilian Portuguese), the host country, but also had the questions adapted to the social context and culture for better interpretation and familiarization with the research content and purpose.

Research design and participants

The purpose of the research was to develop an investigation within the scope of Olympic studies and sports volunteering, exploring for this purpose the motivations and expectations of the Olympic volunteers involved in the 2016 Rio de Janeiro Olympic Games.

According to official data from the International Olympic Committee (IOC) and Brazilian Olympic Committee (COB), over 50,000 candidates were registered. However, and since the effective number of volunteers involved in this edition was not made available, it was necessary to explore and define what the population under study would effectively be.

In order to guarantee the reliability of data, as well as the maximum possible number of responses from the volunteers involved, we approached the Brazilian Olympic Committee to ascertain the availability of vital information for the successful conclusion of our research. We directly contacted the COB to assess the possibility of accessing information on the number of volunteers involved, as well as officially registered email contacts. This request also contained a detailed description of the researchers, their affiliations, and the purpose and objectives of the research.

After this first contact and having ensured that we followed the international ethical standards by which official scientific and academic research is governed, as well as safeguarding the confidentiality and secrecy of the information provided, we obtained the email contacts registered and validated by the COB, which was the only information provided regarding the personal data of each volunteer. This fundamental support allowed us to reach a population of 25,241 volunteers officially validated and registered by the COB.

After identifying the population under study, we began the process of primary data collection through a questionnaire. This collection occurred in the post-event period and was made available online to ensure its quick and efficient dissemination. Participants were informed in detail about the origin and objectives of the study, as well as the

proper explanations for its correct completion, where we emphasized the total confidentiality of their participation.

Once the questionnaire was disseminated by email and after establishing a period of four months to close the collection and start the analysis of the results, a total of 828 validated questionnaires were received, representing the research sample. The response rate was around 5%. The low response rate may have been related to the fact that many of the email contacts were incorrect. Nevertheless, we obtained a high number of responses, supporting our claim to the relevance of the research.

Instrument

As previously mentioned, over the last few years, several questionnaires and evaluation scales have been validated and used with sports volunteers. Concerning the assessment of volunteers' motivation, satisfaction and expectations in particular, there are several assessment scales that allow the collection of indicators easily comparable with the results of other studies. In this sense, various possibilities were assessed, and we chose an adaptation of the Motivation Scale of International Sporting Events (VMS-ISE), validated by Bang, Alexandris and Ross (2008).

This evaluation scale comprises a total of 29 questions which allow the motivation of sports volunteers to be assessed in seven different dimensions, based on a Likert-type response scale of seven levels, where option one means "highly disagree" and option seven "highly agree". However, having assessed its use in a specific sociocultural and multivariate context, and being aware of the need to translate and adapt the content to the specific objectives of our study, we decided to keep the initial 29 questions, but divided them into five dimensions instead of the initial seven.

Regarding the response scales, we kept the seven Likert-type response levels, only adapting the meaning of each level, i.e. level one now meant "not very important" and level seven "very important". The translation of the different response items also had to be framed and translated so as to facilitate the understanding of what was being asked, considering that there was a high probability of participants from different social backgrounds, as well as having different levels of knowledge and intellectual dexterity.

In this sense, and after due analysis and prior assessment, the data collection instrument was made available online through the Google Forms platform. In total, the questionnaire contained 37 questions divided into two parts. The first part consisted of five questions used to identify the socio-demographic profile of the volunteers and three questions to verify any previous experience in similar participations. The second part of the questionnaire contained the remaining 29 questions adapted from the VMS-ISE, in order to assess different indicators (development and personal and professional satisfaction) internally related to motivation, satisfaction and expectations arising from their lived experience.

Finally, and no less relevant, it should be noted that the questionnaire had the necessary information about the purposes of the study, as well as what was intended in each response field. No personal data identifying the participants were collected, safeguarding the confidentiality of the answers, as well as the rules of ethical conduct of reference in the field of research and science of the American Psychological Association (APA) and the standards set out in the Declaration of Helsinki.

Data analysis

The data collected was analysed using SPSS 25, where, following a quantitative-descriptive and inferential methodology, inferential statistical methods and techniques were used to compare results between groups and determine the ability to find answers to the initial research questions, while measures of dispersion and central tendency were used, namely the mean, standard deviation and absolute and relative frequencies in the descriptive analysis of results.

Regarding the techniques used in the inferential analysis, it was firstly defined that the level of significance to reject the null hypothesis would be $\leq .05$. Following this, we resorted to the use of three techniques – we used Student's t-test for independent samples, as well as for a sample, in order to ascertain and compare results between groups according to the hypotheses proposed, and then the One-way ANOVA test was used to check for differences between the means of two different groups or populations.

As regards the assumptions of the tests used, and as an integral part of this type of statistical analysis, we used the Shapiro-Wilk test to assess the normality of the distribution and Levene's test to assess the equality of variances. In the case of distribution normality, this was accepted according to the assumptions of the central limit theorem whenever the sample was larger than 30. As regards the equality of variances, Student's t-test and/or One-way ANOVA with Welch correction were used when this was not met.

Results

Sociodemographic profile of the volunteers

As shown in Table 1, the study sample (n=828) was mainly comprised of female volunteers (n=445), corresponding to 53.7% of participants, with male volunteers (n=383) representing the remaining 46.3%. Regarding the age group with greatest representativeness, we found

that the vast majority were aged 16–35 (63.4%), with the 16–25 (n=319) and 26–35 (n=206) groups representing 38.6% and 24.8% of the sample, respectively.

Table 1. Sociodemographic profile of volunteers in the Rio 2016 Olympic Games

	N	%
Gender		
Female	445	53.7
Male	383	46.3
Total	**828**	**100.0**
Age		
16–25	319	38.6
26–35	206	24.8
36–45	134	16.2
46–55	103	12.4
>55	66	8.0
Total	**828**	**100.0**
Marital status		
Single	550	66.4.
Married	216	26.1
Divorced	51	6.2
Widow(er)	11	1.3
Total	**828**	**100.0**
Academic qualifications		
Basic Education	29	3.5
Secondary Education	186	22.5
Bachelor's Degree	563	68.0
Master's Degree	39	4.7
PhD	11	1.3
Total	**828**	**100.0**
Continent of origin		
America	783	94.6
Europe	31	3.7
Africa	7	0.8
Asia	6	0.7
Oceania	1	0.1
Total	**828**	**100.0**

As regards marital status, the most representative group of volunteers was "single" (n=550) with 66.4%, followed by "married" (n=216) with 26.1% of the sample. It was also possible to verify that the majority of volunteers had academic qualifications at Bachelor level (n=563) representing 68.0%, followed by the group with only secondary education (n=186), representing 22.5% of the volunteers.

Finally, and in relation to the origin of the volunteers, we can verify that most of them were from the American continent (n=783), representing 94.6% of the sample, followed by volunteers from the European continent (n=31), representing 3.7% of the participations. In conclusion, volunteers participating in the 2016 Rio de Janeiro Olympic Games came from 35 different countries, and 90.1% of the sample originated from the host country itself, i.e. Brazil.

Volunteer experience and motivations

Considering that this investigation aimed to deepen and strengthen the study of Olympic legacies in sports volunteering, we tried to assess the existence or not of previous experience in this type of involvement among the participants, as well as the main reasons and/or motivations for their application.

According to the results obtained, Table 2 shows that most volunteers (n=434) had no previous experience in volunteering, corresponding to 52.4% of the sample. As regards the 394 volunteers who had previous experience as volunteers (47.6%), it should be noted that the majority (n=238) indicated that they already had experience as sports volunteers, corresponding to 28.8% of this group, while the remaining (n=156) identified their experience as not being within the scope of sporting events, corresponding to 18.8%.

Table 2. Experience and motivations of volunteers at the 2016 Rio Olympic Games

	N	%
Previous experience		
No	434	52.4
Yes	394	47.6
Total	**828**	**100.0**
Type of event		
Sporting Events	238	28.8
Non-sporting Events	156	18.8
Not applicable	434	52.4
Total	**828**	**100.0**
Motive for volunteering		
Pleasure	166	20.0
Improving the curriculum	141	17.0
Passion for the Olympic Games	139	16.8
Passion for sport	129	15.6
Training/Improvement of foreign language	104	12.6
Meeting people	79	9.5
Other	63	7.6
Attend events free of charge	7	0.9
Total	**828**	**100.0**

On the other hand, and in order to verify the expectations and motivations of the volunteers regarding the participation in the 2016 edition of the Olympic Games, we can see that they have identified different reasons and motivations. The three main reasons indicated are pleasure (n=166), the possibility of professional development (n=141), and their personal passion for the Olympic Games (n=139), corresponding to 20.0%, 17.0% and 16.8%, respectively.

Finally, the level of satisfaction and motivation was also assessed regarding the possibility of future participation based on the experience lived in the event, thus reinforcing the possibility of a possible Olympic legacy.

Most volunteers (n=762) indicated that they would participate in similar events again based on their experience and level of satisfaction, corresponding to 92.0% of the total sample.

Volunteer perception of the experience at the 2016 Rio Olympic Games

Once the sociodemographic profile was outlined and the main expectations and reasons that led the volunteers to participate in the 2016 Rio Olympic Games were identified, we went on to the second part of the questionnaire, which applied a scale with five dimensions to assess the level of motivation and satisfaction according to different indicators. The adaptation of the VMS-ISE scale (Bang et al., 2008) to the context, reality and purpose of the study enabled an assessment of the importance and value given to participation at various levels according to the perception of volunteers after the event. In Table 3, we can observe that the volunteers were fairly unanimous in their responses in each of the five dimensions. Nevertheless, there are clearly some that stand out for having received a greater evaluation.

With the exception of the dimension related to the perception of factors with the greatest influence after participation, which had evaluations below 5.0 in three response fields, all other fields and dimensions had evaluations above 5.0, which reflects a clear positive assessment in relation to the motivation and satisfaction of volunteers and their perception of the added value in their personal and professional career.

Table 3. Perceptions on the experience of volunteers at the Rio 2016 Olympic Games

	Mean	SD	Minimum	Maximum
Perception of the importance of participation:				
Importance of volunteer work	5.94	1.66	1	7
Recognition and/or rewards received	5.36	1.86	1	7
Variety of activities developed	5.57	1.76	1	7
Enjoyment promoted by the experience	5.92	1.69	1	7
Perception of post-event satisfaction:				
Enjoyment promoted by experience	5.97	1.54	1	7
The experience was positive	6.22	1.49	1	7
Your contribution was important during the event	6.05	1.53	1	7
Your participation contributed to the success of the event	6.09	1.52	1	7
Perception of the importance of personal development:				
Personal knowledge	6.00	1.58	1	7
Personal and professional growth	5.95	1.66	1	7
Multicultural interaction	6.21	1.53	1	7
Socialisation	6.19	1.54	1	7
Cultural and anthropological experience	6.20	1.52	1	7
Making professional contacts	5.49	1.88	1	7
Making friends	6.01	1.61	1	7
Taking part in the world's biggest sporting event	6.24	1.60	1	7
Learning about the organisation of mega events	6.02	1.67	1	7
Perception of satisfaction with personal involvement:				
The tasks carried out allowed me to show my worth	5.19	1.93	1	7
I missed the event after it ended	6.02	1.73	1	7
Participation was important in my personal development	5.72	1.80	1	7
I would attend a similar event again	6.21	1.58	1	7
I am satisfied with the role and tasks assigned to me	5.67	1.82	1	7
I am satisfied with my performance	5.92	1.68	1	7
Perception of influencing factors after participation:				
Personal development	5.08	1.49	1	7
Greater connection to sport	4.85	1.61	1	7
Privileges of volunteering	4.90	1.59	1	7
Positive experience	4.94	1.55	1	7
Contribution to the community	5.15	1.44	1	7
Social and cultural development	5.22	1.43	1	7

Legend: 1 - not very important / 7 - very important

Globally, the volunteers identified the most relevant aspects as: satisfaction with the experience (5.92), considering the experience to be positive (6.22), personal development through multicultural interaction (6.21) and the possibility of participating in the largest sport event in the world (6.24). This had a great influence on their personal and professional development, resulting in the feeling that they would like to participate in similar events again (6.21) and that they missed it after their participation (6.02). On the other hand, the post-event evaluations of their participation show that the volunteers gave special importance to the empowerment and appreciation felt as a contribution to the community (5.15), as well as to social and cultural development (5.22).

Volunteer perception of the experience according to gender

Once the aggregated data was analysed, allowing us to obtain a general overview in relation to the volunteers' perception and evaluation of their motivation and expectations from participating in the Olympic Games, it was necessary to deepen our knowledge using inferential statistical methods and techniques. With regard to the comparison between men and women, Table 4 shows identical evaluations between genders in 9 out of 29 items, with only occasional differences of 0.01 in 10 out of 20 items, which suggests quite similar levels of satisfaction and motivation.

Table 4. Perceptions of the experience of volunteers according to gender

Factors	Male		Female		
	Mean	SD	Mean	SD	t
Importance of volunteer work	6.6	.9	6.6	1.0	0.454
Recognition and/or rewards received	5.5	1.9	5.2	1.8	2.068*
Variety of activities developed	5.6	1.7	5.5	1.8	0.782
Enjoyment promoted by the experience	5.9	1.7	6.0	1.7	-0.600
Enjoyment promoted by the experience	6.0	1.6	6.0	1.5	0.299
The experience was positive	6.2	1.5	6.3	1.4	-0.731
Your contribution was important during the event	6.0	1.5	6.1	1.5	-0.264
Your participation contributed to the success of the event	6.1	1.5	6.1	1.5	0.358
Personal knowledge	6.1	1.5	6.0	1.6	0.929
Personal and professional growth	6.0	1.6	5.9	1.7	0.484
Multicultural interaction	6.3	1.5	6.1	1.6	1.403
Socialisation	6.2	1.5	6.2	1.6	0.017
Cultural and anthropological experience	6.2	1.5	6.2	1.5	0.052
Making professional contacts	5.7	1.8	5.3	1.9	2.975*
Making friends	6.1	1.5	5.9	1.7	1.867
Taking part in the world's biggest sporting event	6.3	1.6	6.2	1.6	0.155
Learning about mega events organisation	6.1	1.6	5.9	1.7	1.505
The tasks carried out allowed me to show my worth	5.4	1.9	5.0	2.0	3.034*
I missed the event after it ended	6.0	1.7	6.0	1.7	0.064
Participation was important in my personal development	5.8	1.8	5.7	1.8	0.845
I would attend a similar event again	6.2	1.6	6.2	1.6	-0.486
I am satisfied with the role and tasks assigned to me	5.8	1.8	5.6	1.9	1.309
I am satisfied with my performance	5.9	1.7	5.9	1.7	-0.108
Personal development	5.1	1.4	5.0	1.5	1.058
Greater connection to sport	5.0	1.5	4.8	1.7	1.913
Privileges of volunteering	5.0	1.5	4.8	1.6	1.716
Positive experience	5.1	1.5	4.8	1.6	2.519*
Contribution to the community	5.2	1.4	5.1	1.5	1.241
Social and cultural development	5.2	1.4	5.2	1.5	0.456

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

When compared, the importance of volunteer work (6.6), the satisfaction and involvement promoted by the experience (6.0), the perception of personal contribution to the success of the event (6.1), socialising (6.2), the cultural experience (6. 2), the satisfaction with their performance (5.9), and development at a social and cultural level (5.2) were the fields in which both genders attributed the same valuation, culminating in the feeling of nostalgia (6.0) and the desire to participate in other similar events (6.2).

Finally, the data confirmed statistically significant differences in three fields, with males attributing greater importance and value than females on issues related to recognition and/or rewards, establishment of professional contacts, and perception of the ability to show their value with the assigned tasks, as well as about the feeling of a positive experience.

Perceptions of the experience according to age groups

As regards the comparison between age groups and in order to better interpret the possible results, we defined four groups. Table 5 shows that in both groups the answers were quite similar, which suggests that age had

Table 5. Perceptions of the experience of volunteers according to age groups

Factors	<20		21-30		31-40		>40		
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	F
Importance of volunteer work	6.6	.9	6.6	.9	6.5	1.1	6.7	1.0	0.602
Recognition and/or rewards received	5.5	1.7	5.4	1.8	5.2	2.0	5.3	1.8	0.945
Variety of activities developed	5.8	1.6	5.6	1.8	5.5	1.9	5.5	1.7	1.054
Enjoyment promoted by the experience	6.1	1.6	6.0	1.7	5.8	1.8	5.8	1.6	0.953
Enjoyment promoted by the experience	6.1	1.5	5.9	1.6	5.9	1.7	6.0	1.4	0.814
The experience was positive	6.3	1.4	6.2	1.5	6.1	1.6	6.3	1.4	1.109
Your contribution was important during the event	6.1	1.5	5.9	1.6	6.0	1.5	6.2	1.4	1.331
Your participation contributed to the success of the event	6.1	1.5	6.0	1.6	6.1	1.6	6.2	1.4	1.158
Personal knowledge	6.1	1.6	6.0	1.5	5.9	1.8	6.1	1.5	0.332
Personal and professional growth	6.1	1.6	6.0	1.6	5.8	1.9	5.9	1.7	0.798
Multicultural interaction	6.3	1.5	6.2	1.5	6.2	1.7	6.2	1.5	0.324
Socialisation	6.3	1.5	6.2	1.5	6.1	1.6	6.2	1.5	0.526
Cultural and anthropological experience	6.4	1.4	6.2	1.5	6.1	1.6	6.2	1.5	0.706
Making professional contacts	5.8	1.6	5.6	1.8	5.4	2.1	5.2	1.9	3.108*
Making friends	6.1	1.7	6.0	1.6	5.9	1.8	6.1	1.5	0.535
Taking part in the world's biggest sporting event	6.2	1.6	6.2	1.6	6.2	1.8	6.4	1.5	0.508
Learning about mega events organisation	6.2	1.6	6.0	1.6	5.9	1.8	6.0	1.6	0.507
The tasks carried out allowed me to show my worth	5.2	1.9	5.3	1.9	5.0	2.1	5.2	1.9	0.952
I missed the event after it ended	6.0	1.6	6.0	1.7	5.8	1.9	6.1	1.7	1.035
Participation was important in my personal development	5.8	1.8	5.7	1.8	5.5	1.9	5.8	1.8	0.707
I would attend a similar event again	6.2	1.6	6.2	1.5	6.1	1.7	6.3	1.5	0.524
I am satisfied with the role and tasks assigned to me	5.7	1.9	5.7	1.8	5.5	1.9	5.7	1.8	0.282
I am satisfied with my performance	5.9	1.6	5.9	1.7	5.9	1.7	6.0	1.6	0.323
Personal development	5.2	1.5	5.2	1.4	4.9	1.6	5.1	1.5	1.196
Greater connection to sport	4.8	1.6	4.9	1.6	4.8	1.7	4.8	1.6	0.491
Privileges of volunteering	5.0	1.5	5.0	1.5	4.8	1.7	4.8	1.6	1.669
Positive experience	5.0	1.5	5.0	1.5	4.9	1.7	4.9	1.5	0.354
Contribution to the community	5.1	1.5	5.1	1.4	5.1	1.5	5.2	1.4	0.459
Social and cultural development	5.2	1.5	5.3	1.4	5.1	1.5	5.2	1.4	0.374

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

little influence on the higher or lower value assignment and motivation level of volunteers. However, the tests performed detected statistically significant differences regarding the perception and valuation of establishing professional contacts within the context of the volunteers' participation in the Olympic Games. In other words, the <20 group attributed greater importance to this field when compared to the others, and this valorization tends to be lower as age increases, suggesting that younger volunteers took this opportunity to enhance and increase their professional perspectives.

Perceptions of the experience according to academic qualifications

Regarding the comparison according to the different levels of academic qualifications (Table 6), the results also show a very similar pattern of response with no major differences between the volunteers.

However, and after performing the respective tests, the results showed the existence of significant differences regarding the establishment of professional contacts between volunteers with higher education and those with only secondary education. In other words, the volunteers with

Table 6. Perceptions of volunteers experience according to educational level/academic qualifications

Factors	Basic		Secondary		Bachelor		Master and PhD		
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	F
Importance of volunteer work	6.7	.6	6.6	1.1	6.6	.9	6.5	1.0	0.413
Recognition and/or rewards received	5.1	2.0	5.7	1.7	5.3	1.9	5.1	1.9	2.403
Variety of activities developed	5.5	2.2	5.8	1.6	5.5	1.8	5.4	1.7	1.832
Enjoyment promoted by the experience	5.9	2.1	6.0	1.7	5.9	1.7	6.1	1.4	0.573
Enjoyment promoted by the experience	5.9	1.8	6.0	1.7	6.0	1.5	6.0	1.5	0.041
The experience was positive	5.9	2.0	6.3	1.5	6.2	1.4	6.3	1.6	0.659
Your contribution was important during the event	5.9	1.8	6.1	1.6	6.0	1.5	6.2	1.6	0.338
Your participation contributed to the success of the event	6.1	1.8	6.2	1.6	6.1	1.5	6.2	1.6	0.322
Personal knowledge	5.9	1.8	6.0	1.6	6.0	1.6	5.9	1.6	0.076
Personal and professional growth	6.1	1.8	6.1	1.7	5.9	1.7	5.8	1.8	0.666
Multicultural interaction	6.0	1.9	6.2	1.6	6.2	1.5	6.2	1.4	0.246
Socialisation	6.1	1.9	6.3	1.5	6.1	1.5	6.4	1.3	0.896
Cultural and anthropological experience	6.1	1.9	6.3	1.6	6.2	1.5	6.3	1.3	0.220
Making professional contacts	5.7	1.9	5.8	1.7	5.4	1.9	5.1	2.1	3.638*
Making friends	6.1	1.9	6.1	1.6	6.0	1.6	6.0	1.5	0.287
Taking part in the world's biggest sporting event	6.2	1.8	6.3	1.6	6.2	1.6	6.4	1.3	0.254
Learning about mega events organisation	6.2	1.9	6.1	1.6	6.0	1.7	5.9	1.5	0.530
The tasks carried out allowed me to show my worth	5.3	2.1	5.4	1.9	5.1	1.9	4.8	1.9	1.570
I missed the event after it ended	6.1	2.0	6.0	1.7	6.0	1.7	6.1	1.7	0.116
Participation was important in my personal development	5.7	2.0	5.8	1.8	5.7	1.8	5.7	1.8	0.206
I would attend a similar event again	6.1	1.9	6.1	1.7	6.2	1.5	6.2	1.5	0.302
I am satisfied with the role and tasks assigned to me	5.7	2.1	5.8	1.8	5.6	1.8	5.7	1.6	0.362
I am satisfied with my performance	5.8	2.1	6.0	1.7	5.9	1.7	6.0	1.6	0.134
Personal development	5.0	1.8	5.2	1.5	5.1	1.5	4.9	1.4	0.833
Greater connection to sport	4.9	1.8	5.0	1.5	4.8	1.6	4.6	1.7	1.308
Privileges of volunteering	4.8	1.9	5.0	1.6	4.9	1.6	4.6	1.5	1.185
Positive experience	4.8	1.8	5.0	1.5	4.9	1.6	4.7	1.5	0.675
Contribution to the community	5.0	1.8	5.3	1.4	5.1	1.4	5.0	1.4	0.929
Social and cultural development	5.0	1.9	5.3	1.5	5.2	1.4	5.1	1.4	0.604

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

fewer academic qualifications were those who attributed greatest value and importance from the point of view of the motivation arising from their participation. These results suggest that participation in events of this importance is perceived not only as being extremely motivating, but also relevant from the perspective of professional growth by those with fewer academic qualifications.

Differences between expectations and outcome perceived enjoyment at the Olympic Games

Finally, and in order to establish a relationship and better understand the volunteers' expectations and motivations, we decided to assess and compare data in the initial period of the event and after its conclusion according to gender, academic qualifications, marital status and age group (Table 7). In this sense, the volunteers were asked to evaluate the perception of their level of satisfaction and motivation based on their participation and lived experience in the 2016 Olympic Games before and after the event.

The data obtained shows no statistically significant differences in any of the groups analysed. However, some interesting differences are worth mentioning and contribute to a more in-depth analysis. The comparison between genders showed a slight positive change that was more evident in men than in women, whereas the comparison of academic qualifications shows that the volunteers with undergraduate qualifications showed the most significant increase between initial expectations and the final assessment after participation. It should be noted that there was a negative assessment between pre- and post-event in the groups of volunteers with secondary education and Master's/PhD qualifications.

Regarding the comparison of volunteers according to marital status, both groups showed a positive relationship with no significant differences, with the divorced group showing the greatest difference between both timelines. On the other hand, it was verified that the 21–30 age group was the only one with a negative assessment according to post-event expectations, while the remaining were positive, as demonstrated especially by volunteers aged >40, as this group represented the greatest positive difference.

Discussion

This study followed the line of research on motivation, satisfaction and expectations of sports volunteers arising from their participation and involvement in mega sporting events, more specifically within the scope of the Olympic Games. The main objective of the research was to explore the motivations and expectations of the volunteers participating in the 2016 Olympic Games in Rio according to different indicators, so as to understand and express their degree of satisfaction, as well as the recognition of the factors that had the greatest influence on their post-event evaluation, aiming to reinforce the validity of studying sporting legacies.

Research in sport management has enabled a deeper and multidisciplinary knowledge on the theme of sporting

Table 7. Differences between expectations and outcome of volunteers participation

Volunteer expectations according to gender									
	Male		**Female**						
	Mean	SD	Mean	SD	t				
Experience-driven fun	0.10	0.90	0.01	1.0	1.511				
Expectations of volunteers according to educational level/academic qualifications									
	Basic		**Secondary**		**Bachelor**		**Master and PhD**		
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	F
Experience-driven fun	0.05	1.7	-0.3	0.9	0.09	0.92	-.08	1.0	1.123
Volunteers expectations according to marital status									
	Single		**Married**		**Divorced**				
	Mean	SD	Mean	SD	Mean	SD	F		
Experience-driven fun	0.01	0.99	0.10	0.90	0.22	1.0	1.485		
Volunteers expectations according to age groups									
	<20		21-30		31-40		>40		
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	F
Experience-driven fun	0.07	0.97	-.02	.97	0.08	1.11	0.14	0.87	1.262

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

events (Annear et al., 2019; Groschl, 2021; Teixeira et al., 2023b), particularly in relation to everything involving sports mega-events (Oliveira et al., 2020; Cerezo-Esteve et al., 2022; Reis et al., 2023). Within this scope, the contribution of several researchers has enabled answers to be found to different paradoxes and questions, whilst consolidating the conceptual construct of sport legacy involving different dimensions (Koutrou et al., 2016; Thomson et al., 2019; Rozmiarek et al., 2021; Dickson & Darcy, 2022).

Science allows us to follow several paths (Teixeira et al., 2022), leading to greater and better knowledge about the reality of major sporting events, not only in relation to the potential aggregating factor of promoting sporting activity and stimulating an increase in the number of practitioners at local, national and international level, but also in relation to their economic, social, touristic or cultural effects (Vegara-Ferri et al., 2018; Theodorakis et al., 2019; Ramos et al., 2022; Teixeira et al., 2023b). More recently, issues associated with the introduction of new modalities, sustainability, preservation of the environment or adaptation to climate change have also gained particular interest (Gulak-Lipa & Jagielski, 2020; Hautbois et al., 2020; Cerezo-Esteve et al., 2022; Segui-Urbaneja et al., 2023).

In other words, the vast existing knowledge allows for a comprehensive understanding of the multiple effects and practical implications involved in organising events such as the Olympic Games in a direct way on the populations and the host country itself in the short, medium and long term (Kokolakis & Lera-Lopez, 2020; Oliveira et al., 2020; Ludvigsen et al., 2022). However, to speak of sporting legacies is also to speak of human development.

In this field, several researchers have sought to study the motivation of sports volunteers, as well as the main intentions and objectives which lead to their decision-making (Bang & Chelladurai, 2009; Lamb & Ogle, 2019; Bańbuła, 2021; Rozmiarek et al., 2023). In fact, it is possible to observe that this area of interest has grown substantially, particularly in the last decade, involving the study of sports volunteers in different types of events in various geographical regions (Holmes et al., 2018; Vetitnev et al., 2018; Kragt & Holtrop, 2019; Diop et al., 2022; Okada et al., 2022).

Broadly speaking, a substantial part of these results has identified the search for an experience that enriches personal and professional skills (Lucidi et al., 2008; Cho et al., 2020; Moradi et al., 2020; Bakhsh et al., 2021), whilst participating in an event they are passionate about, or for the global experience itself (Dickson et al., 2015; Doherty & Patil, 2019; Chen et al., 2022) are among the main reasons and motivations highlighted by various volunteers. Some of these results have enabled us to identify patterns of behaviour in different types of sporting events (Hallmann & Harms, 2012; Koutrou & Pappous, 2016; Kim et al., 2019a), thus reinforcing knowledge of the main intentions, expectations and motivations that stimulate interest in the activity of volunteers (Nedvetskaya, 2020; Won et al., 2021; Okada et al., 2022).

Therefore, the results of this study make it possible to reinforce some of the patterns and knowledge already identified and demonstrated by other authors (Dickon et al., 2013; Homes et al., 2018; Groschl, 2021; Diop et al., 2022). First of all, the high number of volunteers involved (>25,000) in an estimated total of over 50,000 applications, which demonstrates not only the interest in participating and sharing this unique experience, but also reinforces the growing importance of volunteers throughout the operational chain. The unique and fundamental role of volunteers has been widely mentioned, not only as a guarantee for the holding of large-scale events (Wilks, 2014; Okada et al., 2022), but also in the very intention of promoting the best possible event for all those involved (Koutrou et al., 2016; Lachance et al., 2021).

On the other hand, the profile of the volunteers involved in the 2016 Olympic Games also reinforces an international pattern of participation in major sporting events (Okada et al., 2022), i.e. the majority of volunteers were in the 16–35 age group (63.4%), with greater participation from 16–25 (38.6%), and the dispersion between female and male gender (53.7% and 46.3%, respectively) was quite uniform. The duality of participation of volunteers with and without experience should be another point of interest, due to the prevalence of the group without previous experience (52.4%), while those with previous experience in sports volunteering represented only 28.8% of the sample. This scenario reinforces the concern and appreciation attributed to the need for a strong focus on the design and planning of recruitment strategies (Nichols et al., 2019; Cuskelly et al., 2021), particularly with regard to the importance of understanding what volunteers are actually looking for when they apply (Nagel et al., 2020; Chen et l., 2022).

Considering that most volunteers had a higher level of education (74.0%) when compared to the remaining lower levels (26.0%), the possibility of different motivations and/or expectations arising from participation would be expected, but the main reasons indicated do not express this assumption, i.e. volunteers highlighted the feeling of pleasure in participating (20.0%), the possibility of improving their personal and professional skills (17.0%), their passion for the Olympic Games (16.8%) and their passion for sport (15.6%) as the main reasons for their involvement. These results demonstrate that, regardless of the level of education, there is a pattern as to what volunteers essentially seek, thus confirming results previously verified by other authors (Koutrou et al., 2016; Holmes et al., 2018; Gang et al., 2023).

If we take a deeper look at the results of this research, we verify that even when divided into different groups, the most relevant indicators point in two directions, i.e. on the one hand, the satisfaction and positive expectations inherent to participation in the event and, on the other hand, the

opportunity for growth and learning that translates into more personal and professional competences, a situation that has already been identified in similar studies (Lucidi et al., 2008; Nichols et al., 2019; Thomson et al., 2019; Won et al., 2021). These data tell us that volunteers seek not only an experience that translates into strong emotions and increases their levels of motivation and satisfaction, but also that their commitment and dedication produce gains that may help them in the future at various levels in their daily lives (Dickson et al., 2015; Hautbois et al., 2020; Rozmiarek et al., 2023).

The discussion on the motivation of sports volunteers and what leads them to their desire to participate in major sporting events has been the object of successive investigations, mainly since the beginning of the 2000s (Bang et al., 2008; Lucidi et al., 2008; Bang & Chelladurai, 2009). Several authors have addressed this issue, allowing some of their main assertions in this field to be confirmed today (Bang et al., 2008; Li et al., 2016), in which the vast majority of volunteers perceive these opportunities as something unique in their lives, and expectations and motivations take precedence over knowledge about the role they may play, given that the vast majority do not usually have any experience in this field (Bańbuła, 2017; Vetitnev et al., 2018; Ahn 2018).

The paradox that is created with the increase and diversity of knowledge about the behaviour and intentions of sports volunteers, as well as the recognition of the complexity and demand in the organisation of sports mega-events (Doherty & Patil, 2019; Bang et al., 2019) and the pressing need to recruit motivated and dedicated volunteers with greater skills and knowledge, is how to guarantee a continuity of previous volunteers, while simultaneously defining stimulating and tempting strategies to attract the best candidates, even those with no previous experience (Alexander et al., 2015; Ahn, 2018).

We therefore defend the idea, and the results of the study point in this direction, that sport legacies are also of human development, i.e. the level of interaction and involvement of volunteers has gained tremendous relevance in the last decade, covering candidates from different social strata and professional contexts, age groups, nationalities, level of qualifications and academic skills, most of whom seek the experience that enables their personal growth at various levels. For this reason, it is also necessary to evaluate and study the strategies developed by the competent entities, their characteristics and impact, in order to understand if we are effectively moving towards a comprehensive dimension of development and learning through participation in sports mega-events such as the Olympic Games (Bang et al., 2019; Doherty & Patil, 2019; Bakhsh et al., 2021; Dickson & Darcy, 2022).

The atmosphere created at events such as the Olympic Games is unique and unparalleled, where their simple realization promote and enhance diverse emotions and intentions, rich in learning, that can leave their mark on anyone (Oliveira et al., 2020). However, the lived experience versus expectations created should and must be nurtured so as to ensure that this feeling lasts over time. In the specific case of the 2016 Olympic Games in Rio, the results point towards a quite significant feeling of nostalgia (6.0 out of 7.0), reflected in the fact that 92.0% of the 828 volunteers stated that they would take part in similar events again.

Subsequent editions of the Olympic Games and other major sporting events occur in different regions, which in itself is a barrier to volunteers wishing to participate on a regular basis, just as the fact that they occur over time may discourage intentions of future participation. However, this should clearly be a concern of the organizing entities, as well as of each host country, as each event enhances not only new infrastructures, increased tourist flows and international visibility (Segui-Urbaneja et al., 2022; Dickson & Darcy, 2022; Teixeira et al., 2023b), among other things. Above all, it enables volunteers to gain skills and dynamics that are reflected in society and in more active and participative citizens, especially when most of the volunteers come from the organizing country itself. An example of this was the fact that 90.1% of the total number of volunteers were residents of Brazil, a situation that has already been seen in other sporting events (Kokolakis & Lera-Lopez, 2020; Okada et al., 2022).

The overall results allow us to infer that most volunteers approached this experience with concrete expectations and motivations and that, according to the analysis carried out by groups, these changed little, as the positive final assessment was clear and unequivocal. In relation to the starting questions, which aimed to draw specific conclusions regarding the motivation and satisfaction of the volunteers, it seems evident that we not only found answers, but that they reinforce the purpose of the study.

The volunteers unanimously highlighted the importance of participation in improving their personal and professional skills and knowledge (Q1), a finding that was possible through the analysis of different indicators. On the other hand, expectations were exceeded when analysing the pre- and post-event evaluation, translating into the prediction that they would repeat their participation (Q2), when 92.0% of the volunteers confirmed this desire and intention. Finally, and once analysed globally and subsequently by different groups, the data point towards a uniformity of the main indicators that allow us to support the statement that, regardless of gender, age or academic qualifications (Q3), the vast majority of volunteers saw their expectations exceeded, thus influencing their perception and global evaluation in terms of motivation and satisfaction with the experience lived at the 2016 Olympic Games.

In conclusion, the data obtained with this research allowed us to reinforce the scientific field of Olympic studies and sports volunteers at the level of motivation and expectations involving their decision making. With the approach of Paris 2024 and the experience of Tokyo 2020, held only in 2021 due to the Covid-19 pandemic, which did not allow a deepening in this field, we believe that these results remain useful and timely, and constitute a reference for future comparative studies that explore this theme in the context of sporting events and their volunteers. The study was limited by the impossibility of reaching a larger number of responses, which would have been interesting and would eventually strengthen the conclusions of the study.

Conclusions

The design of this study made it possible to develop and strengthen the field of knowledge regarding the motivations and expectations arising from the participation of sports volunteers in the Rio 2016 edition of the Olympic Games. This is an emerging field of study, especially in recent years, not only due to the growing relevance of sports volunteers in the organization and execution of sports mega-events and their important multidisciplinary role, but also due to the curiosity and interest of several researchers in understanding the reasons that lead to decision making and consequent expectations and satisfaction levels.

The data obtained through this research unequivocally express the value attributed to this type of experience in the acquisition of more personal and professional skills and knowledge, regardless of gender, age or academic qualifications, and this opportunity was valued by most volunteers. The deepening of this thematic area continues to be essential within the scope of research in sports management, as it not only allows a greater comprehensiveness in the study of sporting events, and in particular sports mega-events, but also reinforces the importance of better understanding the role of volunteers, both in terms of their motivation and their practical performance during each event.

In this sense, we may conclude with the elaboration of this study that there is in fact scientific evidence that is reinforced in relation to the intentions and expectations of the volunteers, regardless of the type of sporting event, while we move towards the consensus that we are facing another perfectly consolidated dimension of sport legacy resulting from the holding of and participation in sporting events.

We believe that future studies should continue to analyse motivation, satisfaction and expectations before and after participation to strengthen this thematic area, while at the same time deepening the volunteers actual involvement. In other words, we seek to understand more about what this gain in competences translates into and what implications it has directly in their personal and professional lives after participation. In this way, it will be easier to adapt future recruitment strategies, as well as to form stronger, more dynamic and participative units and groups of volunteers.

Practical implications for Olympic volunteering

The development of this research and the results obtained allow us to identify three practical implications, not only for future studies on Olympic/sports volunteers, but also for multilevel sports organisations that regularly require their contributions, for which they must invest in recruitment strategies of excellence to attract the best candidates.

Firstly, the results reinforce evidence already found by other authors on the importance the motivation and interest of volunteers related to personal and professional gains. The available knowledge shows that in the modern age of sport volunteers seek to acquire specialized knowledge and skills that enrich their CV and personal skills, this being their key motivation and expectation when volunteering for a given sport event. In this sense, it would be important for future studies to focus particularly on the types of gains and benefits that volunteers intend to acquire, not in a global, social or cultural way, but especially in professional terms and specific skills gains.

Secondly, and following on from the reinforcement of some of the main motivations and expectations of Olympic volunteers, a well-defined strategy for recruiting future volunteers must necessarily consider the profile of the candidates and, as far as possible, allocate them to functions to which they can attach particular importance. In other words, if organizations pay special attention to the experiences, skills and knowledge of candidates, they will be able to maximize the value of their contribution, thus increasing the likelihood of higher rates of motivation and appreciation of the experience gained before, during and after the event, which will transfer to the intention and motivation to participate in future similar events.

Finally, it seems clear to us that it is the strategic combination of the above findings that reinforces the importance of the concept of legacy in relation to Olympic volunteering, that is, at a time when volunteers are more demanding and well-defined in their purpose, the demands and complexity of organising mega-sporting events also increase, and the importance that volunteers represent in the success of events is indisputable. In this sense, the greater the commitment of organizations in attracting and recruiting candidates, supported and directed by the expectations of management and volunteers, the more likely they will show commitment to active and regular participation, and high levels of motivation.

Ethics approval and informed consent

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Competing interests

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Analyzing the Relationship Between Individual Time Management Skills and Business Attitude of Sports Science Students

Authors' contribution:
A) conception and design of the study
B) acquisition of data
C) analysis and interpretation of data
D) manuscript preparation
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Abstract

Individual time management skills and a business approach are two fundamental abilities required for success in any life. The goal of this study is to look at the connection between the individual time management skills and business attitudes of sports science students. The quantitative, descriptive study used structural equation modelling (SEM) as its methodology. Students from Tabriz city's physical education and sports sciences departments helped collect the data. IBM® SPSS® Amos™ 23 was used to process the results of the study for model and hypothesis testing. This findings revealed a substantial relationship between individual time management abilities and business views of 126 students. Other research hypotheses examining the relationship between the business attitude and its constituent elements were similarly supported. According to the findings, prioritizing the notion of planning in personal and business life is one of the most effective time management approaches, and students should educate themselves concerning time management and business attitude.

Keywords: Time planning, communication skills, attitude toward business, entrepreneurial intention, competitiveness

Introduction

Time is essential for achieving goals and fulfilling desires (Mercanlioglu, 2010). According to Claessens et al. (2007), organizational literature has shown a growing understanding of the importance of time over the past two decades. Human senses cannot understand time, which has philosophical, psychological, and sociological dimensions (Bayramlı, 2017). However, effective time management (TM) is essential to balancing our lives and improving our work and productivity (Ağduman, 2014). TM is the efficient use of resources to achieve goals (Akatay, 2003). It involves controlling time and prioritizing tasks (Cemaloğlu & Filiz, 2010) to improve performance and free up time for higher-priority jobs (Thomack, 2012). According to Kearns & Gardiner (2007), Swart et al. (2010) and Macan et al. (1990), TM has implications for academic performance, academic achievement, self-efficacy and problem-solving abilities, and has a favorable impact on physical tension and stress among pupils. In this context, having proper models and solutions for education, training and optimal utilization of the active and entrepreneurial workforce is critical (Tayebi & Fakhri, 2010), and programmes are needed to inspire students to become entrepreneurs (Engle et al., 2010). Investigating the current state of this critical element and identifying its deficiencies will assist policy-makers and planners in assisting in the development of entrepreneurial process (Khorsandi Yamchi et al., 2015).

Physical education students in general require planned and precise plans in order to develop their enterprises and overcome existing challenges and problems. The government, society, educational institutions, students and individuals must all work together to solve this problem. What is certain is that no cohesive and structured action to propagate and introduce business culture has yet been carried out, at least in the field of education in the research community. Therefore, taking account of the results of this research can not only help many planners and developers in the country in future research but also provide a general picture for physical education faculties in order to measure their success in preparing students and their employability in the fields. Physical education should be used and encouraged in order to improve employability and achieve job satisfaction of physical education students. Therefore, to fill this gap, the scientific and academic background of the present research was carried out with the aim of investigating the relationship between individual time management skills (ITMS) and the business attitude of sports science students in order to reveal the relationship between TM skills and dimensions of attitude towards business. In this paper, we identify gaps in the literature on existing research and make recommendations for future study.

Theoretical background

Time management (TM) skills

Time management is the process of planning and organizing the allocation of time for specific activities, such as gaining experience or education (Ghaffari et al., 2021). The term 'time management' refers to behaviours that are "intended to use time effectively while performing specific, goal-oriented activities" (Claessens et al., 2007). In order to succeed, managers in charge of effectively managing organization resources must make the best possible use of their time (Yılmaz, 2002). TM helps managers reduce time waste by attending meetings and making decisions (Jamshid Malek Ara, 2009). Prioritizing a regular and organized life is another aspect of TM (Williams et al., 1995). In line with subject of the study, one of the practical issues that students in particular confront is TM (Sevari & Kandy, 2011). According to specialists like Kelly (2004) and Laurie and Hellsten (2002), time is important for students because it aids in their productivity and creativity. According to Macan's model (1994), TM is determined by goals, mechanics and organizational preferences. However, time-sensitive processes are essential for managing an entrepreneur's time (Zachary et al., 2015). Some specialists, such as Kelly (2004) and Nonis and Hudson (2006), believe that mastery of TM is an important part of success in life, including employment and education. TM skills improve the effectiveness and dynamism of care organization and foster contentment (Eilam & Aharon, 2003; Gran-Moravec & Hughes, 2005; Marrelli & Hilliard, 2004; Rapp et al., 2013). More control over their time improves students' performance and life satisfaction, leading to reduced confusion in their roles and less physical tension.

Business attitude (BA)

It is essential to understand the driving forces and thought processes behind students' decision-making in order to influence them to pursue entrepreneurship. Attitude toward business is one of the most serious and key prerequisites for carrying out and developing entrepreneurial behaviours (Jones et al., 2011). It is becoming increasingly important for business success to understand the challenges and opportunities associated with society's transition to sustainability and to be able, for example, to innovate, design and build functional business models in this context (França et al., 2017). Entrepreneurship should now be viewed as a collection of mentalities. Aside from business and economics, such an approach asserts that anyone can think and behave entrepreneurially (Fuchs et al., 2008). Davidson's model suggests that the current situation and firm belief is influenced by general business attitudes (competitiveness, money orientation, willingness to change, progress and independence) and situational attitudes (efficiency, social participation and skill) (Guerrero et al., 2008). According to an international study, a variety of factors influence corporate attitudes (Kakouris, 2016). Numerous studies have been conducted on entrepreneurs, and each has taken a different approach to them, as well as categorized the reasons why people become entrepreneurs in different ways. Stewart Jr et al. (1999) believe that psychological characteristics have produced good results for predicting people's desire to become entrepreneurs. The existence of more entrepreneurs creates more competition (Fritsch, 2008), and entrepreneurship can lead to economic growth through innovation, resource diversity, invention and competitiveness (Baumol, 1993). Positive beliefs and attitudes towards business increase entrepreneurial behaviour in students after completing their education (Baharvand & Gouran, 2020). Therefore, positive and appropriate attitudes towards business can be considered an opportunity to create and expand self-employment and entrepreneurship programmes and activities among students.

International competition has prompted everyone to pay attention to the aspect of time. We all know that time-based management has surpassed cost-based management in importance. As a result, action based on correct, timely and creative techniques can be beneficial (Ghaed Mohammadi, 2010). Today, entrepreneurship is an effective economic development technique in the face

of globalization (Keat et al., 2011). Recognizing obstacles to entrepreneurship and providing solutions to solve them helps physical education students gain employment (Golmohammadi-Zangabad & Barghi Moghaddam, 2020). According to the research, those who set priorities and goals are more likely to practice effective time management, which boosts performance (Hellsten, 2012). Because our perception of time influences our behaviour and our lives several studies (Hall, 1959; Pant, 2016) have been conducted on perceptions and management. Subsequently, there has been a lot of interest in analyzing time management and organization to ascertain how they relate to performance or income (Alvarez Sainz et al., 2019).

The findings showed that students studying sports management and development have mature views about job advancement and entrepreneurship (Jones & Jones, 2014). The association between TM and non-economic characteristics such as anxiety, health and psychological well-being has been analyzed in several studies (Boixados et al., 2012; Ho, 2003; Macan, 1994; Misra & McKean, 2000; Pérez-González et al., 2003; Strazdins et al., 2011). Students focus on short-term planning and lack long-term habits (Alvarez Sainz et al., 2019). The evidence suggests that TM practices are linked to perceived time control, job satisfaction and health, but not to stress. TM training can improve TM skills, but does not necessarily lead to improved performance (Claessens et al., 2007). In fact, students' TM has only an average relationship with academic success (Cemaloğlu & Filiz, 2010). Given the high unemployment rates among graduates, entrepreneurial skills are increasingly important for their job prospects (Jones & Jones, 2014). Consequently, further study is needed to assist non-business students in developing entrepreneurial skills.

Proposed model of the research

In Figure 1, the proposed research model is based on theoretical correlations between individual time management skills (ITMS) and business attitude (entrepreneurial intention (EI), attitude to competitiveness (AC), attitude towards change (ATC), attitude to money (AM), and attitude to entrepreneurship (AE) of sports science students to support the hypotheses.

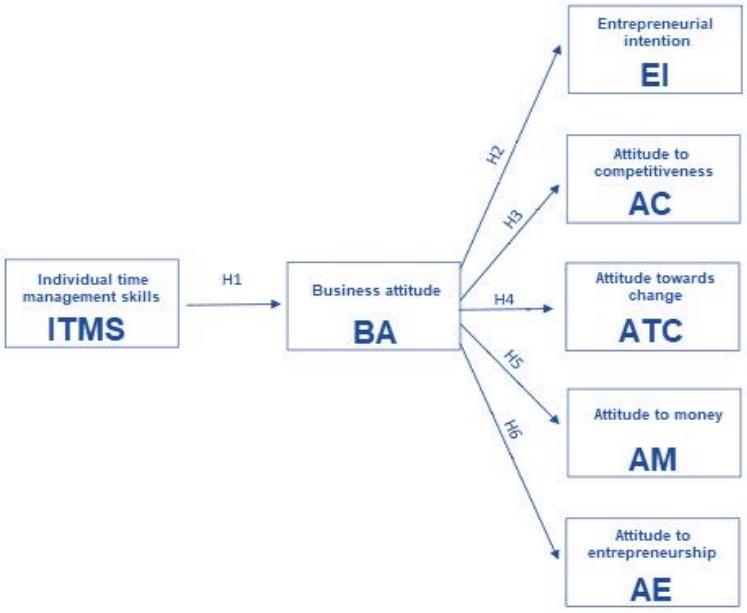

Figure 1. Hypothesized framework

Material and methods

Study design and participants

The current study is a correlational study based on field data. This research was conducted during March and April, 2023. The survey included 126 Tabriz City students majoring in physical education and sports sciences. At least one supervisor completed the questionnaire. All participants in our study participated voluntarily and their responses were recorded.

Convenience sampling was the method used in this study. It is a method used to recruit members of the target group who meet specific requirements (Pashaie & Sotiriadou, 2023). There are numerous recommendations for the optimal sample size when using SEM (Pashaie et al., 2022). As a result, a software developer can run

any model with any sample size (Memon et al., 2020). According to Mundfrom et al., (2005), a Minimum 100 and 100–400 (Ahmad, Halin, 2017) samples are needed for SEM analysis. Sample size requirements for SEM are difficult to generate universal criteria for (MacCallum et al., 1999). As a result, 126 university students studying physical education and sport in Tabriz were chosen for this study. Therefore, the sample size was consistent with the main rule of thumb cited in the scientific literature. As a result, the factor load should be 0.50 or higher for a sample size of 126 participants (Hair et al., 2006).

Measures

Two standard questionnaires were employed to meet the research objectives. The first was the ITMS standard questionnaire (Hafezi et al., 2008), which contained 30 questions. The second was a standardized questionnaire of students' BA, (Schwarz et al., 2009), comprising 20 items that use categories such as EI, AC, ATC, AM, and AE to assess students' attitudes toward business. The questionnaires were sent both electronically (e-mail) and virtually (WhatsApp and Telegram). We used a 5-point Likert scale to measure respondents' agreement level on each topic, ranging from 1 (strongly disagree) to 5 (strongly agree). Table 2 shows the key constructs and metrics.

Seven professors assessed the questionnaire for validity and made suggestions for further clarification of questions to determine validity. The final version of the questionnaire was created after the comments were summarized. Cronbach's alpha and the overall correlation of all components were assessed to examine internal consistency and dependability. This study showed a Cronbach's alpha coefficient greater than 0.7, which indicates acceptable internal consistency.

Data analysis

SEM-AMOS and covariance methods were used to examine data from 126 Tabriz City students. SEMs are used for model and theory testing and scale development (McQuitty & Wolf, 2013). A quantitative research approach was chosen to evaluate pre-specified hypotheses and allow researchers to understand the relationships between variables based on statistical data in general (Pashaie, Abbaszadeh, Abdavi, & Golmohammadi, 2023).

In general, SEM is composed of measurement and structural models. A confirmatory factor analysis (CFA) measurement model evaluates latent constructs for dimensions, validity, and reliability prior to structural modeling (see Fig. 2)(Pashaie, Golmohammadi, & Hoseini, 2023).

The power of the specified model against observed data is first evaluated using CFA. In order to evaluate the fit of the measurement model, the following criteria were used: Root-Mean-Square Error of Approximation ($0.05 < RMSEA < 0.08$), Chi square to degrees of freedom ratio ($\chi 2/ df < 3.0$), Tucker-Lewis index ($TLI > 0.90$), Normed Fit Index ($NFI > 0.90$), Goodness-of-Fit Index ($GFI > 0.90$) and Adjusted Goodness-of-Fit Index ($AGFI > 0.90$) were used as the absolute fit indices. Comparative Fit Index ($CFI > 0.90$) was used as the relative fit index and Parsimony Normed Fit Index ($PNFI > 0.50$) as the parsimony fit index (Hair et al., 2009; Pashaie et al., 2021). RMSEA values less than 0.05 indicate a close fit, values of 0.08 or lower indicate a decent fit, and values greater than 0.10 should be avoided (Pashaie & Sotiriadou, 2023).

Second, SEM was used to test hypotheses about correlations between observable and latent variables. In addition, average variance extracted (AVE) values measure variance in indicators accounted for by latent construct (Hair et al., 1998). To evaluate construct validity standardized factor loadings (≥ 0.50), composite reliability ($CR \geq 0.70$) and average variance extracted ($AVE \geq 0.50$) were calculated. Additionally, we gave internal consistency measures (alpha coefficients) for each scale or subscale to show how well the items associated with one another on a particular scale. Values above 0.70 are considered to be sufficient (Pashaie et al., 2022).

IBM® SPSS® SEM with Amos™ 23 software is reliable for this study. EndNote™ 20 software was used to create bibliographies and manage references.

Results

Demographic Profiles of Respondents

When the data filtering process was completed, 126 replies were used for data analysis. Demographic questions were covered in this poll. The socio-demographic characteristics were as follows (Table 1).

In terms of sample characteristics, 57.9% are male (n=73) and 42.1% are female (n=53). In terms of age, 19.8% are under 20 years old (n=25), 42.1% are 21–25 years old (n=53), 16.7% are 26–30 years old (n=21), 11.1% are 31–35 years old (n=14) and 10.3% are over 36 years old (n=13). In education status, 15.1% have an associate degree (n=19), 50% have a bachelor's degree (n=63), 27.8% have a master's degree (n=35), and 7.1% have a doctoral degree (n=9). In terms of marital status, 84.9% were single (n=107) and 15.1% were married (n=19). Also, in employment status, 62.7 % were employed (n=79) and 37.3% were unemployed (n=47).

Table 1. Participants

Socio-Demographic Characteristics	Participants (n = 126)	
	N	(%)
Gender		
Men	73	57.9
Women	53	42.1
Age		
Under 20 years old	25	19.8
21-25	53	42.1
26-30	21	16.7
31-35	14	11.1
Over 36 years old	13	10.3
Education		
Associate degree	19	15.1
Bachelor's degree	63	50
Master's degree	35	27.8
Doctoral degree	9	7.1
Marital Status		
Single	107	84.9
Married	19	15.1
Employment status		
Employed	79	62.7
Unemployed	47	37.3

Psychometric features of the measures and measurement model evaluation

A team of professionals and specialists in sports management evaluated the face validity of the measures. Additionally, construct reliability was investigated using CFA with composite reliability (see Fig. 2 for details), as it is more frugally constructed than the Cronbach's alpha test (Bagozzi & Yi, 1988). Based on these findings, we can confirm that the scales' reliability values are appropriate, as the Cronbach's alpha and composite reliability values were all greater than 0.70 (Hair et al., 2006). The CR values for all variables ranged from 0.701 to 0.897, exceeding the 0.70 criterion (Hair et al., 2010). Convergent validity assesses how well the items genuinely represent the intended latent construct. It is evaluated using factor loadings and AVE (Hair et al., 2010). For samples of 120, all measurement items had standardized loading estimates (λ) of 0.50 or higher (range from 0.562 to 0.902) (Hair et al., 2006), demonstrating the convergent validity of the measures in each concept. AVE values exceeded minimum requirement (0.50), demonstrating convergent validity (Pashaie et al., 2022).

Table 2. Psychometric Properties of the Measures

	α	CR	AVE
ITMS	.888	.828	.600
BA	.868	.745	.588
EI	.890	.762	.687
AC	.840	.897	.522
ATC	.856	.781	.500
AM	.810	.701	.746
AE	.811	.808	.690

***Note**: CR = composite reliability, AVE = average extracted variance; α = Cronbach's Alpha*

ITMS = Individual time management skills, BA = Business attitude, EI = Entrepreneurial intention, AC = Attitude to competitiveness, ATC = Attitude towards change, AM = Attitude to money, AE = Attitude to entrepreneurship.

The data was accurately measured using confirmatory factor analysis (see Fig. 2 for further information).

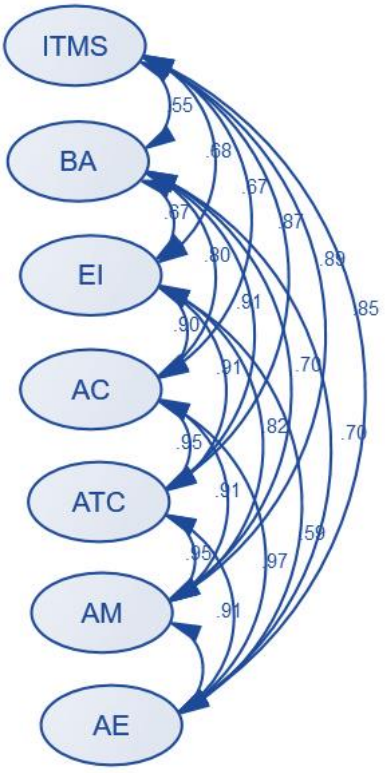

Figure 2. Measurement model

***Note**: Individual time management skills (ITMS); Business attitude (BA); Entrepreneurial intention (EI); Attitude to competitiveness (AC); Attitude towards change (ATC); Attitude to money (AM); Attitude to entrepreneurship (AE).*

Factor loadings suggest items are likely to predict the hidden variable.

Structural model analysis (SEM)

A measurement model was developed based on validity and reliability analysis. SEM was developed to test the hypotheses in this study. Model fit is a technique used to compare theoretical and experimental models. We utilized numerous fit indices to measure how well the scales constructs fit the data, such as the likelihood ratio $\chi 2$, $\chi 2$/df, RMSEA, GFI, AGFI, PGFI, NFI, TLI. It is usually enough to use 3 to 5 indicators to verify the model (Pashaie et al., 2022). The values of the final model fit indices ($\chi 2$/df = 2.83, RMSEA = 0.06, AGFI = 0.90, GFI = 0.91, PGFI = 0.82, TLI = 0.81) showed satisfactory fit of the model to the data.

The results of the data and structural analysis done in the model (Fig 3) are consistent with Table 4. Estimates greater than 0.6 indicate strong association between variables. There is a moderate correlation if it is between 0.3 and 0.6, and a weak correlation if it is less than 0.3 (Pashaie et al., 2022). In the model of significant numbers, due to the number of results obtained for "relationship between ITMS and business attitude of sports science students", estimates are 0.3 – 0.6 (ITMS, BA, EI, AC) – moderate correlation – and higher than 0.6 (ATC, AM, AE) – strong correlation between variables. In addition, the CR or t-value shows the significance of the effect of structures. A CR value greater than 1.96 indicates that there is a significant positive effect. When it is between +1.96 and -1.96, there is no significant effect, while when it is less than -1.96, there is a significant negative effect. The CR value is, in fact, the main criterion for confirming or rejecting the hypotheses in structural equations with Amos software (Badri Azarin et al., 2018). It may be

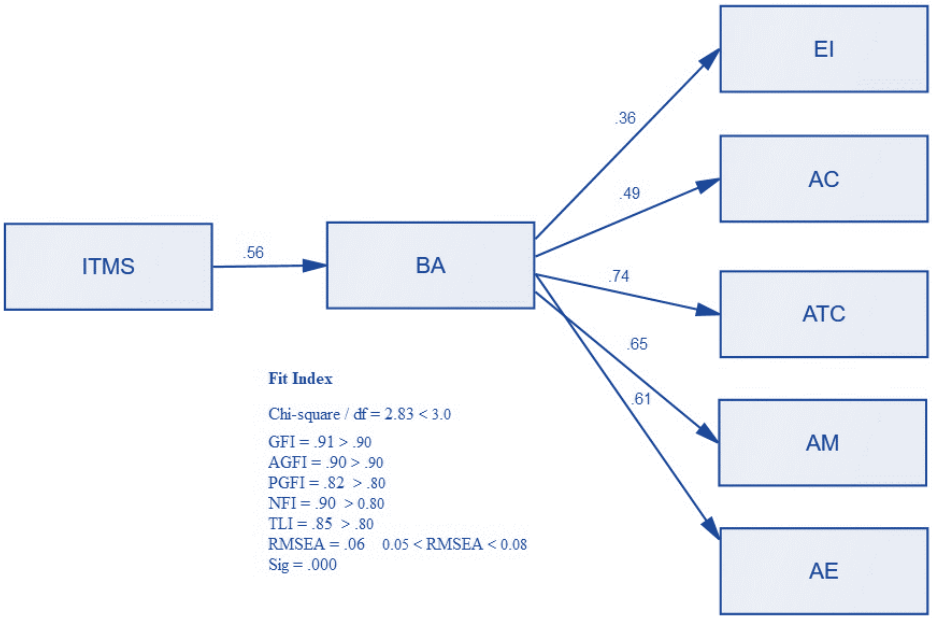

Figure 3. Results of structural model

concluded that these relationships are significant at the confidence level of 0.95 , since the number obtained for the relationships established in the model is more than 1.96.

Assessment of the hypothesized relationships

Table 3 displays a modelling method of ITMS and students' business attitudes in sports sciences. The hypothetical structural model's global model fit test yielded satisfactory findings.

The findings in Table 3 show the path coefficient of the relevant constructs along with their level of significance. All six hypotheses have a significant relationship, according to the hypothesis results. The relationship between ITMS to BA was supported (H1: Estimate = 0.568; CR = 5.605; p<.000). The study's findings support the assertion that ITMS and BA have a positive relationship. The relationship between BA and EI was supported (H2: Estimate = 0.368; CR = 5.489; p<.000). There is a positive correlation between BA and EI according to the study's results. H3 conveyed that BA significantly relates with AC and has been supported (H3: Estimate = 0.499; CR = 5.452; p<.000). According to the research findings, BA and AC are positively correlated. The relationship between BA and ATC was supported (H4: Estimate = 0.745; CR = 5.452; p<.000). According to the research results, BA and ATC have a positive relationship. The relationship between BA and AM was supported (H5: Estimate = 0.659; CR = 5.982; p<.000). BA and AM are positively correlated, according to the research results. The relationship between BA and AE was supported (H6: Estimate =0.611; C.R= 5.740; p<.000). According to the results from the last hypothesis, BA and AE are significantly related. Based on Figure 3 and Table 4, it can be concluded that all research hypotheses were confirmed at a level of 95% and that a positive and strong relationship was found between the structures. In the research model, regression coefficients are significant at 0.000. While some indices sometimes fell below the recommended level, factor loadings for all were above 0.50. Therefore, modification indices were examined in order to identify redundant items. After establishing a significant association between the dependent and independent variables, the effect of each independent variable on the dependent variable is displayed (Fig. 3) in the model stage of the standard estimation of structural equations. Therefore, SEM used was confirmed as a strong theoretical model.

Table 3. Regression Weights

Path			Estimate	S.E.	C.R.	Sig	Result
ITMS	→	BA	.568	.140	5.605	***	Confirmed
BA	→	EI	.368	.047	5.489	***	Confirmed
BA	→	AC	.499	.163	4.880	***	Confirmed
BA	→	ATC	.745	.191	5.452	***	Confirmed
BA	→	AM	.659	.181	5.982	***	Confirmed
BA	→	AE	.611	.201	5.740	***	Confirmed

S.E. = Standard Error, C.R. = Critical Ratio, Sig = Significance

ITMS = Individual time management skills, BA = Business attitude, EI = Entrepreneurial intention, AC = Attitude towards competitiveness, ATC = Attitude towards change, AM = Attitude to money, AE = Attitude to entrepreneurship.

Discussion

As previously stated, the purpose of this study was to look at the relationship between ITMS and BA of sports science students. According to the data, there is a considerable difference between ITMS and business mentality. One of the most fundamental parts of TM is maximizing time utilization. Entrepreneurs have limited time to address issues and expand their businesses (Yoo et al., 2016). However, in reality, TM takes control of our time and work rather than allowing it to drive our affairs (Ghaed Mohammadi & Nazem, 2011).

Sevari (2017) showed that teaching TM skills could increase the TM and study skills of target students. The findings of our hypothesis revealed a favorable and significant association between BA and EI. Entrepreneurial intent is a personality trait that motivates a person to hunt for a freelancing employment or to establish a new business (Fayolle & Liñán, 2014). Many people are looking for new and inventive ideas to help their businesses grow and thrive for a variety of reasons. Meanwhile, the idea of entrepreneurship as one of the ways to establish a new firm has been heavily examined. Koe (2016) investigated the level of entrepreneurial intention of Malaysian students as well as the effect of individual entrepreneurial orientation on entrepreneurial intention and concluded that the quality of pioneering and innovation (from the

dimensions of entrepreneurial orientation) has a positive effect on entrepreneurial intention.

According to previous research (Farahani et al., 2014), the entrepreneurial skills of physical education graduate students are directly and significantly affected by social, cultural, economic, political, educational, environmental, and international environmental factors, As a result, having a favorable attitude toward business can be considered to establish a proper climate for starting a new firm, and students can start the businesses they want.

The results of our hypothesis revealed that there is a positive and substantial association between BA and AC. Competitiveness is one of the most important themes that has been studied in management and marketing literature in recent years, and several viewpoints on the determinants of competitiveness have been provided (Mehri & Khodadad Hosseini, 2021). According to Kamalipour and Zeynalzadeh (2020), indicators of basic need, efficiency, and enhanced innovation had a favorable and significant impact on the business environment. Furthermore, Rostami et al. (2019) discovered that the amount of entrepreneurial activity varies across nations, based on their developmental stage in relation to competitiveness factors.

The findings of our hypothesis revealed a positive and substantial association between BA and ATC. Behavioral, cognitive, and emotional responses to change make up an attitude toward change (Bouckenooghe, 2010). Entrepreneurs are the most open to change and take the most risks (Ratten, 2011). ATC assists physical education students in adapting to changes in society and the corporate environment, as well as changing their methods in response.

The evidence from our hypothesis revealed a positive and substantial association between BA and AM.. Money can have different meanings and values for each person. It is one of the things that can affect purchasing decisions and motivations, but alone it cannot satisfy all human needs and desires (Belk & Wallendorf, 1990; Yamauchi & Templer, 1982). Money attitudes indicate a desire to earn money (Naderi et al., 2015). According to Bhardwaj and Bhattacharjee (2010), power-dignity and money-related anxiety are motivations for obtaining loan facilities and can be predictors of financial defaults. Barand and Imanian (2017) found that 59% of students had high expectations of monetary benefits: 28.5% had an average expectation and 12.5% had a lower expectation. Based on the findings of the hypothesis, it may be concluded that the purpose of all enterprises is to be profitable. As a result, attempts to increase corporate activities will attract money and result in profitability.

The evidence reveals that BA and AE have a positive and significant association. People with a good attitude toward business view entrepreneurship more positively and better equip themselves to accomplish their goals (Carr & Sequeira, 2007). Entrepreneurial mindset is a state of mind in which individuals demonstrate a desire to develop entrepreneurial behavior (Mohammadkazemi et al., 2014). Businesses with an entrepreneurial mindset are more likely to seek out unique and creative ideas that can directly aid in the growth and development of the company.

Conclusion

Time management is one of the most important skills, but it is often a concept that many businesses and people struggle with. Small businesses, in particular, cannot afford to waste time with bad time management and inefficiency. However, the benefits of good time management practices are immeasurable. Businesses that utilize good time management are better positioned to consistently deliver their product or service on time. The current study demonstrates that ITMS is important for students to develop a better attitude towards business and balance their time management skills. Attitudes towards change and business can help them deal with their competition and have a steady market. Attitudes towards money can motivate entrepreneurs to enhance and extend their business operations. A business attitude can be a stepping-stone to beginning entrepreneurial activities. Given the importance of TM skills in improving one's attitude toward business, it is critical that the country's educational institutions pay more attention to this topic and improve the ability of managers to acquire individual TM skills, which has a positive effect on student behavior and, as a result, increases productivity and positive attitudes toward businesses. We conclude that, to some extent, the amount of organizational time management behaviour can be described by students' individual TM skills. These findings have theoretical significance for understanding the relationship between ITMS and BA. Future analytical directions are determined based on the implications of the results.

Competing interests

The authors report no conflicts of interest in this work.

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Experience Quality Scale for Fitness Centers (EQSFC): Validity and Reliability Study

Authors' contribution:
A) conception and design of the study
B) acquisition of data
C) analysis and interpretation of data
D) manuscript preparation
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Abstract

This study aimed to develop a valid and reliable tool for measuring the perceptions of quality of experience for fitness center members. The research was conducted with two different sample groups who are current members of fitness centers. A total of 317 (141 females, 176 males) fitness center members volunteered to participate in the explanatory and confirmatory factor analysis survey, and 250 (102 females, 148 males) fitness center members volunteered to participate in the criterion-dependent validity survey. For the validity and reliability studies for the scale, explanatory factor analysis, confirmatory factor analysis, criterion-dependent validity, Cronbach's alpha internal consistency, and composite reliability were used. As a result of the exploratory factor analysis conducted to indicate the structural validity of the scale, a five-factor scale with 17 items included in i) communication quality, ii) physical environment quality, iii) outcome quality, iv) access quality, and v) entertainment quality was identified, explaining 63% of the total variance. According to the analysis results for criterion-related validity, a statistically significant positive relationship was detected between communication quality (r=.422, p<.001), physical environment quality (r=.582, p<.001), outcome quality (r=.597, p<.001), access quality (r=.458, p<.001), entertainment quality (r=.697, p<.001) and satisfaction. The results indicate that the scale can be used as a valid and reliable tool to measure the quality of experience perceived by individuals concerning the fitness center where they are members. In addition, it is thought that this scale, which details the factors that influence the customer experience in fitness centers for the first time, will provide an important contribution to the literature.

Keywords: customer experience, fitness center, scale development, fitness consumer, sports management.

Introduction

With an increasing awareness about the importance of healthy living, the global fitness industry is growing rapidly. Deloitte (2022) stated that, compared to the previous year, the number of fitness center members fell by 15% during the COVID-19 epidemic, when health clubs were closed. In spite of this, it is one of the rare sectors that has experienced stable growth over the last decade (Kercher et al., 2023). Deloitte (2023) has confirmed that the number of fitness center members has now reached 63.1 million, an increase of 12.3% on the previous year, and has predicted that fitness market income is €28.0 billion annually. Moreover, the number of fitness centers in Europe has risen to 63 830, an increase of +0.5% compared to the previous year (Deloitte, 2023). The same

growth rate is found in the fitness market in Türkiye (Eskiler & Altunışık, 2021). IHRSA (2022) emphasized that Russia, Poland and Türkiye have the greatest potential for growth. According to Deloitte (2019), Türkiye is one of the countries with greatest increase in customer numbers in the European fitness market (2017 1.83 million customers; 2018 1.95 million customers; 2019 2.1 million customers). Türkiye has 2555 fitness centers (Deloitte, 2022; Sevilmiş & Şirin, 2022). In spite of this stable growth, the centers face a serious problem in the form of abandoned memberships (Gallardo et al., 2016). Studies show that the number of members ending their membership within the first six months has reached serious dimensions (Gjestvang et al., 2020; Matsumoto & Tekenaka, 2004). Only 30% of members and 60% of memberships are extend for more than one year (MacIntosh & Law, 2015). However, as the length of membership increases, the rate of ending memberships falls. According to researchers, fitness center members who keep their membership for more than six months sustain their memberships and display loyalty to the fitness center (Clavel San Emeterio et al., 2019; MacIntosh & Law, 2015). Here, the quality of experience leading to outcomes like values, satisfaction and behavioral intentions may play a key role in reducing the non-renewal of memberships among fitness center members. However, when the relevant literature is investigated, though many researchers (Çevik & Şimşek, 2020; Sevilmiş et al., 2022b; Yoshida, 2017) accept the importance of service quality in sports management research, there is limited understanding of the holistic consumer experience that includes the various interactions of active sports consumers (Yoshida, 2017).

Experience quality is accepted as one of the basic factors shaping the perceptions of value (Suhartanto et al., 2020), satisfaction (Wu & Ai, 2016) and behavioral intent (Chen & Chen, 2010) of customers. At this point, it is very important to create experiential environments in fitness services that are difficult to imitate, difficult to substitute, desired by consumers and meet consumer expectations in terms of competitive advantage (Eskiler & Safak, 2022). This is because fitness services are seen as experiential consumption on a large scale, like other leisure activities (golf, tourism). When assessed, this reveals the importance of understanding and developing experience within the sports industry in general and the fitness industry in particular. After investigating the literature, it is possible to say that measurement tools determining experience quality are still in the process of development (Çevik & Şimşek, 2020). The lack of a scale tool in the fitness sector, sustaining stable growth, represents an obstacle to understanding the experience perceptions and outputs for fitness center members at present. Though some research in the sports management field (Yoshida, 2017) emphasized which dimensions and subdimensions are included within consumer experience, there is no empirically confirmed valid and reliable scale of the dimensions of consumer experience in the context of fitness centers. As a result, this study aimed to develop a comprehensive scale reflecting the experiential quality dimensions for fitness centers.

This research examines experience quality in five sub-dimensions that include emotional cues to the perception of objects or individuals in the environment related to the actual functioning of both the product and the service. When the related literature is examined, there are adaptation studies on experience quality, but there is no scale development study in the context of fitness services. This scale development study includes different dimensions of experience quality (rational, sensory), such as physical environment, individuals' emotions, communication with organizational employees and what they get from the product (output). It is thought that the consumer experience is improved in the context of fitness services by considering the role of emotions in the evaluation of experience quality and the technical and functional characteristics of the service; in other words, how the service is provided and what is obtained from this service. It is thought that new models and studies that will be designed as a result of evaluating these five dimensions will provide a better understanding of experience quality and make important contributions to the missing fitness literature in this context.

Literature Review

Experience Quality

Customer experience is conceptualized as the subjective response of the customer to all direct and indirect encounters with the organization, and the experiential quality, perceived excellence or superiority for the customer (Lemke et al., 2011). Experience quality may be defined as emotional decisions perceived about experiences lived by the customer (Chang & Horng, 2010). It is also closely related to the meaning a customer attaches to a situation; in other words, it is the consumer's evaluation of the experience in emotional terms (Chen & Chen, 2010; Mao et al., 2023). Considered within this framework, experiential quality is defined as a psychological outcome attributed to service activities by participating customers (Cole & Scott, 2004).

In the context of fitness services, service quality refers to service performance at the quality level, while experiential quality refers to the psychological outcome of fitness members' participation in fitness activities (Mao et al., 2023). Experience quality scales differ from perceived quality scales in that the sub-dimensions represented have a point of contact and the evaluation expresses a psycho-

logical outcome. While tools that measure service quality focus on the functional features and benefits that products and services provide to customers, measurement tools that focus on customer experiences reveal the psychological outcome of a holistic approach.

Stated differently, emotions and feelings play roles in the assessment of experience quality. As a result, tools measuring experience quality focus on the need to avoid ignoring the hedonic aspect of the experience quality (Fernandes & Cruz, 2016; Otto & Ritchie, 1996). At the same time, experience quality may display differences according to whether the sports customer is an active or passive participant, since these are experiences involving different mental aspects (**Çevik** & Şimşek, 2020; Perić, 2010; Jeon et al. 2021). In the context of fitness center members, different mental aspects may be involved. For example, though two different customers participate in the same training program by buying the same service, they may have different experiences. The reason for this is that every member is unique. Each member brings different history, values, attitudes and beliefs to the situation; stated differently, members experience things from their own personal viewpoints (García-Pascual et al., 2023; Mao et al., 2023).

One aspect of experience is related to the true operation of an item or service. The second aspect comprises emotional clues perceived by emotions and spread by objects or people in the environment. Examples include the music played in the fitness center, the smiles of the trainer or personnel, and communication (Chang & Horng, 2010). Based on the relevant literature, this research accepted that experiential quality in fitness centers provided by active participation comprises the dimensions of communication quality, physical setting quality, outcome quality, access quality and entertainment quality (Baena-Arroyo et al., 2020; Eskiler & Safak, 2022; García-Pascual et al., 2023; Jeon et al., 2021). The reasons these dimensions of experience quality should be included within the scale during this scale development study are given below.

Dimensions of Experience Quality

Considering the literature, researchers have identified many constructs for measuring service experience quality (Fernandes & Cruz, 2016). The basic feature of a comprehensive scale tool is that it should have dimensions that match the consumer's response to all direct and indirect encounters with the business.

Otto and Ritchie (1996), who first defined experiential quality, included hedonism, peace of mind, participation, and recognition as dimensions of experience quality. Chang and Horng (2010) included the dimensions of physical environment, the customer themselves, service providers, other customers and customer companies in their experiential quality scale. De Rojas and Camarero (2008) included communication, physical environment and outcome quality as dimensions in research about experience quality.

Studies by Wu and Ai (2016), Wu et al. (2016), Wu and Li, (2017), and Wu et al. (2018) summarized the five sub-dimensions of experiential quality: communication quality, physical environment quality, access quality, entertainment quality and outcome quality. In this research, the factors of experience quality adopted were physical environment quality, communication quality, access quality, entertainment quality and outcome quality by considering the dominant service characteristic traits of sports and tourism research with similar features (Wu & Ai, 2016; Wu et al., 2016; Wu & Li, 2017; Wu et al., 2018) and research assessing experiential quality in the context of sport (**Çevik** & Şimşek, 2020; Eskiler & Safak, 2022; Wang et al., 2021). The reason for adapting these factors is that, considering the concept of experience in the context of fitness members, the service that a fitness center member receives during their time at the fitness center can be expressed by the logical and emotional acquisitions of the individual under the headings of quality of physical environment, quality of communication, quality of transportation, quality of entertainment and quality of output.

Physical Environment Quality

Physical environment quality represents the visible physical facilities, like the equipment and building, offered to fitness members where service is provided, contrary to natural or social surroundings (AbouRokbah & Salam, 2023; Alnawas & Hemsley-Brown, 2019). In the scale development study, this factor was recommended for adoption in several structural models and appears to be a dimension of experiential quality in other developed tools (Wu & Ai, 2016; Wu et al., 2016; Wu & Li, 2017; Wu et al., 2018; Wang et al., 2021).

Communication Quality

Interactions are qualified as being common experiences between people providing and receiving services (Prahalad & Ramaswamy, 2004, p.7). How the service is presented may be called interaction quality (Brady & Cronin, 2001). Especially in fitness centers, communication is an important factor that determines the quality of the center during service consumption (Sevilmiş et al., 2022). The communication area of fitness center members includes communication with fitness center trainers and other employees. The trainer's communication with the member takes place within the framework of the trainer's technical (professional), social and listening skills. In other words, the fact that the trainer welcomes a member with a smile and uses his/her professional experience for the member's benefit can be shown as an example of

good communication between the trainer and the member (Glaveli et. al., 2023). Several studies attempting to understand the process of experience quality saw communication quality as an experience quality (Wu et al., 2016; Wu, 2017; Wu & Ai 2016; Wu et al., 2018a).

Outcome Quality

Many researchers have underlined outcome quality as a factor for assessment of experience quality perceptions (Klaus & Maklan, 2012; Wang et al., 2021). As in all sectors, all customer movements are entirely based on a rational and cognitive process in the fitness sector (Foroughi et al., 2019). Fitness center members use their past, present and future experiences to determine behavioral intentions (Eskiler & Safak, 2022). Accordingly, it is a rational act that fitness members assessing information base their evaluation on outputs in terms of their expectations. Outcome quality emphasizes the results obtained from fitness services (Foroughi et al., 2019). Fitness club members obtain membership of fitness centers to achieve their sporting goals (García-Pascual et al., 2023). As a result, the technical quality features in the fitness service experience. In other words, what they obtain from the service is considered a component of experience quality (Klaus & Maklan, 2012).

Access Quality

The response of a business to indirect encounters with the customer is an important element for conceptualizing customer experience (Wang et al., 2021). One of these indirect encounters is the journey to the fitness center. Transport problems experienced with increasing populations, particularly in metropolitan cities, appear to be a factor affecting customers' selection of fitness centers. Stated differently, a factor used for assessment of the service experience of individuals appears to be fitness centers that are easy to access without traffic problems, located at a central point or close to the work or home of the customer. Access quality represents the ease of accessibility to the business providing the fitness service (Zopiatis et al., 2017). Many researchers have underlined that access quality is a factor used to assess the perceptions of experience quality (Eskiler & Safak, 2022; Knutson et al. 2007).

Entertainment Quality

Entertainment quality emphasizes the hedonic dimension of experience quality. Some research in the literature has emphasized the importance of hedonic elements (fantasies, emotions, entertainment) in the assessment of experience quality (Holbrook & Hirschman, 1982, p. 92). When considered in this context, it can be said that hedonic elements are the nature of the sports industry and especially the fitness industry, because fantasies, emotions and entertainment constitute the essence of sports services (Çevik & Şimşek, 2020; Yoshida et al., 2023). Entertainment quality is defined as the degree to which the quality of an experience ensures that potential customers feel comfortable, satisfied and even wonderful (Kao et al., 2008). This dimension comprises the basis of several experience quality scales (Çevik & Şimşek, 2020; Kim et al., 2012). The summarized literature studies show that fitness center experience quality can be examined in five sub-dimensions. Accordingly, this study aims to develop the Experience Quality Scale for Fitness Centers.

Material and Methods
Scale Development Process

Item Development

To develop a valid scale form, a comprehensive literature screening was first performed. This screening comprised the general conceptual framework of the study and forms an important basis for identifying the items to be included on the scale (Petrick, 2002). Previous research has identified possible sub-factors of the experience quality scale for fitness centers. As much as possible, all possible sub-factors were based on a sub-dimension of experiential quality in the context of fitness centers. To be able to create a comprehensive measurement tool reflecting experience quality in fitness centers, scales with validity and reliability in the field of sports (Çevik & Şimşek, 2020; Wang et al., 2021; Wu & Cheng, 2016) and in the field of tourism, where service is the dominant characteristic (Alnawas & Hemsley-Brown, 2019), were investigated and included in an item pool. When selecting items, care was taken that items were plain and understandable, and did not include more than one judgment or thought.

When experience quality measurement tools are investigated in both the service sector and sports sector, it can be said that experience quality has five factors of communication quality: physical environment quality, outcome quality, access quality and entertainment quality. When these factors are assessed in the context of fitness services, all factors have a feature that may be associated with them (Eskiler & Safak, 2022; García-Pascual et al., 2023). As a result of the literature review, 19 items representing communication quality, physical environment quality, outcome quality, access quality and entertainment quality were created.

In general, the dominant characteristic of all of these factors is that they are dimensions of experience quality in service sectors like tourism and specifically for fitness services in the sports sector with passive consumption (Çevik & Şimşek, 2020; Eskiler & Safak, 2022; Jeon et al., 2021; Yoshida, 2017). When creating the scale items,

studies by various researchers were used (Alnawas & Hemsley-Brown, 2019; Çevik & Şimşek, 2020; Dias et al., 2019; Eskiler & Safak, 2022; Kao et al., 2008; Wu & Cheng, 2016; Zopiatis et al., 2017).

Translation Method

If the scale items are taken from a source in a different language during the scale development process, it is important to translate them from the source language into the target language (Beaton et al., 2000). The origin language for the items in the item pool was English. Translation of the scale items from English to Turkish followed the five-stage process proposed by Sinaiko & Brislin (1973). These stages are initial translation, evaluation of initial translation, re-translation, assessment of re-translation and expert opinion.

Certain criteria were observed when creating the initial translation group. Some of these criteria were: knowing the source language of English and target language of Turkish well, working in the field of sports science, and performing studies related to scale development. In this process, translations were completed independently by two experts and these translations were assessed. This assessment was compared by an expert in English, and the translations best representing the items were accepted. The translated items were then re-translated back into English. Comparisons in terms of word meaning and concepts were made between the English and Turkish forms and the decision was made about the final Turkish version. A pilot study began for items in the item pool. A fifteen-person group completed the draft application and assessed this application in terms of understandability of items. After the pilot application, the item pool contained a total of 19 items representing communication quality, physical environment quality, outcome quality, access quality and entertainment quality. After this, the data collection process for validity and reliability studies began.

Participants

Data for the research were collected from five different fitness centers with the same service quality features (minimum 2000 members, offering cardio, strength and group training, minimum 10 employees). Data were collected in İstanbul, the most crowded city in Türkiye, located on the Asian and European coasts of the Bosporus. During the collection stage, care was taken to collect data from fitness club members who were able to assess elements related to experience quality. In this context, the research did not include fitness club members with membership durations of less than six months. Two different data sets were collected in the context of the research. The first data set was used for exploratory (EFA) and confirmatory factor analysis (CFA), while the second data set was used for criterion-dependent validity. The details of the two data sets are given in Table 1.

For exploratory and confirmatory factor analysis, data were collected from 317 members, while for criterion-dependent validity, data were collected from 250 members. In the context of the research, the personal traits of 317 members providing data for EFA and CFA were as follows: 44.5% of members participating in the research were women (141) and 55.5% were men (176). 67.5% of participants were single (214) and 32.5% were married (103). Among participants, 23.9% had high-school

Table 1. Demographic characteristics

		EFA and CFA		Criterion-dependent validity	
Variables	**Category**	**N**	**Percentage**	**N**	**Percentage**
Gender	Woman	141	44.5	102	40.8
	Man	176	55.5	148	59.2
Marital status	Single	214	67.5	174	69.6
	Married	103	32.5	76	30.4
Educational level	High school	76	23.9	28	11.2
	Undergraduate	193	60.9	189	75.6
	Postgraduate	48	15.1	33	13.2
Income status	Low	120	37.9	113	45.2
	High	197	62.1	137	54.8
Duration of membership	7-12	135	42.6	138	55.2
	13-18	42	13.2	29	11.6
	19-24	39	12.3	12	8.8
	25 months or longer	101	31.9	71	28.4
Total		**317**	**100%**	**250**	**100%**

education (76), 60.9% had undergraduate education (193) and 15.1% had postgraduate education (48). In terms of income, 37.9% had a low income (120) and 62.1% had a high income (197). Considering length of membership, 42.6% were members for 7–12 months (135), 13.2% for 13–18 months (42), 12.3% for 19–24 months (39) and 31.9% for 25 months or longer (101).

The personal characteristics of the 250 fitness club members providing data for criterion-dependent validity are as follows: 40.8% were women (102) and 59.2% were men (148). 69.6% of participants were single (174) and 30.4% were married (76). In terms of education, 11.2% had a high-school degree (28), 75.6% had an undergraduate degree (189) and 13.2% had a postgraduate degree (33). Among the participants, 45.2% had a low income (113) and 54.8% had a high income (137). Considering the duration of membership, 55.2% were members for 7–12 months, 11.6% were members for 13–18 months (29), 8.8% were members for 19–24 months and 28.4% were members for 25 months or more (71).

Data Analysis

Exploratory factor analysis aims to determine the most appropriate number of factors and to reveal whether the measured variables (items) are reasonable indicators of a variety of latent dimensions (Brown, 2015). Confirmatory factor analysis tests whether a hypothetical factor structure fits the covariance structure observed for the measured variables (Floyd & Widaman, 1995; Jöreskog & Sörbom, 1993). Cattell (2012) showed that 200 participants was adequate for factor analysis studies. Items created for experience quality had a 5-point Likert rating for response structures from "definitely disagree (l)" to "definitely agree (5)". Before collecting data for EFA, CFA and criterion validity, 15 draft surveys were completed. The decision was made to collect data for EFA and CFA with the draft survey containing 19 items. After reaching 317 participants, data classification was carried out using the SPSS program.

Firstly, EFA was applied for construct validity. Before completing EFA, the data set was investigated in terms of whether it was suitable for factor analysis. With this aim, the Kaiser-Mayer-Olkin (KMO) value and Bartlett test were examined. The KMO value was .81 and the Bartlett test was statistically significant, indicating that the data were suitable for exploratory factor analysis (Çokluk et al., 2012). The factor extraction methods vary depending on the aim of the research, model used and data set. Principal axis factoring was chosen as the extraction technique. This factor extraction technique is used to obtain solutions based on a theoretical construct. When determining the number of factors, the criteria of the eigenvalue being larger than 1 was chosen. Due to this prediction about the scale factors being associated with each other, the Quartimax rotation technique is used in EFA. Due to the high item-scale correlations and alpha coefficients during analyses, the decision was made to use Quartimax rotation from the oblique rotation methods, as correlations between factors were considered to better reveal the distribution of factor loads (Akbulut, 2010). At this stage, two items were eliminated as they did not have an adequate factor load (lower than .40). After supporting the factor structure obtained with EFA, confirmatory factor analysis was applied to provide proof of the construct validity of the scale. Confirmatory factor analysis was performed with the licensed version of LISREL 8.80. Before proceeding to CFA analysis, it was checked whether all items could be explained under one factor. For this purpose, the single-factor structure ($\chi 2 = 960.13$; df = 135; RMSEA =0.139; CFI = .78; IFI = .79 and NFI = .76) and the five-factor structure ($\chi 2 = 253.13$; df = 109; RMSEA = 0.065; CFI = .96; IFI = .96 NFI = .93 and NNFI: .94) proposed in the study were compared with the help of CFA analysis. The five-factor structure of the 17 items remaining after EFA was tested. This method is an estimation method that chooses the most probable parameters (Rossi, 2018). For CFA, the absolute fit indices ($\chi 2$/sd), parsimony fit indices (RMSEA) and comparative fit indices (CFI, NFI, NNFI, RFI) were assessed.

The criterion-dependent validity of the scale was then evaluated. Criterion-dependent validity is the validity obtained by calculating the correlation between the estimated score obtained from the scale and the criterion known to measure the trait to be measured. In this context, a separate data set (N=250) was collected after confirmatory factor analysis. Five fitness centers used for EFA and CFA were reached for data collection. Satisfaction items were taken from studies on fitness centers (Çevik & Sevilmiş, 2022; García-Fernández et al., 2018; Şirin et al., 2023).

Criterion dependent validity was analyzed with the SPSS program. In this context, the relationship between each sub-dimension of quality of experience and satisfaction was analyzed using Pearson product moment correlation analysis. The findings were correlated with the findings in the literature.

Results

Exploratory Factor Analysis

To investigate the construct validity of the scale, EFA was used to investigate whether there were significant correlations by examining the correlation matrix for all items. Before completing basic components analysis, the KMO and Bartlett test results were investigated. The KMO value was .81, while the Bartlett sphericity test result was significant ($p<.01$). This result indicated that the correlation matrix was suitable; in other words, there was an adequate level of correlation to be able to perform

factor analysis between variables (Field, 2013). Items with low factor loads (<.40) were removed from the scale. These items were in the physical environment quality factor: *the design of the fitness center is perfect* and in the entertainment quality factor: *I think I am motivated when doing sports in the center.* After this process, the 19-item experience quality scale had 17 items remaining. The values obtained during the process of EFA are given in Table 2.

Table 2. Exploratory factor analysis

Subdimension	Item	Statement	Factor loads	Eigenvalue	Explained variance	Measurement scale and literature sources
Communication Quality (CQ)	CQ1	Communication with fitness center staff is perfect.	.55	5.243	27.596	Eskiler & Safak, (2022); Wu & Cheng, (2018).
	CQ2	Fitness center staff show special interest in me.	.83			
	CQ3	Communication with trainers is perfect.	.80			
Physical Environment Quality (PEQ)	PEQ1	Changing rooms are adequate.	.79	2.287	13.615	Wang et al., (2021)
	PEQ2	Exercise tools and equipment are adequate.	.83			
	PEQ3	Exercise tools and equipment are modern.	.65			
Outcome quality (OQ)	OQ1	I feel I have done a good thing for myself after doing sports in this center.	.76	2.027	10.670	Eskiler & Safak, (2022); Wu & Cheng, (2018)
	OQ2	I feel healthier after doing sports in this center.	.71			
	OQ3	I think I have achieved my reason for joining after doing sports in this center.	.63			
	OQ4	Positive changes have occurred in my life since doing sports in this center.	.60			
Access quality (AQ)	AQ1	The fitness center is in an easily accessible location.	.53	1.152	6.064	Wang et al., (2021); Çevik & Şimşek, (2020)
	AQ2	The fitness center has adequate parking.	.68			
	AQ3	The fitness center is located close to public transportation.	.76			
	AQ4	The fitness center is at a central point.	.68			
Entertainment quality (EQ)	EQ1	I have an efficient time when doing sports in this center.	.53	1.036	5.453	Wang et al., (2021); Hosany, & Witham, (2010)
	EQ2	I have fun when doing sports in this center.	.51			
	EQ3	I think I get pleasure from doing sports in this center.	.56			

Extraction Method: Principal Axis Factoring.
Rotation Method: Quartimax with Kaiser Normalization
*Note: item content is given in Appendix 1

As seen in Table 2, the 17 items on the Experience Quality Scale for Fitness Centers had a fixed structure comprising five factors. The scale factors were defined as: communication quality, physical environment quality, outcome quality, access quality and entertainment quality. These factors explained 27.59%, 13.61%, 10.67%, 6.06% and 5.45% of the total variance, respectively. The five factors explained 63.399% of the total variance. The item factor loads varied from .51 to .83. These findings clearly show that the five-factor structure for the 17 items was supported.

Confirmatory Factor Analysis

After supporting the factor structure obtained in the first stage, confirmatory factor analysis was applied to provide evidence of the construct validity. The confirmatory factor analysis results related to the 17-item five-factor Experience Quality Scale for Fitness Centers are given in Figure 1.

Figure 1 shows the confirmatory factor analysis results for the Experience Quality Scale for Fitness Centers. According to standardized parameter (λ) estimations, the factor that each item belonged to had a load value above the .40 cut-off point and were significant (Hair, 2009). When the fit coefficients for the CFA results for the five-factor Experience Quality Scale for Fitness Centers are assessed, it appears the model had acgood fit to the data set. The χ^2/df value was above 2.32 ($\chi 2 = 253.13$, df=109, $p < .05$) indicating perfect fit (Anderson & Gerbing, 1984). At the same time, the RMSEA value was above .065, indicating fit of the parsimony fit index (Marsh & Hau, 1996). Additionally, the comparative fit indexes were CFI = .96; IFI = .96 NFI = .93 and NNFI: .94, indicating adequate fit (Marsh & Hau, 1996; Shevlin & Miles 1998). When the confirmatory factor analysis results are considered as a whole, they show the factor structure of the model was confirmed.

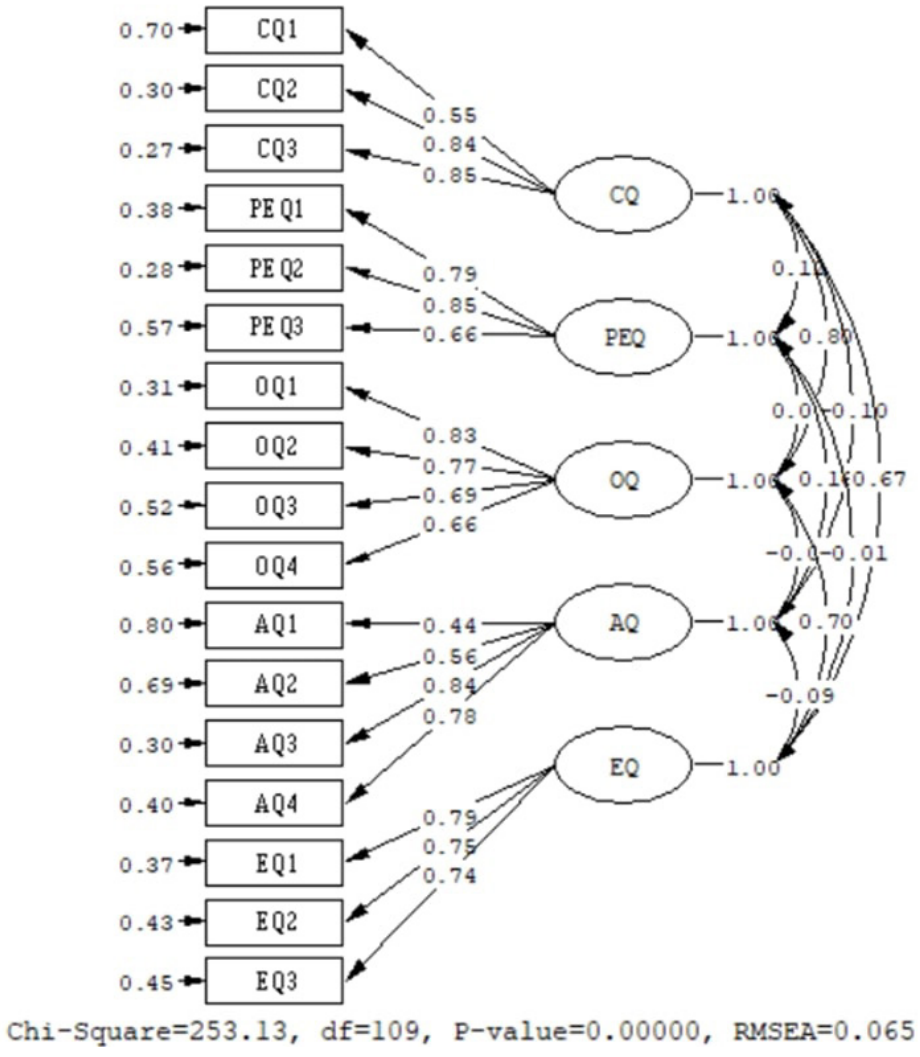

Figure 1. Confirmatory factor analysis

Convergent Validity

Data obtained from applying the Experience Quality Scale for Fitness Centers and average variance extracted (AVE) and structural reliability values obtained from analysis are presented in Table 3.

Fornell and Larcker (1981) proposed a technique founded on the AVE value obtained for each factor for convergent and divergent validity as a construct validity investigation method. Accordingly, they stated that the AVE value should be smaller than the internal consistency reliability (structural reliability) value for convergent validity, and each AVE value should be larger than .50. For the access quality factor in the Experience Quality Scale for Fitness Centers, the AVE value was identified as .46. Fornell and Larcker (1981) stated that the AVE value may be below .50 if the composite reliability (CR) coefficient is .70 or above. At the same time, the Cronbach alpha (α) reliability coefficient was calculated to determine the reliability of the scale. If the Cronbach alpha value is larger than .70, it shows the scale has a high degree of reliability (Gadermann et al., 2012). If the CR value is above .70, it indicates that composite reliability is provided (Bacon et al., 1995).

Table 3. Convergent validity

Item	Factor load (λ)	λ^2	$1-\lambda^2$	Number of items	Total λ	Total λ^2	Total $1-\lambda^2$	$(\text{Total } \lambda)^2$	AVE	CR	CA
CQ1	.55	.302	.697								
CQ2	.84	.705	.294	3	2.28	1.8002	1.1998	5.1984	.60	.81	.82
CQ3	.85	.792	.207								
PEQ1	.79	.624	.375								
PEQ2	.85	.722	.277	3	2.30	1.7822	1.2178	5.2900	.59	.81	.82
PEQ3	.66	.435	.564								
OQ1	.83	.688	.311								
OQ2	.77	.592	.407	4	2.95	2.1935	1.8065	8.7025	.54	.82	.83
OQ3	.69	.476	.523								
OQ4	.66	.435	.564								
AQ1	.44	.193	.806								
AQ2	.56	.313	.686	4	2.62	1.8212	2.1788	6.8644	.46	.75	.76
AQ3	.84	.705	.294								
AQ4	.78	.608	.391								
EQ1	.79	.624	.375								
EQ2	.75	.562	.437	3	2.28	1.7342	1.2658	5.1984	.57	.80	.81
EQ3	.74	.547	.452								

Criterion-Dependent Validity

To assess the criterion-dependent validity of the scale, the Experience Quality Scale for Fitness Centers and Customer Satisfaction Scale were applied together to a different sample group and the Pearson multiplication moment correlation analysis was investigated. Table 4 presents the results related to criterion-dependent validity.

According to the Pearson correlation analysis conducted to evaluate the criterion-dependent validity of the scale, relationships were found between the sub-dimensions of fitness center experience quality and satisfaction. According to the results of the analysis, a significant, positive and high relationship was found between outcome quality ($r=.597$, $p<.001$), entertainment quality ($r=.697$, $p<.001$) and satisfaction. At the same time, a significant, positive, medium-level relationship was found between communication quality ($r=.422$, $p<.001$), physical environment quality ($r=.582$, $p<.001$), access quality ($r=.458$, $p<.001$) and satisfaction.

When the results are evaluated, the expected correlation between the sub-dimensions of fitness center experience quality and satisfaction is present when applied by creating a model, and this can be interpreted as evidence of criterion-dependent validity (Xue et al., 2023).

Table 4. Criterion-related validity

	S	CQ	PEQ	OQ	AQ	EQ
Satisfaction (S)	1					
Communication Quality (CQ)	.422**	1				
Physical Environment Quality (PEQ)	.582**	.312**	1			
Outcome quality (OQ)	.597**	.302**	.506**	1		
Access quality (AQ)	.458**	.406**	.450**	.376**	1	
Entertainment quality (EQ)	.679**	.348**	.423**	.640**	.404**	1

**. Correlation is significant at the 0.01 level (2-tailed).

Discussion

It is a topic of scientific interest as to whether experience quality has a significant effect on the behavior of fitness club members (Eskiler & Safak, 2022). Considered in this context, the lack of a valid and reliable measurement tool for this essential concept in the fitness literature played a basic role in shaping this article. This research confirms the validity and reliability of the Experience Quality Scale for Fitness Centers for use in analyzing perceptions of fitness service users.

In the scale development stage, after deciding the scale would have a Likert-type rating, the relevant literature (Alnawas & Hemsley-Brown, 2019; Çevik & Şimşek, 2020; Dias et al., 2019; Eskiler & Safak, 2022; Jeon et al., 2021; Kao et al., 2008; Yoshida, 2017; Wu & Cheng, 2016; Zopiatis et al., 2017) was reviewed and an item pool was created. For the scientific suitability of this item pool, expert opinion was sought to ensure items were clear, necessary, understandable and specific. Initially, the draft scale was applied to a 15-person group and measurement performance was assessed in this context. In this process, revisions were made to some items.

The validity of the scale was examined in the stages following the draft application. Exploratory and confirmatory factor analysis was completed with a data set obtained from 317 people. EFA results identified a five-factor structure for the 17-item Experience Quality Scale for Fitness Centers. The scale factors were called: communication quality, physical environment quality, outcome quality, access quality and entertainment quality. The five-factor Experience Quality Scale for Fitness Centers explained 63.399% of the total variance. When EFA results were assessed, the first step for scale validity was completed. Later confirmatory factor analysis was performed to provide evidence of construct validity. When the fit coefficients were examined in CFA analysis results for the scale, it appeared the model provided a good fit to the data set. Later, the AVE and CR values were investigated for convergent and divergent validity and the Cronbach alpha value was investigated for internal consistency.

The AVE values for the communication quality, physical environment quality, outcome quality and entertainment quality sub-factors of the Experience Quality Scale for Fitness Centers were identified to be above .50. The AVE value for the access quality was identified as .46. Fornell and Larcker (1981) stated that if the CR coefficient is above .70, the AVE value may be below .50. The Cronbach alpha reliability coefficient value was identified to be higher than 0.7 in determining the reliability of the scale. This value being higher than .70 indicates high degree of reliability for the scale (Gadermann et al., 2012). At the same time, the CR value was higher than .70, indicating that composite reliability was present (Bacon et al., 1995).

Finally, criterion-dependent validity analysis revealed a significant positive correlation between communication quality, physical environment quality, output quality, access quality, entertainment quality and satisfaction. Many studies in the literature show parallels and/or partial parallels with our research (Cole & Chancellor, 2009; Wu et al., 2018; Yazıcı et al., 2017).

The finding of relationships between the sub-dimensions of experience quality and satisfaction can be interpreted as evidence of criterion-dependent validity (Xue et al., 2023). In conclusion, results obtained from validity and reliability studies show the five factors of the Experience Quality Scale for Fitness Centers have stable and consistent psychometric features.

Although research on quality of experience has become a popular research topic in the literature in recent years, research on quality of experience in fitness services is lacking. To the best of the researcher's knowledge, this study is the first study to validate the quality of experience scale in the context of fitness centers. In the fitness literature, scholars associate experience quality with pre-consumption, during consumption and post-consumption elements (Mao et al., 2023). Here, we are faced with the question of which elements the experience quality in fitness centers should include.

Fitness members view output quality (technical quality) and the quality of their interactions with service providers and other customers as part of their experience

(Eskiler & Safak, 2022). At the same time, fitness services should consider hedonic and emotionally motivating behaviors in the assessment of consumer behavior (Yoshida et al., 2023). This scale development study reveals that the experience of fitness members is not only related to dimensions such as the physical environment, but also the experience is related to pre-service (access quality), post-service (output quality) and hedonic elements.

Considering the fact that the fitness industry is a fast-growing sector and is highly competitive despite this growth, it is clear that more studies on consumer experience are needed (Eskiler & Safak, 2022; Mao et al., 2023;Yoshida et al., 2023).

Conclusions

Sports center management is based on knowing the perceptions of each customer attending the center, including their experiences (García-Pascual et al., 2023). This study confirms the validity and reliability of a five-factor comprehensive structural tool for experience quality in fitness services. The validity and reliability results provide evidence for the literature that may be developed into operating strategies in the context of experience quality by managers of fitness centers in particular.

Managerial implications

The validity and reliability of Experience Quality Scale for Fitness Centers (EQSFC) that can be used to measure the experience quality of members in fitness centers has been tested. The validity and reliability of this scale provides useful information on fitness management, and fitness center managers can use this scale as a data collection tool to determine the measures to be taken to improve members' perceptions of experience quality.

When tourism and fan studies are examined, the effect of experience quality on post-consumption behaviors has been determined (Çevik & Şimşek, 2020; Fernandes & Cruz, 2016; Wu & Cheng, 2018). In this context, fitness center managers can gain a stronger competitive position against other fitness clubs by understanding the impact of experience quality on post-consumption behaviors. This scale can contribute to the design of model research. If the experience quality scale, which is determined to be a valid and reliable measurement tool, is adapted in different countries, fitness center managers can use this adapted study in different cultures and samples and contribute to the fitness literature of different countries to improve the perceptions of experience quality

Limitations and Future Research

Although it contributes to the literature and fitness center management, this research has certain limitations due to uncertainties. Firstly, as a non-probability sample was used in the research, care should be taken when generalizing. Future researchers may use probability sampling methods.

Another limitation is that this scale was not previously used within the scope of fitness centers. When previous research findings are assessed, correlations are present between service experience perceptions with satisfaction, perceived value, loyalty and behavioral intent. Stated differently, it appears that service experience perceptions are a strong predictor of both the satisfaction and future intentions of service customers (Fernandes & Cruz, 2016; Çevik & Şimşek, 2020; Wu & Cheng, 2018). This framework was proven in the context of criterion-dependent validity in the research. Observing service experience perceptions is an important practice in the service sector, as it allows the possibility of understanding how fitness center customers experience and perceive the services offered. This may have significant practical results for sports services. In this context, future research may fill a gap in the literature by creating related or alternative structural models for consumer experience and value satisfaction.

When scale development research in alternative service studies is investigated, it may be said that experience quality includes different dimensions (Chang & Horng, 2010; Knutson et al., 2007). As a result, considering the five factors of experience quality included in this scale, these deficiencies may be noted in future scale development studies. Finally, service experience analysis may assist in developing effective marketing strategies for fitness businesses. The most practical way to analyze service experience is provided by the scale developed in this research. Results emerging due to measurement of customer experience perceptions of fitness businesses may play a key role in providing more positive experiences. In this way, fitness businesses may increase customer satisfaction and develop outcomes related to behavioral intentions, like re-purchasing and word-of-mouth marketing. In conclusion, solutions may be produced for the serious problem at fitness centers today of abandoned membership, in spite of the limitations of this measurement tool. Future research may use the Experience Quality Scale for Fitness Centers in different sectors (fitness, football, recreation, sporting products) and for different service types (sports tourism, etc.). In this context, future research will determine what sports consumers consider important (concrete products or abstract products), which will provide the opportunity to better understand the concept of experience in sports.

Competing interests

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What Does a Modern Coach Need to Become a Master in Dialogue with a Player?

Authors' contribution:
A) conception and design of the study
B) acquisition of data
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Abstract

The aim of the research was to discover students' opinions on the characteristics and qualities of a coach that, in their opinion, determine the structure of a relationship based on dialogue in the process of sports training. A diagnostic survey was used for the research by asking the respondents an open-ended question: „What do you expect from a coach who you would consider to be a master in dialogue with an athlete?". The study involved 103 students of the Józef Piłsudski University of Physical Education in Warsaw studying in the first year of full-time studies, majoring in sport. There were 80 men (77.7%) and 23 women (22.3%) in the study group. The average age of the respondents was 19.3 years. 76.3% of the students surveyed stated that they do sports. An analysis of the students' statements was conducted in relation to the normative model of the personality of a physical culture specialist (Hodan & Żukowska 1996), which distinguishes three dimensions of this profession: specialist, pedagogue and human being. The analysis of the statements clearly indicates that, in their opinion, in order for a coach to become a master in dialogue with an athlete, he or she must strive to develop his or her competences, which are defined by all three dimensions indicated above.

Keywords: communication, dialogue, normative model, coach, athlete

"Nothing more desirable and nothing more difficult on earth than a real conversation"

A. Mickiewicz

Introduction

A coach and an athlete are the two most important actors of a sports event such as a training session, training camp or competition. Each of these events is a kind of sports art which brings in and exposes certain values. These values are crucial to people deeply involved in sport who care about shaping and developing its humanistic image. However, this requires a constant effort to ensure that these educational, intellectual or moral values of sport are not lost. It is a task for all those who are not indifferent to the well-being of contemporary athletes and sport. Therefore, it is a task especially for coaches who can strengthen the humanistic dimension of sport with their work.

"Today there is a strong temptation – writes Z. Dziubiński – to put sport beyond specifically human goals and to focus attention on the biological qualities of the body, to

place the person in a situation of „naturalistic competition" and to use sporting competitions for non-sporting goals, with the danger of corruption and widely understood decadence (Dziubiński, 2020, p. 65).

In each of the sporting contexts, the coach and the athlete take on roles determined by the rules, customs or attitudes adopted in sport. For this reason, who they are, how they behave and what they are driven by is of great importance for the social perception of their actions.

Due to the pedagogical and social function performed, as well as the subject of his influence – often the development of a young person – a modern coach must remember their responsibility as a pedagogue whose "educational tasks and functions cannot be separated from didactic, organizational, sports and social tasks and functions" (Żukowski, 1989, p.7). Such reasoning leads to the conclusion that a modern coach has a wide-ranging responsibility for the athletes, which must be treated as a kind of obligation towards the athlete. Moreover, this commitment is not only of a sporting nature, which is understood as responsibility for specialized training, but also a pedagogical and moral commitment (Kurzawski, 2008).

The importance of pedagogical and moral competences is also emphasized in a study by Bronikowska and Korcz (2019), who claim that these competences should be developed in the process of training coaches, as they are crucial in building a good relationship between a coach and an athlete. It is worth remembering that we bring up others by who we are, not just by what we know and can do, and sport as a sphere of life and culture is a good platform for bringing up young people. As Sing notes, "Right-minded (...) competent teachers and coaches who know the rules of competition and can set clear boundaries are excellent role models. They are the ones who show children how to be honorable and work together in a group" (Sing, 2019, p. 3).

Burden and Lambie (2011) draw attention to the importance of the social and cultural competences of a coach in the process of sports training due to the need to build relationships with athletes from various backgrounds.

The authors emphasize that the need to equip coaches with this type of competence requires the preparation of standards of good practice and paying attention to their development during training courses. This is important because social and cultural competences are the basis for learning cooperation with an athlete based on the principles of dialogue.

For these reasons, among others, we have the right to demand a high level of competence, qualifications, the right skills from coaches, and to expect continuous self-improvement in their profession. Athletes also expect a high level of competence from their coaches. Research shows that athletes' perception of highly developed competences in their coaches is associated with greater satisfaction with the progress they make in sport (Moen, Federici, 2013).

However, this is not so obvious in the eyes of the law in Poland. In the Act of 13 June, 2013 amending the laws regulating the performance of certain professions (Journal of Laws of 23 July 2013, item 829), including the profession of coach, Article 25, paragraph 3 states, among other things, that a coach or sports instructor may be a person who "has the knowledge, experience and skills necessary to perform the tasks of a coach or sports instructor" (op. cit.). Such wording, however, is inaccurate as it does not clearly define where the coach ought to acquire this knowledge, what skills and experience should be gained, and where and how this will be verified and who is to assess it.

Today, sport is treated as an area in which, among other things, the process of raising children and young people takes place. The values that are present in sport can help to achieve educational goals provided that they are presented to young people in the right way and in a nurturing atmosphere. A necessary condition for creating a good educational atmosphere in the coach-athlete relationship is building an understanding based on dialogue. Moreover, this kind of relationship requires a high level of didactic and educational competence. The coach must be willing and able to build such an agreement with the athlete which will respect the subjective way of treating the athlete and thus recognize him as a partner in a sports career. Such an approach requires defining the dialogue that is established between the coach and the athlete as a circumstance in which there is room, as Zieliński noted, "for mutual contact, mutual exchange of knowledge, experience and personal values through various personal references, ways of conveying information between the teacher and student in order to stimulate his development" (Zieliński, 2007, p. 68). According to Matulka (1994), the pedagogical dialogue understood in this way is characterized by a number of aspects. From the educational point of view, the most important are the didactic, ethical and psychological ones (after: Zieliński, 2007). The didactic aspect should be associated with the correct formulation and achievement of learning objectives. The ethical aspect of the dialogue will be expressed in the responsibility of both partners, i.e. the coach and the athlete, for the achievement of educational goals. Therefore, the coach is responsible for imparting reliable knowledge and skills based on scientific truth, as well as moral values. On the other hand, the athlete takes responsibility for his own attitudes, behaviour and learning. The psychological aspect will be expressed in a positive, friendly attitude between the coach and the athlete based on partnership (ibid.).

Dialogue is a necessary condition for successful and effective interpersonal communication between the coach and the athlete. As Femiak writes, "the communication

process is a DIALOGUE. Dialogue is a bridge that connects people like islands" (Femiak, 2015, p. 35). Communication is an essential basis for activities such as exercising control, sharing information and expressing feelings.

Communication is a process in which the sender of the message and its recipient participate. The sender, having a certain intention, transmits the coded message to the recipient, who tries to decode and understand it (Doroszewicz, 1997). In face-to-face contacts, we switch roles and become open to dialogue. It is worth pointing out that, regardless of the social situation in which they meet and talk to each other, people always want to be heard and understood. Moreover, they want to be able to express their opinions and judgements, or share their feelings. Without doubt, the coach wants to be understood by the athlete, and the athlete wants to be heard and noticed as a human being by the coach.

The art of effective communication consists in conducting a conversation in such a way that the intention and content of the sender's statement are accepted and understood by the recipient, making it a desirable social skill. The foundation of effective communication is the ability to listen actively, which consists of following, paraphrasing, appreciating, reflecting emotions, reformulating emotions and clarifying.

Following is maintaining interaction through eye contact, non-verbal cues, using paralinguistic features (uhm, er, etc.) and repeating very short fragments of speech (Faber & Mazlish, 2023). An expression of interest in what the speaker is presenting is paraphrasing, which is repeating the speaker's statement in our own words. It is an opportunity for the listener to make sure that he understands the intention of the speaker properly. It also allows the content heard by the listener to be organized. Appreciation, in the context of listening, plays a huge role. It is an expression of acceptance of the interlocutor and appreciation of the importance of what he conveys, but also an expression of respect for the person and his commitment. Each meeting with another person triggers greater or smaller emotions because people are emotional by nature. Reflecting emotions, i.e. showing empathy and trying to understand the emotions of the interlocutor, will build effective communication between people. A helpful skill in the emotional context is „removing" excessive emotions from the sender's statements by skilfully naming specific emotions and indicating their probable causes, which is known as reformulating emotions. The last aspect of active listening is clarification – the ability to steer the conversation in such a way as to organize, specify information and clarify details (Faber & Mazlish, 2023).

There are various rules describing effective communication. They include formulating „I" messages, i.e. talking about oneself, the importance of expressing one's own thoughts, feelings, expectations in a clear, honest, sincere way; speaking clearly and using language adapted to the interlocutor; keeping an appropriate distance from the interlocutor; and the compatibility of verbal and non-verbal communication. These factors are important for building a dialogue between individuals (Femiak, 2015).

We also notice many difficulties and barriers to interpersonal communication, which include moralizing, ordering, name-calling, questioning, ignoring, warning or constant admonishing.

The coach can improve communication with the athlete by following the previously mentioned rules and avoiding communication barriers. In practice, refraining from unconstructive messages and setting goals appropriately will also be helpful. In this way, the coach will be able to increase his credibility in the eyes of the athlete. According to Czechowski (2015), the communicative competence of the coach is the foundation of all the social competences of these professionals.

If we are to talk today about proper communication between a coach and an athlete, of which a dialogical relationship is a necessary condition, then this profession should be treated in a multidimensional way. This means that we have the right to expect the coach to have a wide range and high level of competences, which can be referred to the normative personality model of a physical culture specialist described by Hodan and Zukowska (1996).

The authors distinguished three main dimensions defined by a set of specific competences: specialist, pedagogue and human.

Competences in the area of „specialist" refer to good subject preparation. The coach is therefore required to have a broad knowledge of the field he teaches, but also a developed awareness and need for continuous self-education.

In terms of pedagogical preparation for the profession of coach, "we will understand not only the functions of a subject expert, but also the functions of a good educator of young people, with a developed social identity, with full role identification, responsible for his actions, who considers education not only as a „task", but as a social fact. It is a person who distinguishes between the „object" and the „subject" of his actions and is characterised by a humanistic attitude in all educational interactions" (Hodan & Zukowska, 1996, p. 313).

The category of „human being" is best characterised by Wołoszyn, who argues that "we can raise young people not only thanks to what we know and can do but even more importantly thanks to what kind of people we are" (after: Hodan & Żukowska, 1996, p. 317).

With such an approach, a coach becomes a guide for young athletes in the surrounding and constantly changing reality, helping to explain complex phenomena of the modern world. Moreover, he is an advisor in making moral choices and judgements, a person who protects

against social pathology, evil, falsehood and ugliness. He is a person characterized by courage in opposing evil, both in sport and in everyday life, and able to encourage his athletes to do the same (op. cit.).

The main aim of this study is to discover students' opinions on the characteristics and qualities of a coach that, in their opinion, determine the dialogue-based relationship in the sports training process.

In relation to the research undertaken, the following specific objectives were identified:

1. Determining whether the dialogue-based relationship is defined by the respondents in didactic and educational terms
2. Determining whether the young women and men surveyed differ in terms of the indicated characteristics of a coach
3. Identifying which traits of a coach are indicated by the respondents very rarely
4. Identifying which traits of a coach are emphasized most frequently.

For the purposes of the research, the following research questions were formulated:

1. Do the traits and characteristics of a coach indicated by the respondents fit into the normative personality model of a physical culture specialist?
2. Are there differences in the perception of the expected qualities of a coach for male and female respondents?
3. Are any qualities of a coach who is considered to be a master in dialogue with an athlete named most often by the students? If so, which ones?
4. Are any qualities of a coach mentioned least frequently by the male and female students surveyed? If so, which ones?
5. Are there any characteristics of a coach listed by the students that contradict the assumptions of the dialogic relationship?

Method

The method used in the research was a diagnostic survey in which respondents were asked the following question: „What do you expect from a coach who you would consider to be a master in dialogue with an athlete?". The respondents answered an open-ended question and could, therefore, freely express their opinions on the topic specified in the question. The particulars made it possible to establish the respondent's gender, age, tasks related to coaching others and the sport being taught, as well as their own experience of playing sport over the years. The results obtained were subjected to qualitative and quantitative analysis. The research was carried out in December 2022 during lectures at the university.

Participants and Procedure

The study involved 103 full-time, first-year students of the Józef Piłsudski University of Physical Education in Warsaw, enrolled in first-cycle studies in the field of sport. The research was conducted face-to-face with respondents in January 2023. At that time, the number of students in the first year of studies was 135, which shows that the majority of students participated (73.3%). The study group consisted of 80 men (77.7%), and 23 women (22.3%). The average age of the male respondents was 19.5 years and that of the female respondents was 19.1 years. 81 out of 103 students surveyed practise sports. This consisted of 61 men (76.3%) and 20 women (87%).

Table 1. Number of years practising sports of the surveyed women and men (%) (n=81)

Itemization	Men		Women	
	n	%	n	%
1-5 years	12	19.7	3	15.0
6-10 years	26	42.6	14	70.0
11-15 years	23	37.7	3	15.0
Total	61	100.0	20	100.0

Source: own study

The study showed that the majority in both the female and male groups are those who have been involved in sport for 6–10 years (70% and 42.6%, respectively). The most popular discipline among students is football, practised by 37.5% of the respondents. Other team sports are: handball (5%), futsal (5%), volleyball (5%) and basketball (6.2%). Individuals reported that they practise wrestling, table tennis, golf, boxing, strength training, tennis, swimming and athletics, canoeing, weightlifting, fencing, taekwondo, acrobatics, bodybuilding, frisbee, sailing, baseball, kick boxing, powerlifting. The vast majority of male respondents report that they do not work

as coaches (77.5%). The minority teach different sports (22.5%), and in this group the largest number are football coaches (38.9%), while other disciplines are represented by single respondents (powerlifting, futsal, basketball, boxing, swimming, frisbee, tennis, athletics, acrobatics, strength training, personal coach).

Like the men, the majority of female respondents practise football (18.2%), volleyball (18.2%) and handball (13.6%). 13.6% do athletics and the same number practise swimming, gymnastics and dancing (9.1% each). Other disciplines, such as powerlifting, gymnastics, horse riding, acrobatics, krav maga and boxing, are practised by single female students. 69.6% of the female respondents report that they do not work as coaches. On the other hand, those who do (34%) coach in disciplines such as fitness, artistic gymnastics, acrobatics, dancing, football and swimming.

Results

An analysis of the empirical material obtained leads us to conclude that the statements of the students surveyed concerning their expectations of a coach they would consider a master in dialogue with an athlete refer to all three dimensions of the normative model – specialist, pedagogue and human.

The results presented in Tables 2,3 and 4 are the result of the qualitative and quantitative analysis mentioned above. The data presented in the following tables corresponds to the percentage of indications for each characteristic shown in the context of the normative model. The respondents were able to select several answers, which is why the total number is not 100%.

Table 2 presents the characteristics of the specialist dimension in the perception of the surveyed students.

Table 2. Traits and characteristics of the coach in relation to the specialist dimension (%) (n=103)

	Itemization	Women		Men	
		n	%	n	%
1.	belief in the success of the athlete	1	4.3	0	0
2.	knows how to teach, explains, imparts knowledge	5	21.7	21	26.2
3.	has subject, psychological and pedagogical knowledge, professional experience	3	13.0	22	27.5
4.	persistent in pursuing a sports goal	1	4.3	0	0
5.	shows interest in the athlete and focus on the athlete	1	4.3	3	3.7
6.	shows a passion for sports	0	0	2	2.5
7.	takes care of the comprehensive sports development of the athlete	0	0	1	1.2
8.	knows how to discipline athletes	0	0	2	2.5
9.	creative	0	0	1	1.2
10.	objective, does not favour athletes	0	0	4	5.0

Source: own study

Of the 23 surveyed women, 11 indicated the qualities of a trainer that could be classified as a specialist. However, among the 80 surveyed men, 56 people indicated such features. Both the women and men surveyed indicated traits of the coach that qualify as characteristics of the specialist dimension described in the normative model. The most frequently given characteristic was: "knows how to teach, explains, and imparts knowledge" (21.7% of women and 26.2% of men), and "has subject, psychological and pedagogical knowledge, professional experience" (13% and 27.5%, respectively). More characteristics of this dimension were given by men (8) than women (5). Among the characteristics that were mentioned only in individual cases, the following are worth noting: „belief in the athlete's success" (only one woman), „persistent in pursuing a sports goal" (only one woman), „creative" (only one man), „takes care of the comprehensive sports development of the athlete" (only one man).

Table 3 presents the characteristics of the pedagogue dimension in the opinion of the respondents.

The pedagogical dimension is characterized by both women and men. Significantly more women (52.2%) than men (23.7%) claim that the master in dialogue with the athlete is a coach who „engages in dialogue and listens actively". A similar tendency is observed in connection with the characteristic "gives support in difficult situations, is committed and devotes time to the athlete, gives praise". This aspect of the pedagogue is mentioned by

43.5% of the female students and only 12.5% of male students. The pedagogical attitude, according to the respondents, is presented by a coach who „motivates the athlete" (27.5% of men and 17.4% of women), „has a good, friendly rapport with the athlete" (26.2% and 21.7%, respectively) and „shows mutual respect, is polite" (21.7% of women and 5% of men). Only male respondents pointed out characteristics of the pedagogue such as: „demanding and knows how to set boundaries", „is able to resolve conflicts, prevents problems", „builds cohesion in the group" (6.2% each).

Table 4 illustrates the statements of the students surveyed characterizing the human dimension in the normative model.

Table 3. Traits and qualities of the coach in relation to the pedagogue dimension (%) (n=103)

	Itemization	Women		Men	
		n	%	n	%
1.	gives support in difficult situations, is committed and devotes time to the athlete, gives praise	10	43.5	10	12.5
2.	engages in dialogue, listens actively	12	52.2	19	23.7
3.	motivates the athlete	4	17.4	22	27.5
4.	is able to cooperate, is interested in the athlete and open to him/her, has an individual approach	6	26.1	19	23.7
5.	is an authority, a role model	3	13.0	7	8.7
6.	shows mutual respect, is polite	5	21.7	4	5.0
7.	has a good, friendly rapport with the athlete	5	21.7	21	26.2
8.	is demanding and knows how to set boundaries	0	0	5	6.2
9.	arouses interest in sport, arouses passion for sports	0	0	2	2.5
10.	is able to resolve conflicts, prevents problems	0	0	5	6.2
11.	builds cohesion in the group	0	0	5	6.2
12.	cares about the athlete`s health	0	0	2	2.5
13.	meets the athlete`s needs	0	0	1	1.2
14.	does not stress the athlete	0	0	1	1.2

Source: own study

Table 4. Traits and qualities of the coach in relation to the human dimension (%) (n=103)

	Itemization	Women		Men	
		n	%	n	%
1.	shows self-confidence	4	17.4	6	8.7
2.	honest, truthful	3	13.0	4	5.8
3.	understanding and patient	6	26.1	17	24.6
4.	intelligent	1	4.3	0	0
5.	Punctual	1	4.3	1	1.4
6.	friendly, treats the athlete as a member of the family	2	8.7	9	13.0
7.	trustworthy	3	13.0	2	2.8
8.	empathetic	2	8.7	7	10.1
9.	cheerful and has a sense of humour	1	4.3	6	8.7
10.	emotionally balanced, does not show aggressive behaviour	0	0	4	5.8
11.	has a good influence on the athlete	0	0	1	1.4
12.	acts logically	0	0	3	4.3

Itemization	Women		Men	
	n	%	n	%
13. shows a high level of personal culture	0	0	1	1.4
14. decisive	0	0	1	1.4
15. a good person	0	0	3	4.3
16. conscientious	0	0	1	1.4
17. an optimist	0	0	1	1.4
18. selfless	0	0	1	1.4
19. fair	0	0	1	1.4

Source: own study

The smallest percentage of respondents paid attention to the characteristics of the coach, which relate to the third aspect of the normative model – the human dimension. However, some mention qualities such as: „understanding and patient" (26.1% of women and 21.2% of men), „shows self-confidence (17.4% and 7.5%, respectively) and is „honest, truthful" (respectively: 13% and 5%). It is worth noting that 13% of the female respondents expect that a coach who is a master in dialogue with an athlete will be trustworthy. This characteristic is indicated by only 2.5% of men. According to the respondents, such a coach should be expected to be friendly to the athlete and treat him or her as a family member. This is the opinion of 11.2% of men and 8.7% of women. The analysis of the research results shows that a much broader description of this dimension is provided by the male respondents.

Discussion

The analysis of the collected empirical material allows to answer the previously asked research questions.

The traits and characteristics of the coach indicated by the respondents fit the normative personality model of a physical culture specialist, which includes three dimensions – specialist, pedagogue and human. In other words, the students surveyed perceive a coach as a person who is able to engage in dialogue on a didactic and pedagogical level, which are the required characteristics of a physical education teacher (Derbich, 2017; Derbich & Nałęcz, 2014). The necessity of discussing and the value of discussion in the coach-athlete relationship is mentioned, among others, by Clement and Arvinen-Barrow (2019), arguing its importance for the health of the athlete. A study by Varga (2017) on the pedagogical beliefs of Hungarian coaches shows that the education of athletes in and for sport should not be limited to the professional teaching of athletes (didacticism), but should also include the teaching of social norms, which contributes significantly to the socialisation of athletes. These observations are relevant to the results of our study, in which the participating students emphasised the importance of the dimension of the pedagogue in response to the question about the requirements for the coach to become a master in dialogue with the athlete.

The analysis of the statements of the students leads to the conclusion that they stress the dimension of pedagogue more often than the dimension of specialist and human. This is particularly true of the female respondents.

The importance of the specialist and pedagogical competences of the coach is highlighted by the research of Mu'ammal et al. (2022), who confirmed a positive correlation between the motivation of the athlete and the specialist and pedagogical competences of the coach.

Some characteristics of *a specialist are very rarely* indicated by the interviewed women and men (e.g. he/she is persistent in pursuing a sports goal, shows interest in the athlete and focuses on the athlete, takes cares of the comprehensive sports development of the athlete, is creative). Nearly one in five women and one in four men – although not significantly – emphasised the most characteristic trait of a coach in this dimension as the ability to teach, explain and impart knowledge and skills.

The students emphasised the pedagogical competence of the coach as a necessary condition for the ability to engage in a dialogue with the athlete. This should be considered as their correct understanding of the conditions necessary for a dialogical relationship to occur.

Kuk (2015) emphasises the importance of emotional intelligence as a necessary competence in leading a sports team. Self-awareness, self-regulation, social awareness and relationship management are important in a coach's work, and developing social competence and emotional intelligence is an investment in mental health (Kuk, 2022). Empirical findings indicate that higher levels of emotional intelligence were observed among those who were determined to pursue the coaching profession, in comparison with those who were undecided, suggesting that there may be a natural selection factor for the coaching profession (Kuk, 2022).

Morreale, Spitzberg and Barge (2015) point out that communication is a holistic process that develops over time and creates a social world. It is functional in that it helps to achieve expected outcomes, but it is also adaptive, as it is subject to modification to suit particular situations. Our ability to communicate creatively can create opportunities to transform norms, values and views, as well as new ways of thinking and existing (Morreale et al., 2015, p. 40).

The identification of the coach with his or her professional role, understood as taking into account the need to be not only a high-level specialist in the field taught, but also a pedagogue, significantly influences the deepening of the dialogical relationship with the athlete. This will become apparent in special situations, such as a competition situation requiring, among other things, mental resilience from the athlete. The coach can and should, then, be the person who is able to strengthen the mental condition of the athlete in order to help him or her win. Research by Mazzer and Rickwood (2015) indicates that the professional identification of the coach has an impact on the mental health of the athletes. The findings of Dehghanpouri, Vosadi and Mokaberian (2021) clearly indicate that there is a significant positive relationship between the mental health of the athlete and the interpersonal skills of the coach.

However, under the conditions of a real-life relationship, the mutual references of the athlete and the coach may contradict the standards set for a dialogical relationship. This can be seen in the research by Czechowski (2016), who emphasises that the results of an analysis of student statements „unfortunately also uncovered the negative side of the conversations held in sports circles. Among others, such features of conversations as vulgarity, fierceness, narrow-mindedness, maliciousness or rowdiness were mentioned" (Czechowski, 2016 p.72). This cannot be considered a standard of pedagogical dialogue.

Differences were observed in the proposed qualities of a coach who should be considered a master in dialogue with the athlete in the case of female and male respondents. The list of characteristics reported by the male respondents is longer than that of the female respondents in each of the three dimensions of coaching competence studied. In the *specialist* dimension, men gave six more characteristics than women. In the *pedagogue* dimension, men reported seven more characteristics, and in the *human* dimension, men reported ten more characteristics.

In each of the analysed dimensions of the professional competences of the coach, it is possible to identify some that are cited by a higher percentage of respondents. Others find less recognition among the respondents. In the case of professional competence, the majority of female students state that such a characteristic is the ability to teach, explain exercises and impart subject, psychological and pedagogical knowledge and professional experience. Analysing the characteristics of pedagogical competence, it should be noted that the female students most often indicated such qualities as giving support in difficult situations, being involved and devoting time to the athlete, and engaging in dialogue, in which there is room for active listening. The latter trait was also indicated by the men surveyed.

In a study Stewart and Owens (2011), who elaborated on the characteristics of coaches' behaviours described in a survey university students, the same traits and behaviours were observed as those noted by the authors of this paper in the statements of the students they surveyed at the University of Physical Education in Warsaw. Both female and male respondents most strongly emphasised such traits and behaviours of the coach as: giving social support, instructing during exercises, proper transfer of knowledge and skills related to the sport practised (2011). In addition, men cited other qualities in this dimension, such as the ability to motivate the athlete, to create a friendly rapport with the athlete and the ability to cooperate, show interest in the athlete, openness to him or her and an individual approach. Regarding the third *human* dimension, female students most often emphasised qualities such as showing self-confidence, being honest and truthful, being understanding and patient. This last trait of a coach was also recognised in the statements of male respondents.

In each of the three analysed dimensions of a coach's professional competence, there are qualities that female and male respondents rarely indicate. In the group of women, such qualities are: belief in the success of the athlete, persistence in pursuing a sports goal, showing interest in the athlete, being an authority, a role model, or even intelligence, punctuality, sense of humour, and empathy. Men, on the other hand, rarely emphasise such qualities as: taking care of the comprehensive sports development of the athlete, creativity, passion for sport, the ability to discipline athletes, the ability to arouse interest in sport, taking care of the athlete's health, and also honesty and truthfulness, punctuality, being trustworthy, presenting a high level of personal culture, decision-making, conscientiousness, selflessness, optimism and being fair.

The analysis of the statements does not indicate that the qualities with which students describe the coach contradict the assumptions of the dialogic relationship. This may indicate that the young respondents have a good understanding of the foundations of successful communication and dialogue skills in a pedagogical situation and describe it correctly.

Conclusions

Analysing the statements of the students surveyed, it can be concluded that they had no difficulty in indicating

the standards defined in the work of a sports coach who is characterised by the ability to enter into dialogue with the athlete.

1. Dialogue skills are most strongly supported by pedagogical competences. The students surveyed expect the coach to be a person who skilfully enters into dialogue with the athlete and is ready to recognise the athlete as a subject of the educational relationship in sporting situations.
2. Female and male respondents differ in their perception of the expected qualities of a coach aspiring to be recognised as a master in dialogue with the athlete.
3. The training process during courses becomes a starting point for coaches not only to undertake professional practice, but also for practical development in the profession. This development is expressed in the differentiation of the coaching attitude, the nature of which – as Philippe et al. (2011) aptly noted – evolves from teacher to friend. The development of bonds and cooperation along with the proper definition of social roles are important for the development of this relationship. According to the statements of the interviewed students, it can be assumed that it is something extremely important today for coaches to take responsibility for their level of professional training and to continually improve their professional qualifications.
4. In the process of training coaches to prepare them for the profession, special attention should be paid to its multifaceted nature. There is a need, also indicated by the results of our research, to adapt programmes, and coach and instructor courses in such a way as to develop and improve didactic, pedagogical and personal competences of professionals intending to work in the field of physical culture. Professional development should also take into account social and cultural development (Karakaya et al., 2022).

Ethics approval and informed consent

The survey was anonymous, voluntary and concerned the opinions expressed by the surveyed students.

Competing interests

The authors declare no conflicts of interests.

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