Physical-Recreational Activities in Basic Education Students: A Systematic Review

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Abstracts

The objective of this research was to systematize the results of existing publications on basic recreational activities in Basic Education students during the years 2019 to 2023. The method adopted in the research was a review of the scientific literature, based on a documentary design, involving the stages that include exploring the sources, carrying out the filtering process to select the most significant and relevant studies, then interpreting the results and subsequently analyzing them. The type of research was a systematic, retrospective, observational review. The databases considered were Scopus, Scielo, EBSCOHOST and Sciencedirect. As inclusion and exclusion criteria, studies from the last 5 years were taken into account, which considered the research variables taking them in a general or specific way and no books, theses or conference documents were taken. The presentation of the results was used following the PRISMA method adapted from the year 2020. The results of the systematic review allowed us to theoretically associate the recreational physical activities carried out by basic education students with personal perception, motivation, psychosocial aspects and social barriers that constitute factors. conditions for its execution.

Keywords: physical activity, recreational activities, basic education.

Introduction

Recreational physical activity can be defined as a set of motivated tasks that are carried out in order to channel leisure, routine, inactivity, sedentary lifestyle, stress, anxiety, depression in people of different ages (Contreras, 2021) .The importance of having a good level of physical activity goes beyond the dimensions of physical health, it is also considered a participant in the cognitive development of students through their academic performance and is sometimes used as a resource to improve neurodevelopmental disorders. For these reasons, it should be considered as a fundamental component for the integral development of the student, so the curricular area of Physical Education should prioritize the most efficient mechanisms that guarantee motivation, at least at an intrinsic level in students, so that they voluntarily incorporate a routine of activities until it becomes a habit. (Lira et al., 2024) (Isorna et al., 2023) (Adamas, 2019)

The World Health Organization has established a set of recommendations for the development of physical activity, where adolescents and young people are given no less than 60 minutes of physical activity in which aerobic routines should be included with a level of intensity ranging from moderate to vigorous, which should be established with a frequency of three times a week in order to seek the toning of muscles and bone strengthening, he also recommends limiting time to sedentary activities. However, direct experience and the review of research sources have corroborated that there is currently little or little interest in students to generate a routine of healthy recreational physical activities in adolescents and young people in basic education, and reasons to justify it may be diverse. (World Health Organization, 2020)

There are reports in which the existence of a low level of physical activity is recorded, explained in turn by the high level of sedentary lifestyle in adolescents and young people in school, most of them are due to the long time of exposure to the screens of mobile devices or video game consoles. One cause is linked to the accelerated advances of technology in the development of products that limit movement in students, in addition to the fact that overexposure is harmful to their physical health. Another cause is also found in family parenting practices where there is no motivation towards the practice of physical activity. The effects of not having an adequate practice of physical activity are evidenced in the high rate of obesity in schoolchildren. (Ortiz et al., 2020) (Bernate et al., 2020) (Moura, 2023) (Da Silva et al., 2023)

For these reasons, this research is justified since it has practical implications due to the existence of a problem whose visibility is more noticeable in adolescents and young people in school stage, who during the hours of physical education have little motivation to execute the sequences proposed by the teacher and if they are executed, they are not always done at the expected levels. Similarly, the research has a theoretical value because it provides contributions towards the knowledge of physical activity in basic education students, through the identification of the factors already explored, as well as the consequences for physical and mental health. It has a methodological utility because the research contributes to the systematization of publications related to the topic, thus constituting a resource that can be used in future research related to the topic.

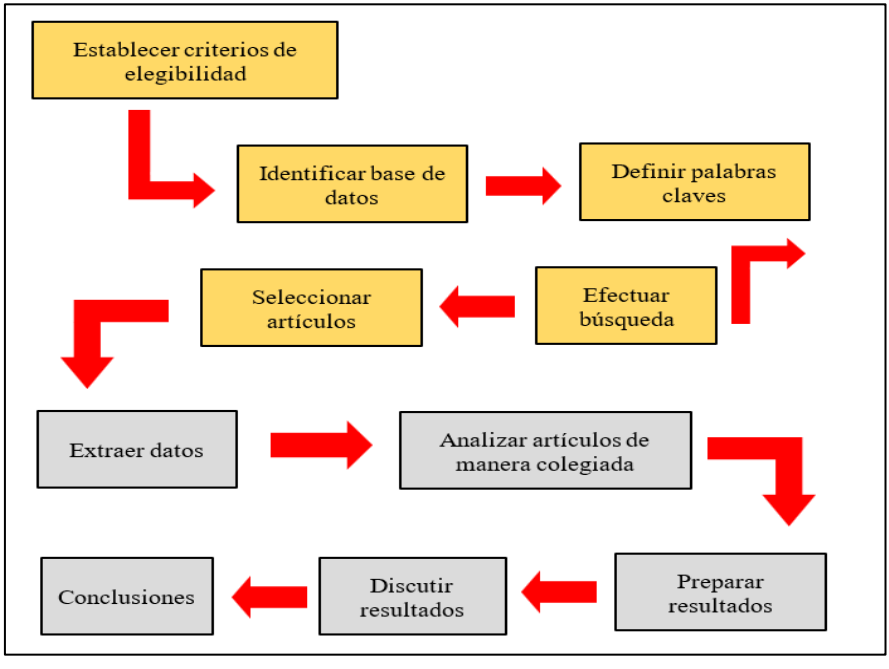
For the reasons stated, this research aims to know what is the theoretical approach that has been carried out in indexed scientific journals, to recreational physical activities in basic education students between the years 2019 and 2023? In the same way, it is intended to know through the systematic review: What are the problems faced by basic education students that are directly associated with the low level of physical activity? And how does recreational physical activity improve the healthy and cognitive standard of living in basic education students?

Methodology

Research is considered to be of a bibliographic or documentary type in which the review of documentary sources, physical or virtual publications made with respect to a certain area of knowledge is carried out. In this particular case, it is a systematic review, which is useful since it allows us to present a synthesis of the knowledge that has been carried out in a certain area, in addition to evidencing open lines for future research. (Matos, 2020) (Page et al., 2021)

The systematic review has been carried out considering the principles of the PRISMA declaration of 2020, which guides the presentation of the systematic review considering the contributions of different authors on a certain topic in question. The general process proposed by this declaration is represented in Figure 1. (Ciapponi, 2021)

Figure 1. Methodological route for systematic review.



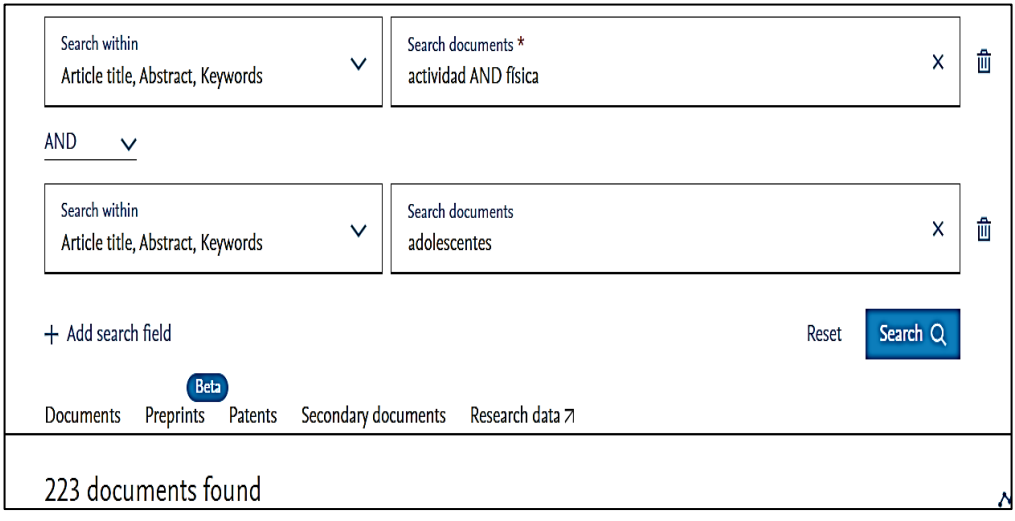
Note. Scheme adapted from Page et al. (2021) . In original language Spanish

As eligibility criteria, the review has been restricted to publications made on physical and recreational activity in basic education students carried out in the period from 2019 to 2023. On the other hand, in the systematization, all the languages in which the findings are found have been considered, these being: English, Spanish and Portuguese.

In this case, given the temporality, it has been considered to only work with the Scopus database, thus restricting publications made in high-impact journals in the field of the subject to be researched.

The following list was defined as search keywords: physical activity, recreational activity, students, basic education (Figure 2). To complement this search, "AND" and "OR" booleans were used.

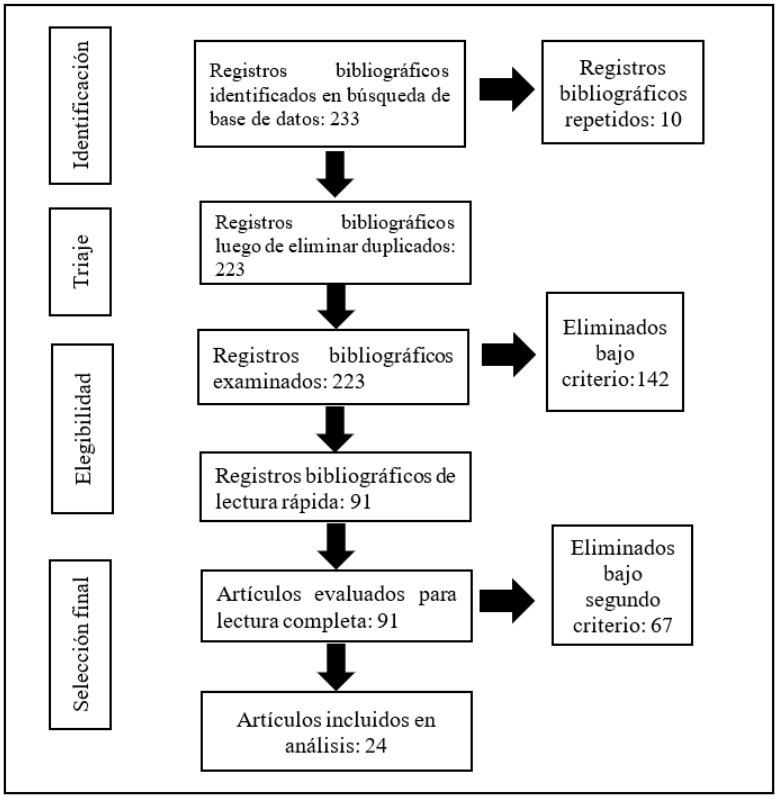
Figure 2 Scopus database search method



Note. A single search case is shown. Three searches were conducted.

For the selection of articles, only publications according to the established years were considered, in addition review articles, theoretical articles, research reports, books, open or restricted access should be considered, publications should consider in their title the words directly included. After applying these criteria, the data were extracted considering the route shown in Figure 3.

Figure 3 Item Analysis Method. In original language Spanish



The final size of the population of articles to be analyzed was 91, applying as inclusion criteria only those whose title or abstract directly mentions an educational institution as a workspace, in addition to having open access for reading. Thus, the number of articles included in the research was 24, which were grouped into the following dimensions: learning, family bonding, conditioning factors and personal development.

Results

Below are the tables that present the documentary evidence of the systematic review carried out.

Board 1 Distribution of publications by year in Scopus from 2019 to 2023

Year	Number of publications	%
2019	6	25%
2020	2	8,3%
2021	6	25%
2022	2	8,3%

2023	8	33,4%
Total	24	100%

Note. The percentage count for 2020 and 2022 is the result of the application of inclusion criteria.

According to the results of Table 1, in 2023 the largest number of publications related to recreational physical activity in basic education students have been registered, covering 33.4% of publications in the time horizon from 2019 to 2023. Similarly, in both 2019 and 2021, 25% of the remaining investigations per year were found.

Board 2 Distribution of publications by study dimension

Dimension	Number of publications	%
Learning	9	37,5%
Personal development	6	25%
Conditioning factors	6	25%
Family bonding	3	12,5%
Total	24	100%

Note. The counts are based on the application of inclusion criteria.

It can be seen that most of the publications have focused on the recreational physical activities of basic education students and their relationship or significance for learning (37.5%), in the same way 25% of the publications have been linked to personal development and in the same value to the study of conditioning factors.

Board 3 Documentary evidence of Physical Activity in students of basic education and learning

Year	Author	Title	Journal Name	DOI	Language
2023	Salazar et al.	Effects of physical activity on grade repetition among adolescents in Granada	Challenges	10.47197/challenges.v49.98234	Spanish
2023	Gomes et al.	Physical activity levels of Portuguese adolescents in the first period of confinement due to the COVID-19 pandemic and the first activities of teachers and trainees: a cross-sectional study	Challenges	10.47197/RETOS.V47.93923	Portuguese
2022	Arboix et al.	Relação entre condição física e habit de activity física con capacidade de atenção seletiva em esstudantes do ensino secundário [Relationship between physical condition and physical activity habit with selective attention capacity in secondary school students]	Sports Psychology Notebooks	10.6018/CPD.419641	Portuguese
2021	Nicolosi et al.	Goal-orientation profiles and perceived physical competencies in adolescent physical activity	Psychology, Society and Education	10.25115/psye.v1i1.3419	Spanish
2021	Tapia et al.	Adherence to the Mediterranean diet and the importance of physical activity and screen time in secondary school adolescents in Extremadura	Hospital Nutrition	10.20960/NH.03372	Spanish
2020	Rodríguez et al.	Physical activity, physical fitness, and academic performance in adolescents: A systematic review [Physical activity, physical fitness, and academic performance in adolescents: A systematic review]	Revista Brasileira de Medicina do Esporte	10.1590/1517-869220202605201 9_0048	Portuguese

2019	Trigueros et al.	Influence of the Physical Education teacher on confidence, fun, motivation and the intention to be physically active in adolescence	Sports Psychology Notebooks	10.6018/cpd.347631	Spanish
2019	Mello et al.	Associação da aptidão cardiorrespiratória de adolescentes com a atividade física e a estrutura pedagógica da educação física escolar [Association of the cardiorespiratory fitness of young people with physical activity and the pedagogical structure of school physical education]	Revista Brasileira de Ciencias do Esporte	10.1016/j.rbce.2018.03.033	Portuguese
2019	Cortés et al.	Brain Development and Learning in Adolescents: The Importance of Physical Activity	Medical Journal of Chile	10.4067/S0034-98872019000100130	Spanish

Note. Elaboration based on articles selected according to the exclusion criteria.

Table 3 shows the systematization of the articles published between 2019 and 2023, where the recreational physical activity of basic education students has been related to elements that are part of their learning, academic performance and importance within the school curriculum.

Board 4 Documentary evidence of Physical Activity in basic education and personal development students

Year	Author	Title	Magazine	DOI	Language
2023	Fernández et al.	Longitudinal associations between physical activity and mental health in adolescents	RICYDE: International Journal of Sports Science	10.5232/ricyde2023.07102	Spanish
2023	Gutierrez et al.	Physical activity level and body image self-perception according to the stage of change in Mexican adolescents; [Level of physical activity and self-perception of physical complexion according to the stage of change of Mexican adolescents]	Challenges	10.47197/RETOS.V48.97419	English
2021	Parra et al.	Evaluation of Dietary Habits and Physical Activity Levels in School-Based Adolescents: A Cross-Sectional Study	Spanish Journal of Human Nutrition and Dietetics	10.14306/RENHYD.24.4.1045	Spanish
2021	Chi et al.	Mental health problems among Chinese adolescents during the COVID-19: The importance of nutrition and physical activity; [Mental Health Issues in Chinese Adolescents During COVID-19: Importance of Nutrition and Physical Activity]	International Journal of Clinical and Health Psychology	10.1016/j.ijchp.2020.100218	English
2019	Sánchez et al.	Body image in Lithuanian adolescents aged 11 to 19 years. Differences according to physical activity and BMI	Universitas Psychologica	10.11144/Javeriana.upsy18-4.ical	Spanish
2019	Mayorga et al.	Physical fitness, physical activity, sedentary behavior and psychological predictors in chilean adolescents: Differences by gender; [Physical Condition, Physical Activity, Sedentary Behavior, and Psychological Predictors in Chilean Adolescents: Differences by Gender]	Culture, Science and Sport	10.12800/ccd.v14i42.1337	English

Note. Elaboration based on articles selected according to the exclusion criteria.

Table 4 shows the systematization of the articles published between 2019 and 2023, where the recreational physical activity of basic education students has been related to mental health, self-perception, dietary habits, as well as sedentary behavior and psychological development.

Board 5 Documentary evidence on Physical Activity in basic education students and conditioning factors

Year	Author	Title	Magazine	DOI	Language
2023	Roselló et al.	Perceptions and external factors of physical activity in adolescents using mixed methods; [Perceptions and External Factors of Physical Activity in Adolescents Using Mixed Methods]	Sanitary Gazette	10.1016/j.gaceta.2022.102281	English
2023	Labrador et al.	Variables associated with motivation to engage in physical activity in adolescents; [Variables associated with motivation to practice physical activity in adolescents]	Challenges	10.47197/challenges.v50.96892	English
2023	Soares et al.	Temporal trend of physical activity in Brazilian adolescents: analysis of the Brazilian National Survey of School Health from 2009 to 2019; [Tendência temporal de ativity de física en adolescentes brasileiros: análise da Pesquisa Nacional de Saúde do Escolar de 2009 a 2019]; [Temporal trend of physical activity in Brazilian adolescents: analysis of the National School Health Survey from 2009 to 2019]	Cadernos de Saude Publica	10.1590/0102-311XPT063423	Portuguese
2022	Galindo et al.	What are the levels of physical activity of Colombian adolescents?: Gender and age as key factors; [What are the levels of physical activity of Colombian adolescents?: Gender and age as key factors]	RICYDE: International Journal of Sports Science	10.5232/ricyde2022.06803	Spanish
2021	Bertuol et al.	Psychosocial aspects of physical activity: Data on brazilian adolescents; [Aspectos psicossociais da ativity de física: Dados sobre adolescentes brasileiros]; [Psychosocial Aspects of Physical Activity: Data on Brazilian Adolescents]	Revista Brasileira de Medicina do Esporte	10.1590/1517-86922021270120019_0013	Portuguese
2020	Otero et al.	Perceived facilitators and barriers to physical activity in adolescents in Piedecuesta (Santander), in 2016: Qualitative analysis; [Facilitators and Evident Barriers in the Practice of Physical Activity in Adolescents in School Life in Piedecuesta Santander, in 2016: Qualitative Analysis]; [Facilitators and perceived barriers in the practice of physical activity in adolescents attending school in Piedecuesta (Santander), in 2016: Qualitative analysis]	Journal of the National Faculty of Public Health	10.17533/udea.rfnsp.e337834	Portuguese

Note. Elaboration based on articles selected according to the exclusion criteria.

Table 5 contains the systematization of those conditioning factors that have been addressed in articles published during the years 2019 to 2023. It highlights perceptions, psychosocial aspects, among others, as factors.

Board 6 Documentary evidence of Physical Activity in students of basic education and family bonding

Year	Author	Title	Magazine	DOI	Language
2023	Sánchez et al.	Mental Health and their relationship with physical activity and emotional regulation strategies in Spanish adolescents; [Mental health and its relationship with physical activity and emotional regulation strategies in Spanish adolescents]	Anxiety and Stress	10.5093/ANYES2023A7	Spanish
2021	Lisboa et al.	Social support from family and friends for physical activity in adolescence: Analysis with structural equation modeling; [Social support of family and friends for physical activity in adolescents: Análise com modelagem de equações estruturais]; [Social Support from Family and Friends for Adolescent Physical Activity: Analysis with Structural Equation Models]	Cadernos de Saude Publica	10.1590/0102-311X00196819	Portuguese
2020	Vaquero Solís et al.	Physical activity of parents and their adolescents kids: A cross-sectional study; [Physical Activity of Parents and Adolescent Children: A Cross-Sectional Study]	Challenges	10.47197/RETOS.V37I37.71245	Spanish

Note. Elaboration based on articles selected according to the exclusion criteria.

Table 6 has systematized the results of the publications where the recreational physical activity of the students is associated with elements of family bonding: parents, friends that allow defining the emotional regulation they experience.

Table 7 Content evidence: What problems students with low physical activity face.

Authors of selected articles	Answers to research questions
Gomes, L., Martins, J., Ramos, M., & Carreiro da Costa, F. (2023).	"An inactive lifestyle can be a cause of many chronic diseases" (p.705)
Salazar-Ruiz, M. R., Alonso-Vargas, J. M., Zurita-Ortega, F., Puertas-Molero, P., Cambil-Díaz, L., & Melguizo-Ibáñez, E. (2023).	"It has been recorded that, although physical activity represents an improvement in the student's habits and cognitive processes, it is not a determining factor, and can affect many other variables" (p.344).
Cortés-Cortés, M.; Alfaro Silva, A.; Martínez, V.; Veloso, B. (2019)	"Physical inactivity, together with overweight and obesity at school, are elements that in some way lead to the development of activities that do not develop healthy lifestyle habits among schoolchildren" (p.4)
López Sánchez, G. F., Emeljanovas, A., Miežienė, B., Sánchez Castillo, S., Díaz Suárez, A., & Smith, L. (2019).	Their research determined that "Lithuanian adolescents present a psychological problem (dissatisfaction with body image) has a greater magnitude than the physiological problem (overweight/obesity)" (p.6)
Galindo-Perdomo, F.; Valencia-Peris, A., & Devís-Devís, J. (2022)	"The low levels of physical activity among Latin American adolescents, as elsewhere, are the subject of social concern because of their negative consequences in the short and long term" (p, 2).

Trigueros-Ramos, R., Navarro Gómez, N., Aguilar-Parra, J. M., & León-Estrada, I. (2019).	"Low levels of self-determined motivation are related to maladjustment at the cognitive, behavioral and affective levels, consequently, physical activities affect human beings" (p.4).
Belén Parra-E., Villalobos, F. (2020)	Levels of physical activity have decreased substantially over the years, with very severe regression forecasts, in this sense there are issues of overweight and respiratory diseases.

Note. Elaboration based on articles selected according to the exclusion criteria.

Table 7 has systematized the results of the publications where problems faced by students with low levels of physical activity are associated, in which we find that low levels of physical activity generate many health problems, stress, respiratory diseases and other difficulties that are evident in daily life.

Table 8 Content Evidence: How physical activity allows for healthy living and cognitive development.

Authors of selected articles	Answers to research questions
Gomes, L., Martins, J., Ramos, M., & Carreiro da Costa, F. (2023).	"They can encourage or help make healthy lifestyle choices, such as influencing one's physical activity" (p. 707). "In addition, this last level influences the ability to adapt to unexpected situations, provides students with activities according to their needs and abilities and promotes the pleasure of maintaining active lifestyles" (p. 707).
Salazar-Ruiz, M. R., Alonso-Vargas, J. M., Zurita-Ortega, F., Puertas-Molero, P., Cambil-Díaz, L., & Melguizo-Ibáñez, E. (2023).	"Sport is not an indicator of school success, but it does help to have certain attitudes that make students more predisposed to study" (p.344).
Vaquero Solís, M., Mirabel, M., Sánchez Miguel, P. A., & Iglesias Gallego, D. (2020).	"On a mental level, it reduces symptoms of depression, stress, anxiety, and improves self-concept and self-esteem" (p.4)
Cortés-Cortés, M.; Alfaro Silva, A.; Martínez, V.; Veloso, B. (2019)	"Physical activity, in addition to improving motor skills, activates mechanisms of neuronal plasticity, favoring meaningful learning and memory storage" (p.12). Likewise, the authors consider that "physical activity due to its daily formative work allows adolescents to develop skills such as leadership, teamwork, logical reasoning capacity, anxiety control and personal self-care" (p12).
Fernández-Arguelles, D.; Sánchez-Oliva, D.; Cecchini-Estrada, J.A. & Fernández-Rio, J. (2023).	"It is pertinent to say that adolescents should be encouraged to increase their PA levels because of its broad health benefits" (p.9)
López Sánchez, G. F., Emeljanovas, A., Miežienė, B., Sánchez Castillo, S., Díaz Suárez, A., & Smith, L. (2019).	The natural desire of children and adolescents to be accepted makes them constantly make comparisons with others, with body image being the most influential predictor of self-esteem (p.6)
Galindo-Perdomo, F.; Valencia-Peris, A., & Devís-Devís, J. (2022)	"Physical activity protects against cardiovascular diseases, contributes to the control of overweight and obesity, as well as providing mental, academic and social benefits" (p.4).
Sánchez-Núñez, M.; Alfaro Portero, G., García-Rubio, N., Fernández-Berrocal, P. (2023).	The research highlights "the importance of adaptive emotional regulation strategies as a mediator that enhances the effect of physical activity on mental health" (p.8)
Trigueros-Ramos, R., Navarro Gómez, N., Aguilar-Parra, J. M., & León-Estrada, I. (2019).	"Physical activity influences the motivational and emotional processes present in adolescents during PE classes on the adoption of active lifestyle habits" (p.1)

Note. Elaboration based on articles selected according to the exclusion criteria.

Table 8 has systematized the results of the publications where it is associated how physical activity allows a healthy life and cognitive development, in which according to the meanings we can identify that this type of activity is very influential since the student is motivated and emotionally strengthened to adapt healthy lifestyle habits; we also have to improve self-esteem and this is reflected in a daily training that allows adolescents to develop skills such as leadership, teamwork, logical reasoning capacity, anxiety control and personal self-care, among others.

Discussion

This section focuses on answering the questions, such as: What is the theoretical approach that has been carried out in indexed scientific journals, to recreational physical activities in basic education students between 2019 and 2023? The synthesis phase reflects the evidence found in the articles analyzed and shows that the authors agree in presenting Physical-Recreational Activities as a fundamental factor in a series of activities typical of their age and development. In this sense, the bibliographic search reflects that the largest number of publications related to recreational physical activity in basic education students have been registered, covering 33.4% of publications in the time horizon from 2019 to 2023. Similarly, in both 2019 and 2021, 25% of the remaining research per year was found, which is an indicator that highlights the importance of the topic to know its derivation towards other types of activities, difficulties and even diseases.

The following question posed in this review article is directly related to: What are the problems faced by basic education students that are directly associated with low levels of physical activity? In view of this, it is evident that the lack of physical activity generates various effects on the development of the human being, which is why we take the contribution of Gomes et al. (2023) where they consider that "An inactive lifestyle can be a cause of many chronic diseases" (p.705). Likewise, we find agreement in the contribution of Cortés-Cortés, et al. (2019) where, according to research, indicates that "Physical inactivity, together with overweight and obesity at school, are elements that in some way lead to the development of activities that do not develop healthy lifestyle habits among schoolchildren" (p.4).

According to the research, we have that there are several authors who agree on the effect of the lack of physical activity, such as the contribution of Belén Parra, Villalobos, (2020) where she argues that "Levels of physical activity have decreased substantially over the years, with very severe regression forecasts, in that sense issues of overweight and respiratory diseases are evident" (p.4) these studies coincide with the results of López Sánchez et al. (2019); likewise, the studies by Galindo-Perdomo, et al. (2022); Salazar-Ruiz et al. (2023); Trigueros-Ramos et al. (2019).

Continuing with what is requested in the questions, we have the following: How does recreational physical activity improve the healthy and cognitive standard of living in basic education students? For this section, meanings have been found where the authors investigated have coincided in many situations that are actually understood by what is developed in each action that people have to develop. That is why, in the words of Cortés-Cortés et al. (2019), they consider that "physical activity, due to its daily formative work, allows adolescents to develop skills such as leadership, teamwork, logical reasoning capacity, anxiety control, and personal

self-care" (p12). This appreciation is reinforced by the research of Trigueros-Ramos, et al. (2019) as well as Galindo-Perdomo et al. (2022) where they complement that "Physical activity protects against cardiovascular diseases, contributes to the control of overweight and obesity, in addition to providing mental, academic and social benefits" (p.4).

In addition, in response to the question, we have the contribution of Salazar-Ruiz et al. (2023), which states that "Physical activity, in addition to improving motor skills, activates neural plasticity mechanisms, favoring meaningful learning and memory storage" (p.12); along the same lines are the conclusions of Vaquero Solís et al. (2020); Sánchez-Núñez, et al. (2023) including Gomes (2023).

Conclusions

First. The systematization of existing publications on Recreational Physical Activities in Basic Education Students shows that it is a current theme in publications in Spanish, Portuguese and English, in addition to the fact that the resources are mostly open access and only a percentage below half in restricted access.

Second. The main findings made in the field of theoretical knowledge regarding recreational physical activities in basic education students are objective publications that link these activities with learning-related problems, in addition to highlighting the significant relationship with student academic performance.

Third. The results of the systematic review have made it possible to theoretically link the recreational physical activities carried out by basic education students with mental health, personal self-perception, health indicators such as body mass index and dietary habits during the school stage, which constitute elements of personal development.

Fourth. The results of the systematic review made it possible to theoretically associate the recreational physical activities carried out by basic education students with personal perception, motivation, sex, age, psychosocial aspects and social barriers that constitute conditioning factors for their execution.

Fifth. Also, the systematic review allowed to theoretically show that the recreational physical activities carried out by basic education students are associated with components of family bonding, for example, family and friend social support, parental relationship with children, as well as emotional regulation at home.

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