

Factors Influencing the Practice of Leisure Sports Activities as a Component of a Healthy Lifestyle in Sustainable Communities

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Abstract

Adopting a healthy lifestyle may impact building a sustainable community by promoting individual responsibility as a base for sustainability. Along with feeding habits, elimination of smoking, moderated alcohol consumption, and adequate sleep, physical activity is considered one of the pillars for building a healthy lifestyle. The present study explores the perception of physical activity and the change in the current attendance level of leisure time sports activities compared with the attendance level of sports activities during the COVID-19 pandemic and before the pandemic. Using an online survey, the main objective is to identify the factors that influence the practice of leisure sports activities in a sample of participants to LTSE activities as fitness exercises. The findings contribute to a clearer perspective regarding the perception of physical activity and the difference in motivating factors in socio-demographic categories. Also, the interpretation of results will manage specific recommendations to increase physical activity and explore the possibilities of promoting an active lifestyle to enhance the quality of life in sustainable communities.

Keywords

Healthy Lifestyle; Sustainability; Physical Activity.

Introduction

Among the various dimensions of a healthy lifestyle, physical activity is a constant component. Several benefits were emphasized by Ferreira, Irigoyen, Consolim-Colombo, Saraiva, & Angelis (2020): reduces the severity of Covid infections, prevents and treats a series of chronic diseases, reduces the level of stress and, respectively, the level of inflammation, shows a protective effect on lung function, and, finally, improves the immune response to vaccines. Among the chronic conditions improved by physical activity, as demonstrated by previous studies, were hypertension, obesity, diabetes, and eight types of cancer (Powell, King, Buchner, Campbell, DiPietro & Erickson, 2018).

According to Seefeldt, Malina & Clark (2002), the factors that influence the various categories of adults to perform programs of physical activity have been divided into socio-demographical factors (age, gender, race, ethnicity) and those that depend on the social and environmental circumstances (such as behavioral and personality characteristics, community norms and so on). Although complex factors affect initiating and maintaining a physical activity program, studies still need to identify the importance

of specific factors inside one category or another and the type of motivation that supports continuous physical activity.

Literature review

The lifestyle is expressed by a collection of behaviors that reflects attitudes, interests, opinions, values, and sharing of resources. The lifestyle is expressed by a collection of behaviors that reflects attitudes, interests, opinions, values, and sharing of resources. Adopting a healthy lifestyle may have an impact on building a sustainable community by promoting individual responsibility as a base for sustainability (Rakic & Rakic, 2015). Initially, research focused on personal factors such as diet, physical activity, no smoking, moderate alcohol consumption, and adequate rest (Adams, Katz & Shenson, 2016). However, later, the framework of this notion was broadened by including psychological and social factors (Bodai, Nakata, Wong, Clark, Lawenda, & Campbell, 2018). Chronic diseases are due to behavioral changes induced by modern life: smoking, unhealthy diet (including alcohol abuse), and reduced physical activity, resulting in the development of chronic or degenerative diseases such as cardiovascular disease, diabetes, obesity, metabolic syndrome, chronic obstructive pulmonary disease and some types of cancer (Trovato, 2012).

A series of studies identify the benefits that physical activity brings, along with other behaviors that are part of the defining criteria of a healthy lifestyle in terms of health and life expectancy. A longitudinal study conducted in 2003 over a period of nine years among more than 100000 employees in the US wellness industry found that among the behaviors that positively influenced health outcomes were low-fat diet, aerobic exercises, not smoking, and adequate sleep. Among these factors, the most significant was a low-fat diet, followed by physical activity in importance. Thus, compared to sedentary participants, the participants who exercised four days per week developed less diabetes, cardiovascular disease, and hypercholesterolemia (Byrne et al., 2018).

In the same direction, a study published in 2020 (Li et al.) aimed to examine to what extent a healthy lifestyle is correlated with a life expectancy that implies the absence of associated major chronic diseases. Statistical data from the United States Health Care Network (38.366 participants collected from 1986 to 2014) were used. The parameters considered for the healthy lifestyle were: no smoking (never smoked), a body mass index between 18.5 and 24.9, moderate to intense physical activity (more than 30 minutes a day), moderate alcohol intake (5-15 g women and 5-30 g per day) and a high diet quality score (greater than 40%). A study conducted in 2016 on over 20000 participants from three European countries (O'Doherty, Cairns, O'Neal, et al., 2016) also found that, at 50 years old, people who had a favorable lifestyle (without smoking and physically active) had a longer life between 7.4 and 15.7 years compared to sedentary and smoking people, the vast majority without cardiovascular diseases.

Other studies highlight the positive impact that physical activity has on the condition of people with chronic diseases. The survey by Sarris et al. (2014) provides strong evidence of the benefits of physical activity on mental health. The study by Teo et al. (2013) found that a high-quality diet and regular physical exercise were associated with a reduced risk of death and recurrence of myocardial infarction or acute cardiovascular events. Last but not least, people who have adopted a healthy lifestyle – defined based

on six indicators: healthy diet, regular physical exercise (at least 150 minutes of moderate physical activity per week), active social contacts (at least twice a week), cognitive activity (at least twice times a week), the absence of smoking and alcohol consumption – had a slower decline in memory compared to the group that did not adopt these behaviors.

As lifestyle medicine has developed, it has also become increasingly apparent that all recommendations need to be tailored. For example, the need to have a minimum of 150 minutes of moderate physical activity per week needs to be tailored to the characteristics of the person receiving the recommendation (optimal duration and intensity, frequency). It is also unclear whether it is beneficial to implement a single activity performed regularly or whether there should be changes or a variety in these physical exercises.

In regard to physical activity as a component of a healthy lifestyle, several studies explored the factors that influence the attitude toward physical activity. A systematic review of 63 articles published from 1999 to 2014 (Langøien, Terragni, Rugseth, Nicolaou, Holdsworth, Stronks, ... & DEDIPAC consortium., 2017) identified eight clusters of factors influencing physical activity: social & cultural environment, political environment, psychosocial factors, physical environment & accessibility, migration context, institutional environment, social & material resources, health communication. Exploring the environmental factors that influence physical activity, Humpel, Owen, and Leslie (2002) found that accessibility to facilities, opportunities for physical activity, and aesthetic attributes (e.g., greenery and pleasant environments) consistently promote physical activity. Maddison, Hoorn, Jiang, Mhurchu, Exeter, Dorey, ... and Turley (2009) found that psychological factors had a stronger influence than environmental factors. Thus, even if ownership of recreational equipment contributed independently to activity levels, variables like intention and perceived behavioral control better predicted physical activity than environmental factors; among these variables, intention was the strongest predictor for moderate to vigorous physical activity. In the same direction, the study of Giles-Corti and Donovan (2002) determined that individual factors (such as intention, self-efficacy, and attitude) and social factors (such as social support and group membership) have a more significant influence on physical activity level in comparison with the physical factors (as the spatial access to physical activity facilities).

In a systematic review of the literature on socio-demographic factors that influence physical activity, Mohd-Talmizi, Ali, and Teriman (2021) concluded that men tend to participate more frequently in physical activities than women. Individuals with higher educational and income backgrounds, unmarried and younger, have a high probability of engaging in physical activity.

Also, by using a survey of more than 600 participants, Maric, Kvesic, Lujan, Bianco, Zenic, Separovic ... & Sekulic (2020) discovered that, for teenagers, parental education was a positive predictor of physical activity level at baseline. The authors explained this result by the fact that parents with a higher level of education are probably more informed about the importance of physical activity on health status and thus transfer this information to their children as well.

Investigation of specific age categories determined relevant findings. A study conducted on older adults (Lübs, Peplies, Drell & Bammann, 2018) aimed to identify the prevalence

of insufficient physical activity and its associated factors. Statistically significant factors in this regard were socioeconomic factors such as low educational level, financial difficulties, and health-related factors such as the number of chronic diseases, while among the interpersonal factors, only the size of social network was associated with intense physical activity. Also, a systematic review of 89 studies on the physical activity of survivors after a critical illness (Parry, Knight, Connolly, Baldwin, Puthuchear, Morris, ... & Granger, 2017) identified five major topics: (1) patient physical and psychological capability to perform physical activity; (2) safety influences, including physiological stability and concern for lines; (3) culture and team influences; (4) motivation and beliefs regarding the benefits/risks; and (5) environmental influences, including funding, access to rehabilitation programs, staffing and equipment.

Even if the psychological factors proved to have a stronger connection than the environmental ones, the changes induced by the pandemic also showed a visible influence on the practice of physical activity. Recent studies showed that the COVID-19 pandemic strongly impacted reducing the frequency of leisure time sports and exercise (Jaskulska, Jankowiak, Mariciniak & Klichowski, 2022). The results of these studies suggested that the impact was more substantial in the case of female participants compared to male participants and in the case of older people compared to younger people (Mutz & Reiners, 2021).

Methodology

The present study explores the perception of physical activity and the change in the current attendance level of leisure time sports activities as fitness exercises compared to the attendance level during the COVID-19 pandemic and before the pandemic. The main objective is identifying the factors influencing leisure sports activities in a sample of 95 participants to fitness exercises. The instrument used in the survey was the Motivation for Physical Activity Measure (M-PAM) (Ryan, Frederick, Lepes, Rubio & Sheldon, 1997) including the following sections: Enjoyment (7 items); Appearance (6 items); Social (5 items); Fitness/Health (5 items); Competence (7 items) followed by a section which tested the changes in the habits of physical training (3 questions), and finally a socio-demographic section. The first five sections (focused on motivation factors) presented a series of assumptions followed by Likert scales (from 1-totally disagree to agree 5-totally). The data were collected via an online survey in Google Forms in 2023, while the sample was a sample of availability (95 respondents). From the 95 responses, 91 valid responses have been collected (from which 28 men and 63 women).

Results and discussion

More than half of respondents live in Bucharest, while 21.5% live in a big city (Table 1). This specific feature of the sample needs to be considered in interpreting results. Also, women are two times more than men in the sample, which also needs to be considered in the interpretation. Regarding the age distribution, almost half of respondents are in the age interval 31-50, while 31.5% are under 30, and 17.4% are over 50. The level of education of respondents is relatively high, only a quarter of respondents graduated only high school. More than half of respondents have a regular full-time program, while

slightly over 30% have a flexible program. For almost half of respondents, the fitness room is within walking distance, while for a third, the fitness room is at 5-15 minutes of driving. Also, the relationship status is balanced; one-third of respondents are single, while two-thirds are in a stable relationship.

Table 1. Socio-demographic variables (Source: Authors' own research results/contribution)

	Categories	%
Age	18-24	19.6
	25-30	12
	31-40	23.9
	41-50	27.2
	Over 50	17.4
Gender	Male	30.8
	Female	69.2
Level of education	Highschool	24.2
	College	23.1
	Master	35.2
	Ph.D.	15.4
	NR	2.1
Residence area	Bucharest	65.6
	Urban (big)	21.5
	Urban (small)	6.5
	Village	5.4
Working program	Full time	54.3
	Part time	5.5
	Flexible	30.4
	Not working	9.8
Status	Relationship with children	38.6
	Stable relationship	24.7
	Single	32.3
	NR	6.5
Access to fitness room	In walking 5-15 min	47.8
	Driving 5-15 min	32.6
	Driving > 15 min	17.4
	None	2.2

The frequency of responses on categories of motivation factors shows that the social factors of motivation are weak for this sample compared with other categories (Figure 1). Among the six categories of motivation factors considered, the health/fitness factors present the highest level of intensity (M=4.24 out of a maximum of 5). At the same time, the high level of extrinsic factors (appearance, social, and health) indicates that the motivation is mainly extrinsic. The category of social factors of motivation presents the lowest mean (M=2.27 from a maximum of 5).

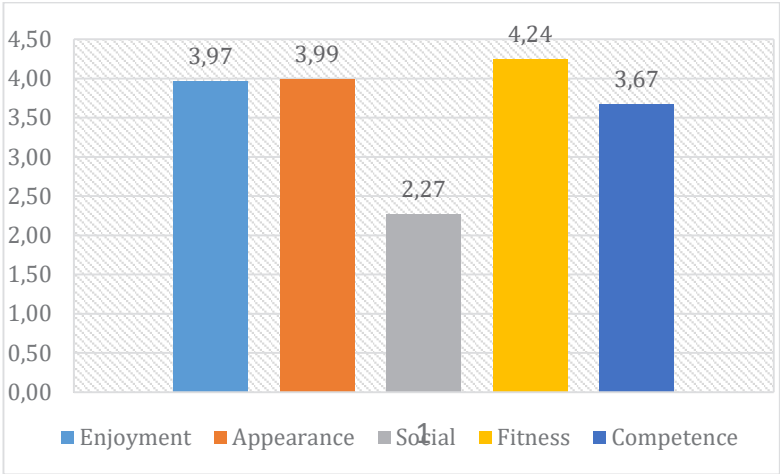


Figure 1. The motivation factors in categories
(Source: The authors' contribution)

The distribution of motivation factors on gender shows a slight difference (Figure 2). Thus, men present higher motivation levels in all five categories than women. The difference is slightly higher in the case of the first two categories: enjoyment (intrinsic) and appearance (extrinsic). However, the test Student showed that the difference between men and women is not statistically significant.

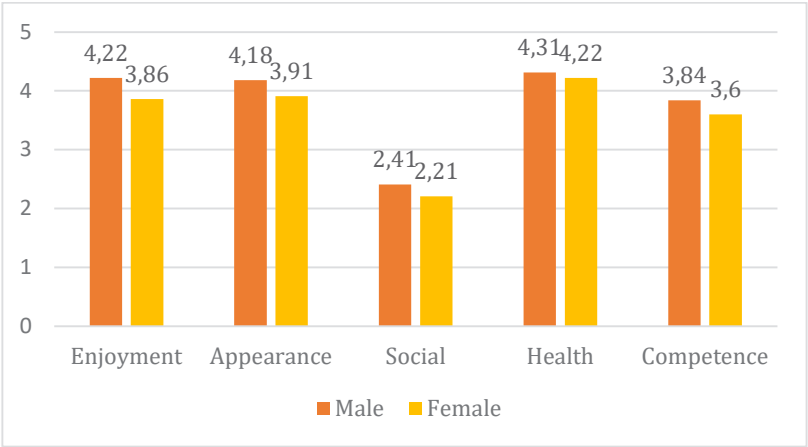


Figure 2. Mean of motivation factors by gender
(Source: authors' main contribution)

In regard to the frequency of attendance is balanced, 38% of respondents attend the fitness room 2-3 times/week, 7.6% every day, and 17.4% one time a week (figure 3). Men present a better attendance than women: 18 out of 27 men in the sample attended the fitness room every day or 2-3 times a week, while in the sample of women, only 23 out of 67 (less than a half) were in this situation. This result aligns with other studies, such as Mohd-Talmizi, Ali and Teriman (2021).

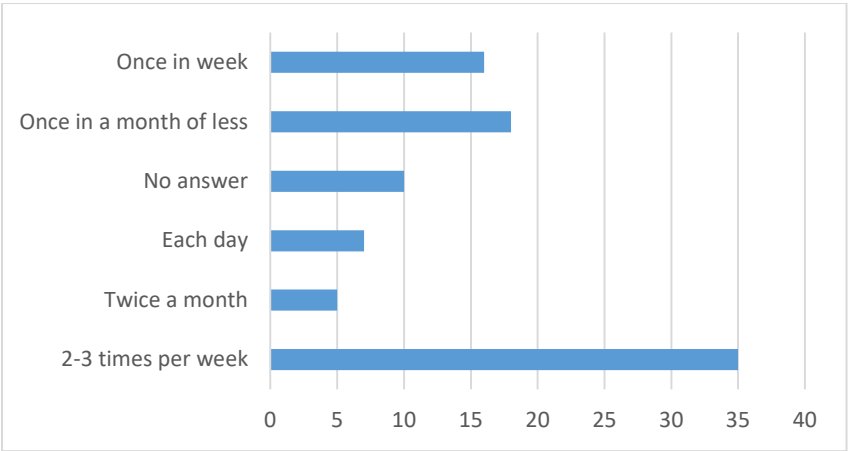


Figure 3. Frequency of attendance to fitness room
(Source: Authors' contribution)

When compared to the situation before the pandemic, the perceived improvement is not as high as in the previous case. However, almost half of respondents (48%) still believe that their attendance improved (Figure 4).

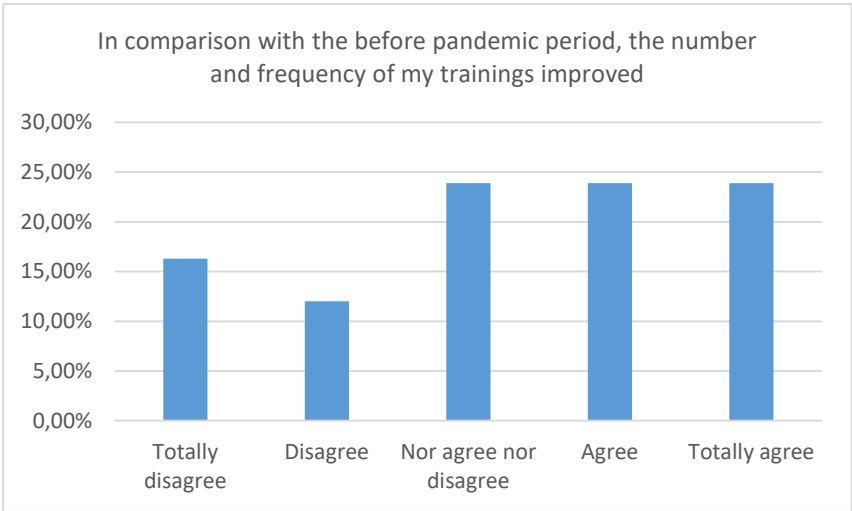


Figure 4. The improvement of the frequency of fitness room training
(Source: Authors' contribution)

Also, the comparison with the pandemic period shows an optimistic perception. Respondents believe that their training in the fitness room improved compared to the pre-pandemic situation: more than half of respondents agree or totally agree with this idea (Figure 5). The result is similar to the findings from other studies, such as Jaskulska, Jankowiak, Mariciniak, and Klichowski (2022).

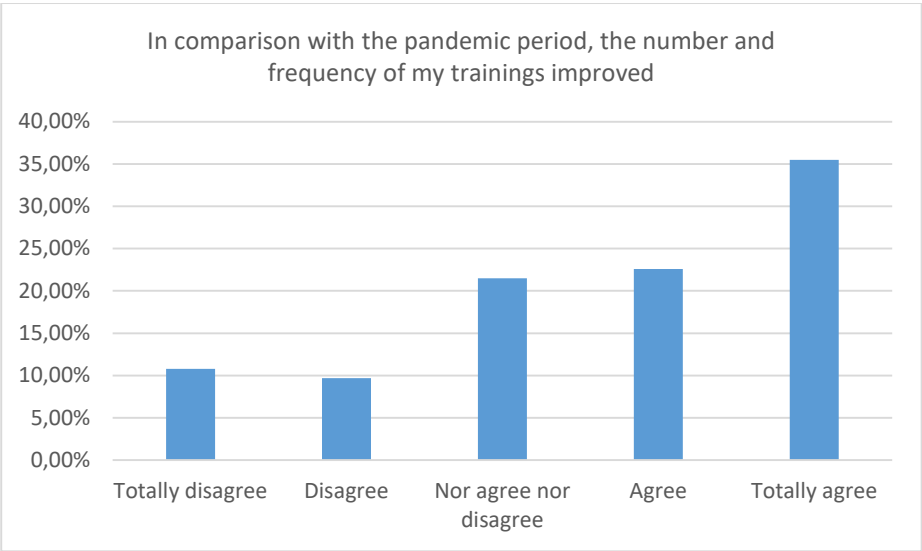


Figure 5. The improvement of the frequency of fitness room training in comparison with the pandemic period
(Source: Authors' contribution)

Regarding the difference in perception of the improvement, some differences exist between men and women. The perceived improvement in attendance in comparison with the pandemic period is stronger in the case of men (which is in line with other studies' findings as Mutz and Rainers, 2012), while the perceived improvement in attendance in comparison with the period before the pandemic is moderate for men and women

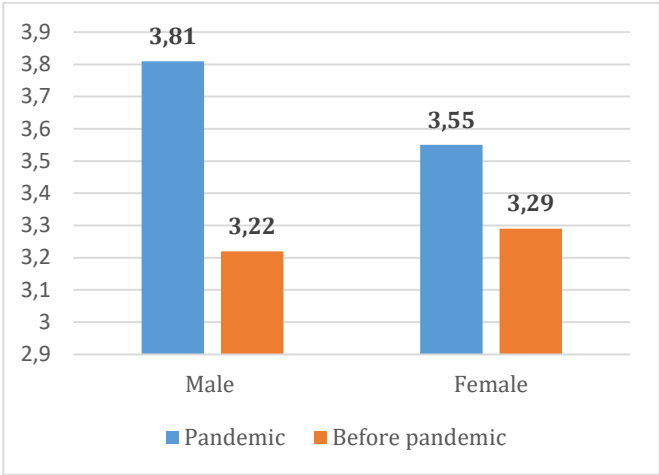


Figure 6. The difference between gender practice of fitness room exercises
Source: Authors' research results/contribution

The statistical correlation tests show that age was the only factor that presented a more consistent pattern and a significant correlation with some of the motivation factors. Thus, age correlated negatively (a slight negative correlation) with the items in the section on enjoyment factors of motivation and, at the same time, correlated positively

(a moderated or strong correlation) with the items in the social section (Table 2). These results show that for the respondents in the older age group, the entertainment to the fitness room is no longer a motivation factor. Instead, relationship and activities with friends are a strong motivation factor. These results are similar to the findings by Lübs, Peplies, Drell, and Bammann (2018), that, in the case of older people, the interpersonal factors and the size of the social network were significant factors for physical activity.

**Table 2. The value of correlation coefficients for age and different items
(authors' contribution)**

Item	Spearman's rho	p value
The fitness exercises make me happy	-0.253*	0.015
The fitness exercises make me pleasure	-0.244*	0.020
I like the fitness exercises	-0.362***	<001
It is interesting to make the fitness exercises	-0.307**	0.003
I feel stimulated by the fitness exercises	-0.243*	0.020
It's a pleasure to exercise with my friends	0.256*	0.014
I am going to the fitness room because my friends are asking	0.282**	0.007
I am going to the fitness room just to stay with my friends	0.358***	<001

To answer the first research question (RQ1), the respondents perceived an improvement of their attendance in the fitness room compared to the previous pandemic period and a smaller improvement than before the pandemic.

Regarding the second research question (RQ2), men reported a higher level of improvement in attendance compared to women; also, men presented a higher level of attendance and motivation in all five categories. According to age, the social aspect of physical activity is the most important factor in comparison with other factors, and this was the main benefit perceived, while the entertainment category of factors had a reverse effect (were not perceived as benefits).

Finally, for responding to the third research question (RQ3), the social motivation factors were the weakest in the complex of five categories of motivation factors (enjoyment, appearance, social, health, and competence); still, the extrinsic motivation seems to be stronger than the intrinsic motivation. This result is not in line with the previous studies on the topic, as Maddison et al. (2009) and Giles-Corti and Donovan (2002), probably because of the small sample size.

Conclusions

The present study aimed to explore the perception of physical activity and the change in the current attendance level of leisure time sports activities (fitness room exercises) compared to the attendance level during the COVID-19 pandemic and before the pandemic. The main objective was to explore the main categories of motivation factors that influence the practice of fitness exercises in a sample of 95 participants (availability sample) and the relationship of socio-demographic variables to the categories of motivation factors.

The findings showed that, in comparison with the period of the pandemic, there is an improvement in physical activity and a higher motivation of adults in the sample at all the categories of motivation factors. The extrinsic motivation was more intense than the

intrinsic motivation, a finding similar to other results in the literature on the topic. However, the social perception of sport and physical activity should be improved, especially for older adults or teenagers, to encourage engagement in these activities of larger groups and categories.

As a limitation of the research, the sample size was limited, and selected on availability. Although the sample was balanced in many respects (age, education, employment, relationship status), it was not balanced in two aspects: residence (Bucharest and big cities) and gender (women double than men). Therefore the study should be expanded to a larger sample and more balanced regarding residence and gender. Further, the online survey presents disadvantages, such as the lack of answers and explanations to respondents in case they do not understand the items.

The findings contribute to a clearer perspective regarding the perception of physical activity and the difference in motivating factors according to socio-demographic characteristics. Also, they can contribute to specific recommendations to increase the level of physical activity and explore the possibilities to promote an active lifestyle to enhance the quality of life in sustainable communities. The recommendation for the institutions that would aim to improve this dimension of a healthy lifestyle is to initiate education programs in schools and also, for older adults, to provide counseling and personalized physical activity plans. At the same time, as studies proved the greater importance of attitude and perception in comparison with physical factors (such as access to infrastructure), there is a need to change the perception of physical activity for the general categories of the population through communication campaigns using mainstream media or social media.

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