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Original Article

ATTITUDES, MOTIVES AND INTERESTS FOR PRACTISING PHYSICAL EXERCISE

ATITUDES, MOTIVOS E INTERESSES PARA PRATICAR EXERCÍCIOS FÍSICOS

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RESUMO
O objetivo geral desta investigação é analisar, através de um desenho fatorial confirmatório, as relações entre a prática desportiva, interesse, frequência e razões pelas quais os estudantes universitários praticam desporte. A fim de responder a este objetivo, apresentamos uma pesquisa descritiva, explicativa e correlacional. Como instrumento utilizamos uma escala Likert de autoria própria, estruturada em cinco dimensões, com 28 itens, que foi validada por uma análise fatorial exploratório. A escala foi aplicada a uma amostra de 1185 estudantes universitários do primeiro ao quarto ano, sendo todos estudantes de uma universidade andaluza. Os resultados obtidos mostram que a práticas desportiva e o interesse pelo desporte têm uma forte relação, assim como o desporte e os motivos para praticar um desporte. Por outra parte, a frequência que pratica um deporte a o motivo para não praticar-lo não tem relação.
Palavras-chave: atitudes; motivações; interesses; frequência; atividade física.

ABSTRACT
The aim of this research is to analyze, through a confirmatory factorial design, the relationships between sports practice, interest, frequency and reasons why university students practice sports. In order to respond to this objective, a descriptive, explanatory and correlational research is presented, a Likert scale of own authorship is applied, structured in five dimensions and 28 items, which was validated by an exploratory factor analysis. The research was applied to a sample of 1185 undergraduate university students from first to fourth year, all of them students of an Andalusian university. The results obtained show that sport practices and interest in sport have a strong relationship, as well as this and reasons for practicing a sport, while between frequency with which they practice a sport and the reasons for not practicing have hardly any relationship.
Keywords: attitudes; motives; interests; frequency; physical activity.

Introduction

Spain responds to the need to promote the practice of physical activity in order to establish healthy lifestyle habits in people, thus improving their state of health. Therefore, it is considered essential to introduce the practice of sports and physical education into the curriculum of the younger groups[1]. To determine the interest shown in the practice of physical exercise by the different groups, it is of vitally import ensure the full development of the subject of physical education[2], in order to appreciate the impact that interest in the practice of physical activity has had on leisure time[2]. Given the need for individuals to acquire an active lifestyle, motivation and the reasons for practicing or not practicing a sport are key for young people to acquire healthy habits from the earliest stages. According to León[3], motivation at school age is fundamental to ensure that the practice of sport is incorporated as an indispensable activity in the daily life of the subject.

As the age index increases, the population that practices sports decreases due to multiple factors that depend on the personal conditions of each individual[4]. Currently, society offers a wide range of activities that can be developed during leisure time. Many of these activities are linked to physical practices, which are generally aimed at children and youth population groups.

The positive effects of this physical activity and the impact it has on health are based on numerous highly reliable studies, carried out mainly with a sample of adult population[5].

As an example, we mention some of the activities that people do to improve their health. These activities would be: activities of daily living such as walking, cycling or doing household chores. The most recommended is the practice of physical exercise on a constant basis and with moderate intensity[6]. The performance of these and other physical activities has a series of effects that will have a positive influence on the individual's mental health, sleep quality and functional capacity[7]. The greater the frequency of physical activity practiced, the better the mental health of the individual who practices it[8].

The following is a series of characteristics that depend on the sports practices performed by young people[9]:

- The percentage of sports practice is lower as the age of the subject increases.
- The gender factor is one of the most determining factors.
- Socioeconomic and cultural level shows a significant correlation between the degree of practice and other attitudinal variables.

León[3] considers that the value attributed to motor skills may be related to the physical exercise habit itself, which is based on different motives such as physical or aesthetic health, as well as social relations. Incentives to practice sports tend more to enthusiasm than to the activity itself. Significant differences can be found between the male gender, which is more interested in recreational and leisure motives, and the female gender, which is inclined towards aspects related to health and fitness conservation. In this way, the consolidation of two types of sports practice can be observed: the first one positioned towards competition and a second one that focuses on aesthetic values and away from practices considered traditional. However, a way of understanding sport from different pedagogical aspects has not yet been consolidated, due to the absence of a moral and pedagogical dimension[10].

On the other hand, since historical times the relationship between body and mind has been studied by different philosophers and psychologists. Two perspectives have been considered. Firstly, there is a dualistic perspective in which a separation between the two factors is advocated; and secondly, the holistic perspective ensures that the two terms are intimately related. In ancient times, a more dualistic position was chosen, whereas today it is the holistic position that predominates[11]. This interaction between our mind and our body has a common mechanism, the brain[12]. Piaget was the first to establish that the intellectual development of children is closely linked to their motor development[13]. Kephart[13], on the other hand, states that a child with learning problems may also suffer from conceptual and motor problems.

Van den Berg[14] demonstrated that the continuous practice of physical sports activities generates a multitude of benefits to the human being. If we focus on the physical field, it can be observed that the higher the degree of physical activity, the better the body composition. If we focus on the cognitive field, its benefits are demonstrable. In other words, leading an active lifestyle greatly helps to manage stress and anxiety, increases self-esteem and the subject's attention span, and there is an improvement in executive functions. The study by Donnelly[15], found that physical exercise significantly improves the intellectual development of individuals at different educational levels. Mondragón, Cardoso and Bobadilla[16] state that the practice of sports activity alone does not result in good academic performance. Factors such as family, economic or cognitive structure can also affect this performance.

More recent neuroscience research shows that physical exercise facilitates brain function. It positively influences the creation of new brain connections and results in the improvement of our cognitive functioning[17]. Maureira[18], acknowledges that there are several beneficial effects of physical exercise on certain aspects of brain functioning, particularly in the educational field. However, the sedentary lifestyle of today's modern life triggers an alteration in our nature that threatens our continued survival, damaging not only our body but also our brain development[19]. With regard to physical activity, Llopis and Sánchez[20] consider that the progress of society leads to new ways of implementing more motivating strategies to promote sports from lower

levels. Based on the above, it is essential to promote the use of new and more innovative methodologies from the lower stages where physical activity is supported[21]. Thus, the need to promote sport is becoming a socio-political priority and several authors agree on the need to implement active methodologies that promote the multiple benefits of sport for a better quality of life in educational institutions.

With all of the above, we can confirm the absence of studies that relate the interest, motives and frequency that university students have, and that leads them to practice a sport, so the research hypothesis lies in knowing whether or not there is a relationship between these aspects.

Methods

The objective of this research is to determine the relationship that can be established between the interest, motives and frequency that university students have and that lead them to practice sports. In order to answer this objective, we start from a non-experimental, descriptive, explanatory and correlational design; quantitative methodology and we take as reference an interpretative paradigm. In order to carry out the research, we chose to use a Likert scale as a research instrument.

Sample

The population of our study is constituted by the students of the Primary Education degree of an Andalusian university. This population is composed of 1200 subjects. We will take the entire population of students, so the sample coincides with the population. The Likert scale was finally answered by 299 (4th), 289 (3rd), 298 (2nd), 299 (1st), a total of 1185 subjects, since 15 participants dropped out. The group is more female than male, however, this fact was not taken into account, as well as the fact that the average age is 22 years. The socio-economic status is medium.

Procedures

First of all, in order to carry out our research, a Likert scale was developed and then the necessary permission was requested to allow the participation of the university's student body. The questionnaire was designed with 28 items and a response scale of 1 to 5. In addition, the validation was carried out, firstly, with a content, expert judgment and a pilot test. The pilot test was carried out by administering the scale to a group of subjects drawn from the sample and then applying face validity. It was found that 92% of the subjects who participated in this phase found the questionnaire to be clear and accurate and 93% found it to be comprehensible (mean face validity of 96%). Some terms in six of the items were revised, with care taken to preserve the meaning of the question. Finally, the judges noted that the scale is coherent, clear and precise, recommending revisions to some terms in six of the items. Secondly, an exploratory factorial analysis was carried out in order to validate the questionnaire developed.

The reliability analysis of the scale was performed by calculating Cronbach's alpha, which gives a result of .871, which following George et al.[22] is considered good. According to the results obtained by content validity and Cronbach's alpha, we conclude that the Likert scale is reliable.

Objective and research problem

The main objective of this research is to determine the relationship that can be established between the interest, motives and frequency that university students have and that lead them to practice sports. Thus, the justification for this research arises from the following problems: what is the relationship between the motives for practicing or not practicing sports, how often are sports practiced, and what makes the practice of sports interesting?

Dimensions and variables

The dimensions that we consider have been extracted taking into account the theoretical framework[1-9.] The dimensions are: A.-Sports Practices, B-Interest in sport, C.-Reasons why I practice sport, D.-Frequency, and E.-Reasons why I do not practice sport. Consequently, the variables are as follows:

-Dependent variables: interest in sport[2].

-Independent variables: sports practices[4-14], reasons for practicing or no practicing sports[3-19] frequency[8].

Hypothesis

The following hypotheses are defined:

H_0- There is no relationship between the reasons for practicing sports, the frequency in which it is practiced and the interest in it, with respect to sports practices.

H_1- There is relationship between the reasons for practicing sports, the frequency in which it is practiced and the interest in it, with respect to sports practices.

Instrument

For the creation of the instrument, an operationalization matrix was used to group variables, items and units of measure[23]. A Likert scale was designed. It consisted of 28 items, organized in five dimensions.

Statistical analysis

Construct validity

The factor analysis technique we have applied in our research follows the delimited indications that establish the following steps:

Study of the correlation matrix

An in-depth study of the correlation matrix is needed to verify whether our data is appropriate to run Factor Analysis or not. To do this, that matrix must have a certain structuring. To find this, the Kaiser-Meyer-Olkin sampling adequacy measure (KMO coefficient) has been used. In our case, the value is .730. Following Kaiser[24], that value is acceptable. Bartlett's sphericity test is significant (.000) too, the determinant has a value of $1{,}179E^{-9,}$ so we continue with the analysis.

Removing factors

The resulting communality table showed us that the factors have a value greater than 0.455 so there is no need to remove any items from the factor analysis. The best represented items are: B7 (.792). -I am interested in sport and I practice it enough and D20 (.779). -I practice sport in summer or on holidays.

The worst represented items are: A4 (.455). -Physical activity relieves stress and B10 (.547). -I am interested in sport, I practiced it frequently but I do not practice it.

Rotation of factors

To execute the rotations there are various methods that can be followed according to the optimality criterion. We are going to the Varimax Rotation that enhances factorial loads; so that these loads are obtained as extreme as possible in the factors. There are rules for knowing the most appropriate number of factors to keep; for example, what is known as The Kaiser Criterion[24.] In our case, the most appropriate factors are the first six, which explain a 67,685% of the cumulative variances.

Study of factorial scores

Once the factorial scores and the analysis of explained and cumulative variance are calculated, as well as the determination of factors and arrangement of items according to the highest level of saturation by factors, we can build the table of items integrated into each Factor.

Box 1. Factors and items

Factor	Name	Items integrated into each factor of the questionnaire
I	A (Sports practice) B (Interest in sports) C (Reason why I practice sports) D (Frequency with which I practice sports) E (Reason why I do not practice sports)	A1, A2, A4, A5, A6 B7, B9, B11, B12 C13, C14, C15, C16, C17, C18 D20, D22, D23 E27, E28
II		A3, D19, D21, E24, E25, E26
III		B8, B10

Source: Authors

Reliability

The reliability of the scale (28 items) is measured by the Cronbach alpha, which gives a good result of .871. The first factor is composed of 20 relative variables, being the result of the Cronbach alpha of .859 which is “good”, so we get a reduction of 6 items, with a similar reliability, so we can conclude that our scale is reliable. According to the data obtained, the original scale can be reduced as follows:

Box 2. Reduced scale

Item
A.1. Playing sports makes me feel good.
A.2. In my free time I like to practice activities on a regular basis.
A.4. Physical activity relieves stress.
A.5. I don't usually do physical activity because I feel tired.
A.6. I like to do sports activities because it is beneficial for health.
B.7. I'm interested in sport and I practice it enough.
B.9. I am not interested in sports, but I practice it by obligation.
B.11. I've never played sports, but I'd like to.
B.12. I do not play sports and I am not interested in doing so.
C.13. I practice sports for fun and to pass the time.
C.14. I play sports to spend time with my friends.
C.15. I play sports for physical activity.
C.16. I do some physical activity because I like sport.
C.17. I play sports for keeping my figure.
C.18. I play sports because I like to compete.
D.20. I play sports in summer or on holidays.
D.22. I play sports every day or almost all of them.
D.23. I play sports on weekends.
E.27. I do not play sports because my studies require too much time.
E.28. I don't play sports for lack of support.

Source: Authors

The table above shows the final scale with 20 items.

Correlation analysis

In our case, we will opt for Pearson's P. If we analyze the research items, a significant correlation (.05) is established between the following variables:

We highlight the presence of a high correlation between items A1.- Doing sport makes me feel good and A2.- In my free time I like to practice activities on a regular basis, so we can say that participants who express that doing sport makes me feel good also think that in my free time I like to practice activities on a regular basis.

Item A6.- I like to practice sports activities because it is beneficial for my health and C18.- I practice sports because I like to compete, have a correlation with a value of .513, therefore, people who agree with the item I like to practice sports activities because it is beneficial for my health also express that I practice sports because I like to compete.

We found another relationship between item B7.- I am interested in sport and I practice it enough and C16.- I do some physical activity because I like sport, presenting a correlation of .672. This means that people who think that I am interested in sport and practice it enough also consider that I do some physical activity because I like sport.

D23.-I practice sport on weekends and D20.-I practice sport in the summer or on vacation, present a correlation of .635, so it is necessary to affirm that people who say that I practice sport on weekends also think that I practice sport in the summer or on vacation.

Finally, let us highlight the relationship established between item E28.- I do not practice sport due to lack of support or motivation and E25.- I do not practice sport because I do not have sports facilities near my home. Both show a correlation of .573. Therefore, we consider that people who agree that I do not practice sport because of lack of support or motivation also think that I do not practice sport because I do not have sports facilities close to home.

Descriptive analysis

The descriptive analysis is presented below according to the study dimensions and using the arithmetic mean for its interpretation.

Dimension A (Sports Practices): the participating subjects *agree* that in their free time they like to practice physical activities on a regular basis, ($\overline{x}$=3.75), as well as that physical activity relieves stress, ($\overline{x}$=4.29), and that doing sport makes them feel good ($\overline{x}$=4.35).

Dimension B (Interest for sport): the people surveyed *agree* that they play sports because they like to compete, ($\overline{x}$=4.36), they are also concerned that they are interested in sports, they practiced it frequently, but no longer practice it, (=2.88).

Dimension C (Reasons why I practice sport): the subjects respond *indifferent* to the item "I play sports because I like to compete", ($\overline{x}$=2.97), also "I play sports one day a week", ($\overline{x}$=.32), and "I play sports to spend time with my friends", ($\overline{x}$=3.15).

Dimension D (Frequency): The people surveyed respond to the item "I play sports in summer or on holidays", ($\overline{x}$=3.23) and "I play sports every day or almost every day" ($\overline{x}$=.2.94).

Dimension E (Reasons why I don't practice sport): the people surveyed respond *fully disagree* on the following items: "I do not practice sport because I do not have adequate sports facilities", ($\overline{x}$=2.24), also " I do not practice sport because I do not, I have sports facilities close to home", ($\overline{x}$=2.09), and finally "I do not play sports because I have any injuries", ($\overline{x}$=1.77).

Below, we have analyzed the dimension in its entirety, and interpreted it through the median (Table 1):

Table 1. Mean and median

		D_A	D_B	D_C	D_D	D_E
N	Valid	1169	1170	1113	1133	1100
	Missing	16	15	72	52	85
Mean		3,4484	2,4966	3,4855	2,9739	2,1664
Median		3,5000	2,5000	3,5000	3,0000	2,0000

Source: Authors

According to Table 1, the participants are "indifferent" to sport practices (Dimension A, M_e=3.5000), to the reasons why I practice sport (Dimension C, M_e=3.5000) and to the frequency with which I practice sport (Dimension D, M_e=3.000). On the other hand, the subjects "disagree" with the interest in sport (Dimension B, M_e=2.5000) and the reasons why I do not practice sport (Dimension E, M_e=2.0000).

Confirmatory factor analysis

The SEM methodology consists on a series of phases according to Kaplan[25] and Kline[26] that we will specify in four phases.

Phase I.-Measurement Model Specification

In this stage, the latent traits and the dimensions that represent them are established as variables of interest of a substantive theory. This stage is conceptual in nature and formulates the structure of relationships between the latent variables represented by the dimensions of the instrument and the responses to the items of the context questionnaire. The Conceptual Model of the Likert scale obtained from the exploratory factor analysis consists of 20 observed variables that are grouped into five dimensions.

Phase II.-Identification. Computational implementation of the system of structural equations.

To determine whether the model is identified we must calculate the degrees of freedom (df), in our case the value is 103, so we can say that the model is over-identified.

Phase III.-Parameter estimation

The model estimation stage incorporates a graphical representation of the theoretical-conceptual structure of the instrument under analysis. This conceptualization is the basis for the approach of the reproduced matrix to be compared with the derived matrix. For the Likert scale, the graphical representation is shown in Figure 1, in which the ovals symbolize the five latent variables (constructs) and the boxes represent the 20 observed variables. Together they make up the dimensionality of the instrument

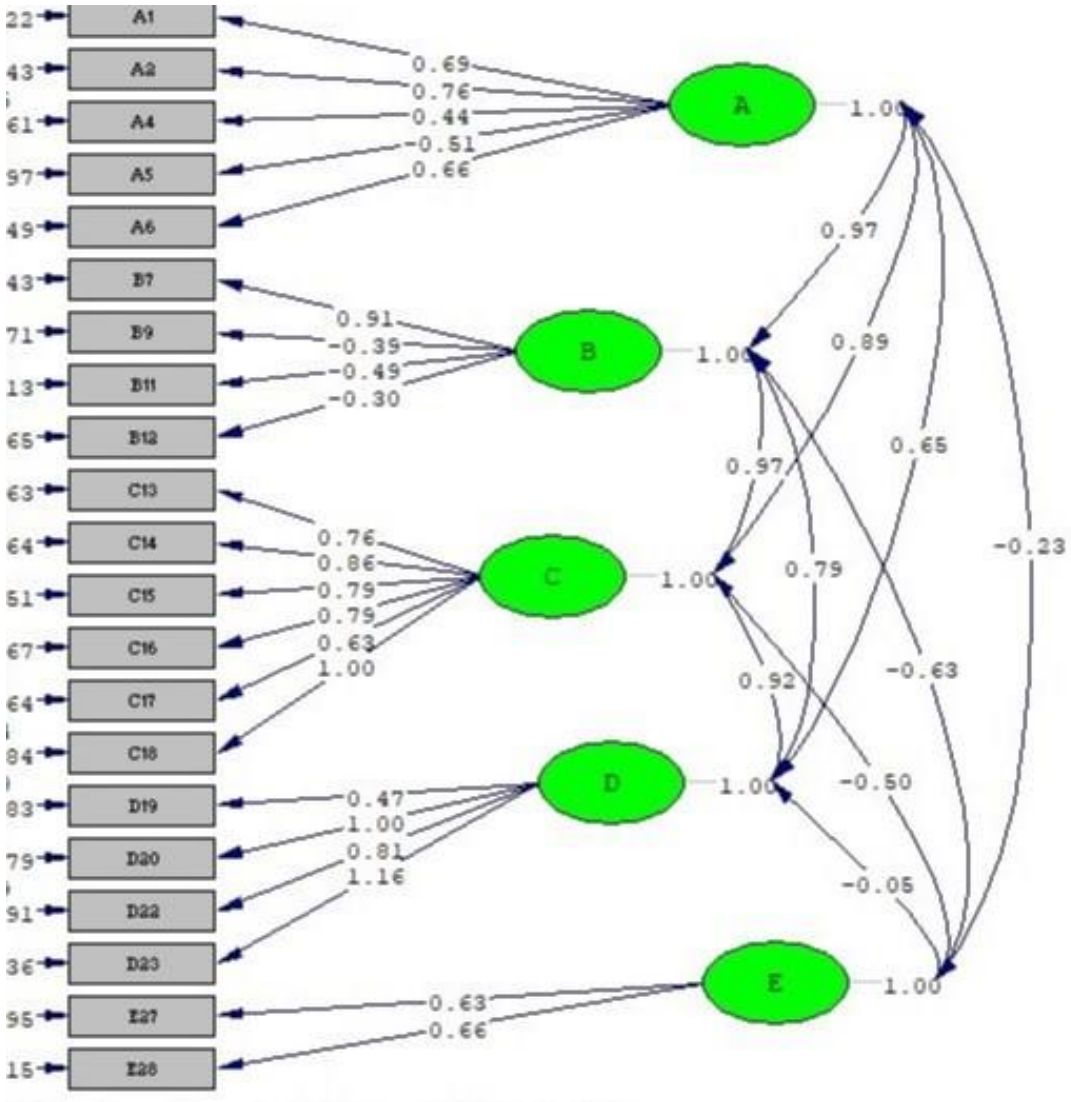

Figure 1. Graphical representation of the natural measurement model of the Likert scale.
Note: Chi-square=283.88, df=103, P-value=0,00000, RMSEA=0,077
Source: Authors

As for the regression coefficients between latent and observed variables, the interpretation is as expressed below. Regarding the regression coefficients between latent and observed variables, the results are as follows:

Dimension A.-Sports practices: greater influence of the latent variable on A2.-In my free time I like to practice activities on a regular basis. Less influence of the latent variable on A4.-Physical activity relieves stress, and A5.-I do not usually perform physical activity because I feel tired.

Dimension B.-Interest in sport: greater influence of the latent variable on B7.-I am interested in sport and I practice it enough. Less influence of the latent variable on B11.-I've never practiced sport, but I'd like to do it.

Dimension C.-Reasons why I practice sport: greater influence of the latent variable on C18.-I practice sport because I like to compete. Less influence of the latent variable on C14.-I practice sport by spend time with my friends.

Dimension D.-Frequency with which I practice sport: greater influence of the latent variable on D23.-I practice sport on weekends. Less influence of the latent variable on D19.-I practice sport one day a week.

Dimension E.-Reasons why I don't practice sport: greater influence of the latent variable on E28.-I do not practice sport due to lack of support. Less influence of the latent variable on E27.-I do not practice sport because my studies require too much time.

The relationship between latent variables is given by the following values:
A-B (.97), B-C (.97), C-D (.92), D-E (-.005)

Outstanding scores:
A-C (.89), A-D (.65), A-E (-0.23), B-D (.79), B-E (-0.63), C-E (-0.50)

In short, the strongest relationship between latent variables is given by:
A (Sports practices)-B (Interest in sport)
B (Interest in sport)-C (Reasons why I practice sport)

The lowest ratio is given by:
D (Frequency with which I practice sport)-E (Reasons why I don't practice sport)

Phase IV.-Adjustment assessment. Applying indexes and goodness-of-fit criteria

At this stage we use indexes and goodness-of-fit criteria to associate the validator evidence with the dimensional structure of the instrument being evaluated: X^2/df (2.75). IAA: GFI (.91), RMSEA (.077), NCP (180.88), SRMR (.010), RMS (.078), ECVI (.1.82). IAI: AGFI (.79), IFI (.98), NFI (.97), TLI/NNFI (.96), RFI (.93), CFI (.98). IP: PNFI (.47), PGFI (.40), AFGI (.79).

As you can see, the criteria of all goodness-of-fit indexes are met, so the model is fully verified.

Discussion

Previous research[27] shows the existence of a strong relationship between physical exercise and the physical and mental comfort of the individual, but there are few studies that examine in depth the effects of physical exercise on different aspects of the individual's life. Most of the studies collected point to an improvement in the health of the individual, without showing what actually drives certain population groups to engage in physical exercise. Systematic, regular physical activity of a certain intensity is considered to be a factor in the prevention of different diseases and disorders. All this is derived from the psychological and physiological benefits that sporting activity seems to offer.

The research presented has been carried out from a university population of the University Degree in Primary Education, indeed, this is a limitation, however we plan to expand to other university populations to increase the diversity of the population, as it would be acceptable to carry out the research with graduate students.

To collect data, a Likert scale was designed for the research, which in itself is a contribution, as it has been validated in its content and construct and confirmed through a confirmatory factor analysis. First, through the exploratory factor analysis, two interesting data are provided: on the one hand, the most relevant idea in the scale is the interest in sport and the sufficient practice of sport always in summer or holidays, and what is less relevant is that sport relieves stress. This is a matter of concern, because in the end, we are in the same bad habits of doing sport only on vacations and that the usefulness of sport for mental health is not perceived. These ideas are reinforced by the correlational analysis, observing the relationship established

between playing sports and competing, or not playing sports because there are no adequate sports facilities; in other words, in general, "excuses" are always sought for not playing sports.

On the other hand, from the descriptive analysis it can be seen that the subjects investigated agree that in their free time they like to practice activities on a regular basis, or that physical activity reduces stress. They are indifferent when it comes to doing sports because they like to compete and finally, they practice sports to spend time with their friends, which supports the data of the research presented. The indifference, in general, towards sports practices, the reasons and the frequency with which a sport is practiced, reinforces all of the above.

Finally, the confirmatory factor analysis (structural equation modeling) gives us a correct goodness of fit, so we achieved the research objective of determining the relationship that can be established between the interest, motives and frequency that university students have and that lead them to practice sports, Thus, if we focus on dimension A (Sports practices) we find greater influence of the latent variable in A2-In my free time I like to practice activities on a regular basis and less influence of the latent variable in A4-Physical activity relieves stress. Likewise, in dimension B (Interest in sport) there is a greater influence of the latent variable in B7-I am interested in sport and I practice it a lot and a lesser influence in B11-I have never practiced sport but I would like to do that. Moreover, it allows us to conclude that the strongest relationship between the latent variables is given by sport practices and interest in sport and by sport practices and reasons why I practice sport. Whereas, the lowest relationship is the one established between the frequency with which I practice sport and the reasons why I do not practice sport.

Conclusion

The investigation of the problem of whether there is a relationship between the motives for practicing or not practicing sport, the frequency in which it is practiced and the benefit of the same with respect to sport practices, arises from the academic and professional interest in finding out how these elements are related and even find out if there is greater or lesser strength in that relationship. A first interesting relationship is concluded, which is shown between the interest in sport and the reason for practicing it, there being a relationship between the reasons for practicing or not practicing sport, the frequency in which it is practiced and the interest in it with respect to sports practices. We conclude that interest in sport is influenced by the frequency of practice. The reason for practicing a sport will be greater if it is for competition, the frequency with which a sport is practiced depends on the time of the week when it is practiced (better on weekends) and, finally, the reason for not practicing a sport is related to the support that the subject receives from family and friends. Therefore, sport practice and interest in sport are strongly related, as well as sport practice and reasons for practicing a sport, while the frequency with which a sport is practiced and the reasons for not practicing a sport are barely related.

Belonging to a research project.

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