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Original article

Satisfaction of body image and the practice of physical exercise in adolescents

La satisfacción de la imagen corporal y la práctica del ejercicio físico en los adolescentes

Satisfação com a imagem corporal e a prática de exercícios físicos em adolescentes

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ABSTRACT

Currently, for adolescents and young people, body appearance is considered important to be accepted in social groups. Correspondingly, the objective of the research was to determine the correlation between the satisfaction of body image with the practice of physical exercise, in adolescents from 12 to 18 years of age of the Educational Unit "Leonardo Maldonado Pérez", in the school year 2020- 2021. The study was quantitative correlational of a non-experimental cross-sectional type, which made it possible to measure the correlation between the body image variables and the practice of physical exercise. For

data collection, two instruments were applied: the Body shape Questionnaire, to explore the level of body satisfaction and the identification of dissatisfaction about weight and the Self-report of the Stage of Change for Physical Exercise, to assess the intention to practice physical exercise. The sampling was stratified proportional and simple random of 400 students divided into six groups. The result was a significant high negative correlation between the level of dissatisfaction with body image and the practice of physical exercise. It was determined that the students seek the satisfaction of their body image through the practice of physical exercise, since having a better image motivates the responsibility of staying healthy, through the moderate practice of exercises in different spaces, so that they place it as a personal goal.

Keywords: Physical activity, self-perception, physical exercise, body image.

RESUMEN

En la actualidad, para los adolescentes y jóvenes, el aspecto corporal se considera importante para ser aceptados en los grupos sociales. En correspondencia, se trazó como objetivo de la investigación determinar la correlación entre la satisfacción de la imagen corporal con la práctica del ejercicio físico, en adolescentes de 12 a 18 años de la Unidad Educativa "Leonardo Maldonado Pérez", en el año lectivo 2020-2021. El estudio fue cuantitativo correlacional de tipo no experimental transversal, lo que permitió medir la correlación entre las variables imagen corporal y la práctica del ejercicio físico. Para la recolección de datos se aplicaron dos instrumentos el Body Shape Questionnaire, para explorar nivel de satisfacción corporal y la identificación de la insatisfacción sobre el peso y el Autoinforme del Estadio de Cambio para el Ejercicio Físico, para evaluar la intención de practicar ejercicio físico. El muestreo fue estratificado proporcional y aleatorio simple de 400 estudiantes distribuido en seis grupos. El resultado fue una correlación negativa alta significativa entre el nivel de insatisfacción con la imagen corporal y la práctica del ejercicio físico. Se determinó que los estudiantes buscan la satisfacción de su imagen corporal mediante la práctica del ejercicio físico, pues tener una mejor imagen motiva la

responsabilidad de mantenerse saludable, a través de la práctica moderada de ejercicios en diferentes espacios, de forma que lo ubican como meta personal.

Palabras clave: Actividad física, autopercepción, ejercicio físico, imagen corporal.

RESUMO

Atualmente, para adolescentes e jovens, a aparência corporal é considerada importante para serem aceitos em grupos sociais. Nesse sentido, o objetivo da pesquisa foi determinar a correlação entre a satisfação com a imagem corporal e a prática de exercícios físicos em adolescentes de 12 a 18 anos da Unidade Educacional "Leonardo Maldonado Pérez", no ano letivo de 2020-2021. Trata-se de um estudo quantitativo correlacional não experimental de corte transversal, que nos permitiu medir a correlação entre as variáveis imagem corporal e prática de exercício físico. Para a coleta de dados, foram aplicados dois instrumentos: o Body Shape Questionnaire, para explorar o nível de satisfação corporal e a identificação de insatisfação com o peso, e o Self-Report of the Stage of Change for Physical Exercise, para avaliar a intenção de praticar exercícios físicos. A amostragem foi estratificada, proporcional e aleatória simples de 400 alunos distribuídos em seis grupos. O resultado foi uma correlação negativa alta e significativa entre o nível de insatisfação com a imagem corporal e o exercício físico. Foi determinado que os alunos buscam a satisfação com sua imagem corporal por meio da prática de exercícios físicos, pois ter uma imagem melhor motiva a responsabilidade de se manter saudável, por meio da prática moderada de exercícios em diferentes espaços, de modo que eles a colocam como uma meta pessoal.

Palavras-chave: Atividade física, autopercepção, exercício físico, imagem corporal.

INTRODUCTION

Body image is a mental representation that people have about the appearance of their body; Salazar (2008) adds that subjects perceive how other people look at them, but this feeling is not what is significant, but what is involved in the personal perception of body image, such as negative or positive attitudes and behaviors produced by appearance. physical.

Currently, physical appearance is very important and being thin is the trend among adolescents and young people; Águila *et al.* (2020) affirm that being thin apparently reflects the perfect and healthy figure and it is not only the fact of being thin, but also how this figure is achieved and the overvaluation that is given to achieve this appearance and to be socially accepted in select groups.

López-Sánchez *et al.* (2017) express that the practice of physical exercise contributes to the existence of caloric exhaustion and consequently, it is possible to lose weight with a positive evaluation of the appearance of the body; Espejo *et al.* (2017) complement this idea by mentioning that physical exercise maintains people's emotional balance regarding physical appearance, increases self-esteem and, of course, improves body image criteria.

In adolescence, it is difficult to maintain a slim figure due to the effects of growth; at this stage, a poor diet and the use of technology lead to overweight and even obesity; in this regard, López (2017) comments that in adolescence there is high body dissatisfaction due to problems of overweight and obesity and it must be taken into account that they are at a school age, in which the practice of physical exercise is managed in the curricular hours of Physical Education, which generates a direct intervention to improve the corporal appearance, through the classes.

It is necessary that the National Curriculum of Physical Education of Ecuador address the development of physical, cognitive, social and affective capacities, through physical exercise (Posso, *et al.*, 2020), in its four main curricular blocks and in its two transversal blocks to improve body identity and the relationship between exercise and health (Posso, 2018) depending on the needs and requirements of the students, established in the pedagogical diagnosis.

All these curricular actions that the Ministry of Education has incorporated, allow reaching the exit profiles of the Ecuadorian senior high school graduate, because these profiles form true values such as justice, solidarity and innovation, this enables the autonomy of the students in the practice physical exercise and become active and healthy citizens, in an increasingly inactive society (Posso, *et al.*, 2021).

Precisely, regarding physical inactivity, the World Health Organization [WHO] (2020) mentions that overweight and obesity are very harmful to health due to associated diseases and that this problem is global, due to the easy access of electronic devices, connectivity and frequent use of social networks, games, applications, among others.

Physical inactivity during the pandemic exacerbated this problem, due to isolation, confinement, distancing, and remote education measures (Posso, *et al.,* 2021). This remote education generated that Physical Education is worked from homes, in inadequate physical spaces and without materials; in addition, the workload for this subject was limited to 40 minutes a week (Ministry of Education, 2020), which led to the loss of continuity in the practice of physical exercise and, as a consequence of this inactivity, the emergence of cases of overweight and obesity among students.

It should be noted that some societies have different ways of thinking about beauty, one of these ideal thoughts is being thin, and people who do not align with this pattern are excluded from social groups. These positions are globalized immediately, through social networks as a means of communication and are accepted by adolescents and young people (Manrique, *et al.,* 2018) who want to achieve a supposed body beauty. González and Ham (2007) mention that the self-perception of body image is the idea that people have of their appearance; that is, they seek to achieve the perfect figure to achieve satisfaction, well-being and to be considered part of social groups.

Knowing oneself, physical characteristics from the emotional and cognitive is considered a concrete self-perception; Gomez *et al.* (2013) mention that body self-perception is like having a moving photograph that is the result of how one perceives oneself, and in many cases, it has nothing to do with reality; a study carried out in Mexico found that adolescents present 44% to 77 % dissatisfaction with their body image and the desire to be thin in this study reached 94 % (Gómez and Acosta 2002).

The body image is built mentally, through various psychological factors that are directly influenced by the society, culture and communication of the moment; for Slade (cited by Baile, 2004) a body image model is built that better reflects factors such as social and cultural

norms, attitudes regarding figure and weight, cognitive, affective and biological variables, changes in weight and bodily experience, as can be seen in illustration 1. (Figure 1).

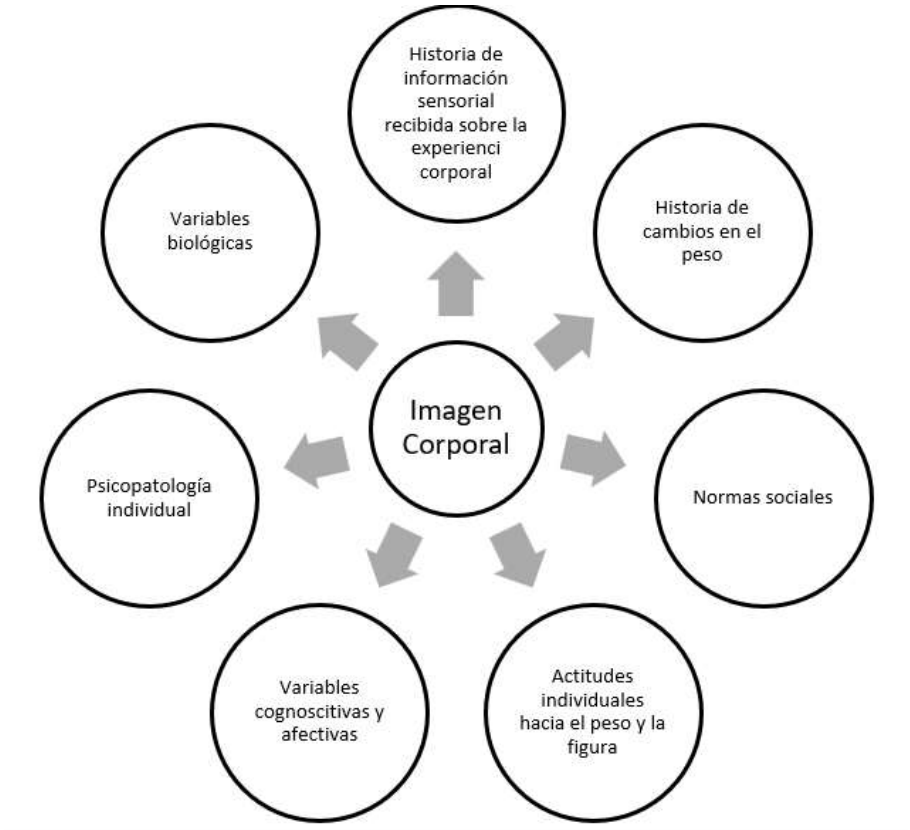

Fig. 1. - *Illustration 1. Body image model*

In general, adolescents can carry out different actions in order to get closer to their desire to be thin, such as diets without medical control, exercise without intensity, volumes and breaks planned by a specialist, and intake of various products (Quiroz Ríos, 2015); due to this, educational institutions base the established contents on the curricular block of relations between bodily practices and health (Posso, *et al.*, 2021) and take positive actions through Physical Education. Dulanto (2000) expresses that young people should be oriented towards the practice of physical exercise, as a motivation to achieve comprehensive health and not perform exercises to be thin.

In adolescence, different physical, psychological and cognitive changes occur, which causes their behavior to also change; based on this idea, Papalia *et al.* (2009) indicates that at this age positive and negative behaviors are produced that generate introspective and self-critical attitudes and are susceptible to easily adopting conceptions of standards of beauty, false thoughts and attitudes, which surely affect health, if the practice is not combined. physical exercise with proper nutrition.

Based on the previous argument, the practice of physical exercise has positive effects to improve body image. Carson *et al.* (2014) ensures that if physical exercise is performed with greater effort, better results will be obtained; but it must also be considered that adolescence is where the interest in physical exercise decreases (Castillo, et al., 2018) and the decrease in the practice of games and sports in adolescents it is alarming, Da Cuña *et al.* (2017) mention that only 20 % of adolescents follow the WHO recommendations for physical exercise practice.

It can be considered that the space where adolescents perform physical exercise on a mandatory basis are Physical Education classes which, according to Ministerial Agreement 020A (2016) are allocated five hours a week for students from first to tenth of General Basic Education from five to 14 years old, and for students from the first to third year of senior high school from 15 to 18 years old, two hours a week are allocated; in this sense, the constructivist educational model and the playful, inclusive and corporeality curricular approaches of the curriculum increase motivation for physical practice, in extracurricular spaces.

The problem has been described, justified and supported by the study of the background on the concept and the factors that motivate the practice of physical exercise; consequently, the objective is to determine the correlation between the satisfaction of body image with the practice of physical exercise in adolescents from 12 to 18 years of age of the "Leonardo Maldonado Pérez" Educational Unit, in the 2020-2021 school year.

MATERIALS AND METHODS

The research is empirical, quantitative, correlational, of a non-experimental, cross-sectional type, which allowed measuring the correlation of the variables body image and the practice of physical exercise; the study population comprises 1100 students from the eighth year of Basic General Education up to the third year of Unified General Senior High School, that is, from 12 to 18 years of age from the "Leonardo Maldonado Pérez" Educational Unit, of the Puembo Parish, the sample was obtained after applying the finite population formula with a confidence level of 95% and a margin of error of 5 %.

The sampling was simple random stratified proportional, because it was of the probabilistic type and thus the population has greater representativeness. For this, the list of students enrolled based on (n=1100) was used and the sample of 400 students for the study was calculated, representing 36 % of the universe, distributed into six groups, made up of eighth to tenth grade of Basic General Education [EGB] and from first to third of the Unified General Senior High School [BGU], 198 men and 202 women ; that is, it was proportionally assigned (36 %) to the various strata with the relative size of the population in a simple random manner.

For this research, two instruments were applied that allowed collecting the information required for the fulfillment of the objective, the first is the Body shape Questionnaire [BSQ] (Cooper, Tylor, Cooper & Fairburn, 1987) that allowed to explore the level of body satisfaction and the identification of dissatisfaction about weight; it consists of 34 items with a six-point scale in which one is equal to never and six is equal to always; the second instrument Self-report of the Change Stage for Physical Exercise [AECEF] (Capdevila, 2005), to evaluate people based on their intention to practice physical exercise in physically active and inactive individuals, consists of three items with answers yes or not (Table 1).

Table 1. *- Data collection instruments*

Instrument	Dimension	Indicators	items
Bodysuit shape Questionnaire	Self-perception of body image	Dissatisfaction Bodily	1, 3, 7, 8, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 25, 26, 27, 29, 31 and 32.
		Worry due to the weight	2, 4, 5, 6, 9, 16, 21, 22, 23, 24, 28, 30, 33 and 34.
Self-report of stage of change for physical exercise	Physical exercise	Physically active	3 items closed questions.
		Inactive physically	

Procedure

The researcher obtained the authorization of each of the legal representatives of the 400 students through signed consent. The authorities of the Educational Unit allowed the surveys to be carried out on the Zoom platform in virtual Physical Education classes during the month of May 2021, through Google Forms survey administration software in the presence of the teacher and parents, the time needed to fill out the surveys was approximately 30 minutes.

All the results were analyzed by the SPSS software for Windows version 20.0. The mean and standard deviation were calculated; Pearson's correlation was also performed to analyze the relationship between physical exercise and satisfaction with body image.

RESULTS

Self-perception of body image

The results obtained from the BSQ test were based on the following resolution, product of the sum of the items, less than 110 points the students are satisfied with their personal image and more than 111 points are located in body dissatisfaction and concern about weight.

In the results expressed in Table 2, the percentage of students up to 14 years of age or tenth year of EGB, both in men and women, indicated that they were satisfied with their body image; the difference was not measurable with students who had dissatisfaction with their body image and concern about their weight, ranging between 43 % and 49 %. On the other hand, when students between the ages of 15 and 18 were analyzed, that is, from the first to the third year of BGU, both men and women showed a higher percentage of dissatisfaction with respect to their body image and concern about their weight, and only among 41 % to 45 % of the students surveyed were satisfied with their body image.

Dissatisfaction with body image and concern about weight was reflected in 16-year-old students, with 58 % in men and 59 % in women; on the contrary, the greatest satisfaction with body image was recorded in adolescents aged 12 years, 57 % for men and 53 % for women.

There was no clear difference between men and women in who has higher levels of satisfaction with their body image. Until the tenth year of GBS, men had a slight increase in satisfaction in body image, and from the first to the third year of BGU, it was expressed by women (Table 2).

Table 2.- *Results of the Body test shape Questionnaire*

	Eighth 12 years				**Nineth 13 years**				**Tenth 14 years**				**First 15 years**				**Second 16 years**				**Third 17 and 18 years**			
	h		m		h		m		h		m		h		m		h		m		h		m	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Body Satisfaction	20	57	19	53	17	52	19	51	17	53	18	56	1	45	16	47	14	42	14	41	14	44	13	45
Body Dissatisfaction and Weight Concern	15	43	17	47	16	48	18	49	15	47	14	44	18	55	18	53	19	58	20	59	18	56	16	55

The results of the AECEF were based on the fact that students are active when they are located in the Maintenance and Action stages, whereas students are considered inactive when they are located in the Preparation, Contemplation and Pre-contemplation stages.

The students according to table 3, up to 14 years or tenth of EGB, both men and women were active, with an added percentage between 53 % and 66%. However, there was a notable difference with the students who were not active and ranged between 34% and 47 %.

On the other hand, the results were reversed when students between 15 and 18 years of age were analyzed, both men and women, since they had a higher percentage, which indicated that between 52 % and 66 % were not active compared to active students who were between 34 % and 48 %.

When analyzing the age in which the students were more inactive, the result showed those aged 17 and 18 with 59 % in men and 66% in women; On the contrary, the age that registered the greatest activity was those of 13 years, with 61% in men and 59% in women. There was also no difference between men and women regarding the highest levels of physical exercise practice, but it was possible to verify that, from the eighth grade of EBG to the third grade of BGU, men had a slightly higher percentage (Table 3).

Table 3. - *Results of the Self-report of the stage of change for physical exercise*

	Eighth 12 years				Nineth 13 years				Tenth 14 years				First 15 years				Second 16 years				Third 17 and 18 years			
	h		m		h		m		h		m		h		m		h		m		h		m	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
maintenance stadium	9	26	10	28	8	24	7	19	8	25	7	22	5	15	3	9	6	18	4	12	6	19	4	14
Action Stadium	12	34	11	31	12	36	15	41	13	41	10	31	10	30	9	26	10	30	9	26	7	22	6	21
Preparation stage	5	14	6	17	5	15	6	16	4	13	5	16	9	27	12	35	9	27	11	32	12	38	14	48
Contemplation stadium	3	9	6	17	4	12	5	14	5	16	6	19	4	12	6	18	5	15	9	26	5	16	3	10
Precontemplation stage	6	17	3	8	4	12	4	11	2	6	4	13	5	15	4	12	3	9	1	3	2	6	2	7

Correlation between body image satisfaction and the practice of physical exercise

Table 4 shows the statistical data of the mean and the standard deviation of the satisfaction of the body image and the practice of physical exercise, highlighted from the percentage table. It can be seen that the degree of dissatisfaction with body image was medium, that is, the same percentage was satisfied with body image. Regarding the level of practice of physical exercise, it was also close to half, but there was a high dispersion indicating that approximately between 40 and 60% were active (Table 4).

Table 4. *Descriptive statistics of the level of dissatisfaction with body image and inactivity*

	Mean	Typical deviation S
Dissatisfaction with body image	51,166	4.83
practice of physical exercise	49.83333333	9.66

In Table 5, it can be seen that Pearson's r statistic was -0.767692284, which is a highly significant correlation; For this reason, it is affirmed with 99 % confidence that there is a high negative correlation between the level of dissatisfaction with body image and the

practice of physical exercise, because the level of bilateral significance was 0.01. That is, with an increase in the practice of physical exercise, there was a decrease in body image dissatisfaction (Table 5).

Table 5. - *Correlation between the level of dissatisfaction with body image and the practice of physical exercise*

		Level of dissatisfaction with body image	**physical exercise practice**
Level of dissatisfaction with body image	Pearson correlation Next (bilateral)	1	-0.767692284 ** 0.01
Practice of physical exercise	Pearson correlation Next (bilateral)	-0.767692284 ** 0.01	1

DISCUSSION

As already mentioned, in this study the objective was to determine the correlation between the satisfaction of the body image with the practice of physical exercise in adolescents, in relation to the satisfaction of the body image that women and men have, these results were similar to that researched by Ramos *et al.* (2016) when mentioning that men aged 14 and 15 have a slight perception of being obese, contrary to the perception of women that it is older at this age, due to the behavior of dieting more frequently.

The studies carried out by Bhurtun and Jeewon (2013) also coincide, stating that the perception of obesity is greater in women with 61 % and 25.6 % in men and there is a slight difference in the levels of satisfaction with their image. bodily; Zainuddin *et al*. (2014) affirm that the perception of being obese is greater in women. The results presented by Labre (2002) indicate that body image satisfaction in men is higher than that of women, which means that those who are overweight and obese perceive themselves as fat.

From the previous perspective, Ceballos *et al.* (2020) make an assessment in their study on body image and sports practices, Mexican adolescents worry about their body image more than boys, without being a determinant of sports practice, which is why a deterioration of

health due to poor nutrition; likewise Camacho *et al*. (2006) argue that adolescent women have a negative perception of their body image, which motivates them to perform sports activities; this association between body image and sports practice, with nutritional guidance, prevents obesity.

Ramos *et al.* (2013) indicates that several researches show that women over 15 years of age have a higher percentage of dissatisfaction in their body image, they also comment that the behavior to lose weight generates negative implications for health; consequently, Fan *et al.* (2010) warn that these negative implications for losing weight, without medical guidance, harm health.

Cabral and Leal (2017) agree with the results obtained in the research that mention that with an increase in the practice of physical exercise there is a decrease in body image dissatisfaction, saying "(...) that body dissatisfaction makes adolescents excessively practice physical exercises" (p. 61). In the same way, González *et al.* (2010) point out "(...) the significant differences, in both sexes, for the discrepancy between perceived and desired BMI, 46.2 % of boys are satisfied with their figure, compared to 37.4 % of girls" (p. 7). This reflects that adolescent women think that they are not socially accepted due to their obese body image, this physical appreciation affects the excessive practice of sports physical activity, without taking into account diet.

Moreno and Perea Acevedo (2012) also agree that excessive sports physical exercise, without nutritional guidance, has a negative impact on the health of those who want to lose weight, and directly affects the perception of body image; the motivation of this practice is to belong to a social group regardless of the consequences of how to achieve their goals.

This study is similar to the results obtained in this research, as well as the previous mentioned researches that indicate the existence of coincidences, in which weight is a trigger for body image dissatisfaction, mainly in women over 15 years of age. These lines of research addressed by other studies allow to have updated and contextualized information to the Ecuadorian reality in school ages.

When approaching the results of the AECEF, the study that is carried out is related to the d Niñerola *et al.* (2006) "(...) according to the model of the states of change regarding the behavior of physical exercise, the subjects of the sample have been classified as active (57.6% in the maintenance stage)" (p. 59). This undoubtedly shows that students are also active when they are placed in the Maintenance stages. Consequently, Capdevila (2004) expresses "(...) the subjects of the sample have been classified, according to the level of physical activity that they manifest, in active (63.2 %)" (p. 61). The data confirm the above and reaffirm the possibility of expanding the study at a local or regional level.

The results obtained in the correlation on the satisfaction of body image and the practice of physical exercise in adolescents coincide, with the studies carried out by various authors, in that the degree of dissatisfaction with body image is medium. Urrutia *et al.* (2010) state that "(...) the correlation carried out shows that the relationship between the perception of health status and the perceived body image is significant and positive, both in the group of girls and in the group of boys" (p. 54). Moreno *et al.* (2011) also share it "For the practice reason, referring to improving body image, only significant differences appeared in the variable referring to self-perceived image" (p. 538). These results clearly suggest that there is a correlation between the satisfaction of body image with the practice of physical exercise in adolescents.

CONCLUSIONS

Dissatisfaction with body image is common in the subjects studied, in this study it was found that female students between the ages of 15 and 18 have a tendency to this dissatisfaction. The spaces that should be used for the practice of physical exercise should be the hours of Physical Education, through playful methodologies and challenges, to motivate the active participation of all students and remember that as students get older, Loss of interest in physical exercise.

The students from 12 to 18 years old, of the Educational Unit "Leonardo Maldonado Pérez" in the 2020-2021 school year, seek the satisfaction of the body image through the practice of physical exercise; that is, by having a better image, the motivation allows them to assume the responsibility of staying healthy through the moderate practice of exercises in different spaces, until turning them into personal goals.

It is recommended, for future studies, to delve into a new line of research to establish the relationship with different variables such as sports practice, physical activity, psychological health, demographic aspects, culture, motivational climate and the teaching work of physical education, among other things.

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