FACTORS ASSOCIATED WITH THE PARTICIPATION OF UNIVERSITY STUDENTS IN PHYSICAL-SPORTS ACTIVITIES

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ABSTRACT

Factors that influence the participation of university students in physical-sports activities were identified and classified. Methodologically it was a mixed study with a non-experimental, cross-sectional, correlational, and descriptive design. For data collection and analysis, a systematic review was carried out on the reasons why students participate in physical-sports activities and then the MICMAC technique was applied, for which the help of experts was sought who, with their collective reflection, allowed the structural analysis to be carried out. The results yielded eleven factors that were directly classified as key. It is concluded that students may be motivated by competition, the desire to keep fit, the desire to socialize, or the desire to represent their school or team. In addition, the availability of resources such as appropriate sports facilities, coaches, and equipment can be an important factor in a student's decision to participate in sports activities.

Keywords: sports, education, university, participation, physical condition, motivation.

1. INTRODUCTION

Participation in physical and sports activities is relevant for mental and physical well-being (Grasdalsmoen, Eriksen, Lønning, & Sivertsen, 2020). Sport is an activity that can be done by individuals of any age and skill level, and is a great way to stay active and healthy. In addition, sports can also facilitate increased self-confidence, self-esteem, and teamwork (Mubarok, Dinangsit, & Lengkana, 2022). By joining a team or sports club, people can form social bonds and make connections that can last a lifetime. Additionally, participation in sports can help people develop important skills such as discipline, perseverance, and determination (Williams, Ford, & Drust, 2020). These skills can be beneficial in other settings, such as education, career, and personal relationships.

In this sense, it is important that universities promote physical sports activity among their students, because it improves mental and physical health, is suitable for the development of social skills, improves academic performance, and encourages commitment and responsibility (Sun, Zhang, Ji, & Sun, 2022). Additionally, it can help students develop leadership skills and commitment to a team or activity, which can benefit their work and personal lives after college (Corbin, 2021). Due to the above, several studies have focused on investigating the factors that impact the intervention of students in physical sports activities (PSA). Here are some examples:

In (Hopkins, et al., 2022) differences in knowledge and attitudes related to PSA of adolescents who practice organized sports training and those who do not were identified. On the other hand, in (Sáez, et al., 2021) the reasons why students abandoned the PSA were analyzed. While in (Nguyen & Pham, 2022), 10 factors were identified that affect extracurricular sports activities in the form of student clubs, including 3 subjective factors and 7 objective factors. In (Ghofrani & Golsanamlou, 2012) the attitudes of students towards physical education lessons and participation in them were examined, where it was found that students dedicate more time to leisure

than to sports. In (Hosea, 2022), the factors that impact the intervention of learners in university sports programs were investigated, and the results of the study revealed that the degree of learner participation is low.

As described, the purpose of this study was to identify the key factors associated with the participation of university students in PSA, since a study with this objective was not found in the literature. Likewise, this study can serve as a reference for institutions that wish to improve student participation in sports, since the factors are identified and can be worked on to offer favorable conditions to encourage students to participate in these activities. To achieve this objective, the MICMAC technique is used, which is a specialist in these case studies. Achieving greater participation will not only benefit the students but also the universities since they will be largely represented.

2. METHODOLOGY

In this research, whose objective was to identify and classify the factors related to university participation in PSA, a mixed methodology was applied because qualitative and quantitative approaches were used (Sampieri, 2018). While a non-experimental, transversal, correlational, and descriptive design was chosen. First, the literature was consulted to define the associated factors, then experts were consulted to filter the main factors associated with university participation in PSA. Finally, a structural analysis (SA) was carried out to identify and classify the nature of the system of relationships between these factors and its dynamic structure with a qualitative approach (Herrera, 2017).

To perform the SA, the MICMAC technique was used. It is an analysis tool for system dynamics, used to explore the influence and dependence of factors in a complex system. This technique is very useful for identifying critical factors that can influence a specific problem or situation, and for understanding how these factors relate to each other. This technique uses qualitative and quantitative approaches that enable the identification of key factors through an n x n matrix, facilitating their location in a four-quadrant plane (FQP) and classifying them into: results, keys, determinants, and autonomous (Arango & Cuevas , 2014). The phases of MICMAC are described below.

Phase I. Definition of the factors

Phase I consists of determining the factors that make up the system to acquire a list of internal and external factors in the system. It is necessary to describe each variable in detail to facilitate the analysis, the location on the FQP, and the description of the connections between them. In this phase, a bibliographic review was carried out and 5 experts in PSA were consulted, which resulted in a specific list.

Phase II. Description of the relationships between factors

In phase II, the matrix is filled out, formulating the questions: is there a direct influence connection between factor j and factor i? If the answer is not positive, the score will be 0, otherwise, the question would be whether this direct influence relationship is weak (1), medium (2), strong (3), or potential (4). Resolving these questions, each position of the matrix made up of the list of factors obtained in phase I was filled.

Phase III. Classification of factors

In this phase, the key factors are identified and classified as direct, indirect, and potential, which shows the relevance of some factors and exposes others that, indirectly, have a significant role that the direct classification does not make it possible to observe. The classification is shown in a FQP: in Quadrant I the key variables are located, in Quadrant II the determinant variables are located, in Quadrant III the autonomous variables are located, and in Quadrant IV the result variables are located. In this phase, the results are obtained from the filled matrix.

3. RESULTS

11 factors were defined through consultation with PSA experts, who gave their opinion on the most common factors why students decided to participate in these activities. For the application of the MICMAC technique, the factors obtained with their respective description were coded in a table, which is part of phase I of this technique.

As seen in Table 1, the first column refers to the factor number, the second column corresponds to the factor code, the third column corresponds to the factor name, and the fourth column corresponds to the factor description. In this case, the first row corresponds to factor number 1 with code EB, the name of the factor is Economic benefits, and the description is benefits such as scholarships, discounts, among others. The second row corresponds to factor number 2 with code CO, whose name is Competition, and its description is pleasure to compete. In the case of the third row, the factor is number 3, with code DS, with Demonstrate skills as the name, and the description is to demonstrate the skills in sports. In this way, Table 1 can be interpreted.

Table 1. Factors that impact university participation in PSA

#	Code	Factor	Description
1	EB	Economic benefits	Benefits such as scholarships, discounts, among others.
2	CO	Competition	Pleasure to compete.
3	DS	Demonstrate skills	Demonstrate the skills in sports.
4	BF	Being fit.	Maintain or improve health, for aesthetics and improve the self-esteem.
5	EV	Evasion	Escape from routine.
6	FA	Family	Family members do sport.
7	MC	Make a career	Pursue a sports career as a professional.
8	IN	Influence	Por influencia de la familia, profesores, entrenadores, amigos.
9	RT	Release tension	Release energy and tension accumulated during the day.
10	PF	Pleasure or fun	Do physical exercise for fun and enjoyment of the sport itself
11	SR	Social relationships	It allows being with friends or meeting new people.

Source: Authors

Once the factors were defined and listed, with collective reflection it was possible to define the relationships of dependency and influence between each factor. This was achieved through an nxn matrix, a step that corresponds to phase number 2 of the MICMAC technique. Next, Figure 1 shows the fully completed 11x11 direct dependence and influence matrix. As can be seen, the first row corresponds to the relationship of the factor EB (Economic benefits). In the case of the relationship with this same factor, it is 0 (null), however, with the factor CO (Competence), the relationship is 1 (weak), with the factor DS (Demonstrate skills) the relationship of influence/ dependence is 3 (strong), with the factor BF (Being fit), the influence/dependence relationship is 0 (null), that is, there is no influence/dependence relationship between them. The relationship that exists between the factor EB and the factor EV is zero, however, with the factor FA it is 3 (strong). In this way, the direct influence/dependence relationship between each factor is described.

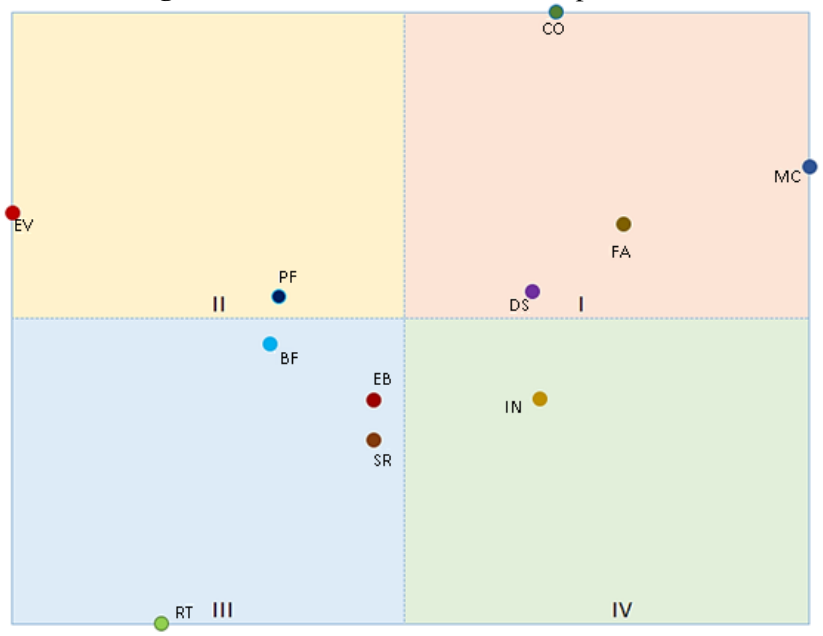
Figure 1. Matrix of direct Influence/dependence

	EB	CO	DS	BF	EV	FA	MC	IN	RT	PF	SR
EB	0	1	3	0	0	3	3	3	0	0	0
CO	3	0	3	3	0	2	3	3	2	3	0
EB	3	3	0	2	0	3	3	0	0	1	0
BF	0	3	3	0	0	2	3	0	0	0	3
EV	0	0	0	0	0	3	2	3	3	3	3
FA	3	3	3	2	0	0	3	2	0	0	0
MC	3	3	3	3	0	2	0	2	1	1	0
IN	1	1	0	0	1	3	2	0	0	1	3
RT	0	1	0	0	1	0	0	0	0	3	2
PF	1	1	0	1	3	0	2	1	3	0	3
SR	0	1	2	2	3	0	0	3	1	0	0

Source: Authors

Once the relationships have been established in the Matrix of direct Influence/dependence, the next step is the classification of the factors, which is represented in a Plane of direct influence/dependence (Figure 2). As a result of this research, four factors were located in quadrant I: CO, FA, DS, MC; 2 factors were located in quadrant II: EV, PF; in quadrant III, 4 factors were located: RT, BF, EB, SR; subsequently, the IN factor was placed in quadrant IV.

Figure 2. Plane of direct influence/dependence



Source: Authors

The results of the matrix of direct influence allowed the classification of the factors shown in Table 2.

Table 2. Classification of variables by direct influences/dependencies

Type of Factor	Factor	Code
Key, strategic or challenge factors	Competition	CO
	Demonstrate skills	DS
	Family	FA
	Make a career	MC
Determinant or influencing factors	Evasión	EV
	Pleasure or fun	PF
Autonomous or excluded factors	Economic benefits	EB
	Being fit	BF
	Release tension	RT
	Social relationships	SR
Dependent or result factors	Influence	IN

Source: Authors

As shown in Table 2, CO was classified among the key or strategic factors, which refers to the taste for competing. This factor was key as it is one of the most recurrent reasons why students come to participate in physical sports activities. These results agree with the findings in (Jiménez-Torres, et al.,2012), where it was found that in male participants the most marked motive was the desire to compete. Another factor that was key was DS, which refers to demonstrating sports skills, is key because having skills in a sport is important when the person wants to perform well and stand out in that activity. Although skills are important, they are not the only aspect that impacts success in a sport. Determination, discipline, mentality, and teamwork also play an important role in performance and achieving goals in a sport. This result agrees with the findings in (Murcia, et al., 2005), where it was found that students were more motivated to participate in the PSA to show and improve their skills in this field.

Another factor that was key was the family factor, which refers to the fact that practicing a sport or participating in sports activities is something that runs in the family. These students have a greater predisposition to participate in sports activities due to the influence of their parents, and early exposure to sports (Teare & Taks, 2021). Parents who have enjoyed sports during their own lives often instill in their children the importance of physical activity and encourage them to participate in sports from an early age (Dunn, et al., 2003). Additionally, these students may have a role model in their parents, which motivates them to follow in their footsteps and participate in sports as a way to connect with their parents and lead a healthy lifestyle. However, it is important to highlight that the choice to play sports should be a personal decision and that students should feel free to explore and choose their interests and hobbies.

Making a career in sports is another key factor that motivates students' participation in sports activities. According to Pellegrini, et al. (2020), the fact that sports can offer a professional career in the future makes learners feel more committed and motivated to practice and improve their skills. Likewise, Watling & LaDonna (2019) state that the idea of having a career in sports can inspire students to take their training seriously and develop a strong work ethic. This can help them not only in sports but also in their daily lives, as they will learn skills such as discipline, perseverance, and determination.

Regarding the factors that resulted as determinants, these were Evasion and Pleasure or fun. As for Evasion, it is common for students to practice sports as a way to escape from routine and release the stress accumulated by the workload, and the monotony of daily life (Kaluza, 2022). Sports provide an opportunity for learners to disconnect from the outside world and focus on the present, on their body and mind (Beni, et al., 2019). It is important to note that, although sports can be an effective way to escape from routine and reduce stress, it is also necessary to establish a balance between sports and other responsibilities, such as study and personal relationships. Practicing sports in a balanced and healthy way can have many physical and mental benefits.

As for Pleasure or fun, it was classified as a determinant factor because when practicing sports for pleasure or fun, there is no pressure to be the best or win at all costs, which can make the experience more relaxing and enjoyable. In (Rodriguez, et al, 2021) it was found that the use of non-conventional models in teaching sports to increase enjoyment/fun turned out to be useful for students and teachers because the objective is achieved.

The factors that resulted as autonomous were Economic benefits, Being fit, Release tension, Social relationships. Regarding being motivated to receive financial benefits, in general, students do not play sports specifically to obtain financial benefits, but there are certain cases where there may be a financial motivation behind participation in sports activities. For example, some students may receive sports scholarships to help pay for college or may participate in competitive sports to obtain sponsorships or advertising contracts (Pascual, 2021). Not every student does it for an economic benefit and not all universities offer these incentives, for this reason, it turns out to be an autonomous factor.

Regarding the factor Being fit, it was autonomous because, in addition to the physical benefits of exercising regularly, it can also contribute to improving mood, reducing stress, and increasing concentration and focus (Fancourt & Finn, 2019). However, Being fit depends on several aspects, including diet, genetics, level of daily activity, and lifestyle in general, which is why it turned out to be an autonomous factor. Likewise, the other factor that motivates students to participate in sports activities was Release tension, which was autonomous because, by practicing sports, students can release the tension and anxiety that they may have accumulated throughout the day. or of the week (Luo, et al., 2019). However, it is a process that depends on other aspects, including the person's stress level, the activities, the relaxation techniques they use, and their lifestyle in general. It is important to identify and address sources of stress and adopt healthy lifestyle habits to be able to release tension effectively, for this reason, this is an autonomous factor.

Regarding the factor Social relationships, it was autonomous because sports or physical activity can be a way to socialize and make friends. By joining a sports team, students can meet people with similar interests and create a sense of community and belonging (Fader, et al., 2019). However, this factor is subject to other aspects, such as the person's personality, attitude toward the sport, skill level, and commitment to the activity. That is why this factor cannot be controlled, therefore, it is an autonomous factor.

Finally, the only factor classified as a result was Influence, which refers to the fact that students are motivated to participate in sports activities by the influence of family, teachers, coaches, or friends. This is because both friends and coaches can have a significant effect on a person's motivation and attitude towards sport. This is a result factor because both friends and coaches can influence a person's life in sports. Positive influence can be motivating and guiding, while negative influence can have a negative impact on a person's attitude and performance in sports. It is important to have friends and coaches who support and motivate the person in sport, and to be attentive to negative influences to prevent them from affecting attitude and performance in sports.

4. CONCLUSIONS

The present study focused on identifying and classifying the factors associated with the participation of university students in PSA. Through the application of the MICMAC technique, it was possible to obtain a deep understanding of the dynamics of these factors and their influence on the sports participation of students. First, 11 key factors that influence the sports participation of university students were identified. Among the factors identified, competition and demonstration of skills stand out as key factors that motivate students to participate in sports activities. The competition allows them to test their skills and seek excellence in their athletic performance. Furthermore, demonstrating skills allows them to excel in a specific sport and improve their self-esteem.

Family influence also plays an important role, since students who come from families with a sports tradition have a greater predisposition to participate in PSA. This suggests that parental influence and early exposure to sport have a significant impact on the choice to participate in sporting activities. On the other hand, factors such as avoidance of routine and pleasure or fun are also determining factors in students' sports participation. These factors allow students to escape daily stress and enjoy physical activity as a form of entertainment and relaxation.

It is important to note that the motivation for financial benefits, such as scholarships or discounts, is not a determining factor for the majority of students. However, for some students, this motivation may be relevant, although it is not the main factor that drives them to participate in sports activities.

Finally, this study provides a comprehensive understanding of the factors that influence the participation of university students in PSA. These findings can be very useful for educational and sports institutions, as they allow them to design effective strategies to encourage students' sports participation, taking into account the key factors identified in this study. Knowledge of these factors can help create a conducive environment for students to engage in physical and sporting activities, which in turn will promote their physical and mental well-being, as well as the development of important skills for their future life.

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