



Review

Lifestyle Habits in Elementary and High School Education Students: A Systematic Review

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Abstract: Currently, there is concern about following an active and healthy lifestyle in the adolescent population. This is why the present research aims to conduct a systematic review covering the period 2017–2022 in order to analyse the levels of physical activity and adherence to the Mediterranean diet in the adolescent population. A search of the scientific literature was carried out in the Web of Sciences and Scopus databases during the month of December 2022. The search was carried out in the main collection of the database, limiting the time range to the last five years (2017–2022). The following structure was used to carry out the research search: “Physical Activit*” and “Mediterranean Diet” and “Adolescents”. In conclusion, it has been noted that the practice of any sport shows numerous benefits in anthropometric, respiratory, and physical factors. In addition, increased physical activity time is positively associated with increased adherence to the Mediterranean Diet, which has numerous academic, physical, and psychological health benefits.



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1. Introduction

Adolescence is a period of human development between childhood and adulthood in which a large number of physical and psychological changes occur, which will mark people’s adult lives (Melguizo-Ibáñez et al. 2021). It is characterised as beginning between the ages of 11–12 years and concluding between the ages of 18–20 years (Palmer et al. 2022) with the most notable changes being growth spurts, maturation of primary sexual characteristics (reproductive-related), and the appearance of secondary sexual characteristics (non-reproductive signs of maturation) (Palmer et al. 2022).

During this stage, young people are susceptible to influence as their personalities are still developing and therefore not yet established (Slobodskaya 2021), allowing the acquisition of behaviours that are harmful to their physical and mental health, which can lead to problems in later stages of personal development (Melguizo-Ibáñez et al. 2020). In this case, the research carried out by Sanz-Martín et al. (2022) concluded that during adolescence there is a decrease in physical exercise times, with these results being greater in females than in males (Gentil-Adarve et al. 2019). These low levels of physical activity can lead to the development of various cardiovascular diseases (San Román-Mata et al. 2020) and a decrease in life expectancy (González-Valero et al. 2017a).

The concept of physical activity has been defined by various authors; however, the most complete definition is that proposed by González-Jurado (2004), who states that it is a “*bodily movement of any type produced by muscular contraction and which causes a substantial increase in energy expenditure in the person*” (p. 75). On the other hand, a more current definition is that proposed by the World Health Organization (2020), which states that physical activity is “*any bodily movement produced by skeletal muscles that involves the expenditure of energy*”. The regular practice of physical activity has been shown to bring numerous

benefits to people's physical and mental health (González-Valero et al. 2022). The practice of any type of physical activity helps to prevent cardiovascular diseases, diabetes, mental illness, osteoporosis, and cancer (Muros et al. 2017). With regard to the mental sphere, it is observed that regular physical activity has a positive impact on the improvement of self-concept (Hernández-Martínez et al. 2022), self-esteem (Pereiro-Pérez et al. 2021), and academic performance (Donnelly et al. 2016). In this case, it has been observed that during adolescence there is a decrease in physical activity times (Melguizo-Ibáñez et al. 2022a). This is mainly due to the fact that adolescents opt for more sedentary activities (Melguizo-Ibáñez et al. 2022). In this case, the World Health Organization (2020) states that performing more than 300 min of aerobic physical activity at a moderate intensity or performing more than 150 min of vigorous-intensity aerobic physical activity has additional health benefits.

Likewise, adherence to a healthy dietary pattern is particularly important for a healthy lifestyle, as positive adherence to it can have a positive impact on people's health (Muros et al. 2017), with the Mediterranean diet being a healthy dietary pattern. There is no specific definition of this dietary pattern, but it is true that it is characterised by a lower consumption of saturated fats and a higher intake of monounsaturated fatty acids (Becerra-Tomas et al. 2020; Estruch et al. 2018). Likewise, the foods that characterise the Mediterranean diet are whole grains, olive oil, bread and its derivatives, milk derivatives such as cheese and yoghurt, fruit, vegetables and nuts, among others (Martínez-González et al. 2019), as well as a higher consumption of oily fish to the detriment of red meat (Ubago-Jiménez et al. 2020). In this case, food intake is characterised by Martínez-González et al. (2019).

It is characterised as a macronutrient intake, with 30–35% fat, 53–58% carbohydrates, and 10–12% protein.

It is also characterised by a fat quality such that 7–10% are saturated fatty acids, 15–20% are monounsaturated fatty acids, and 6–8% are polyunsaturated fatty acids.

Positive adherence to the Mediterranean diet offers health benefits for individuals such as reduced waist circumference, appropriate body fat percentage, and increased life expectancy (Muros et al. 2017), as well as reduced likelihood of cardiovascular disease, neurodegenerative diseases, and different types of cancer (Ubago-Jiménez et al. 2020). Following this type of diet not only has a positive influence on people's health but is also beneficial in other areas such as controlling emotions and channelling disruptive states (Ferrer-Cascales et al. 2019), as well as notable improvements in different areas of self-concept (Muros et al. 2017; Zurita-Ortega et al. 2018).

Despite the various benefits observed, Zurita-Ortega et al. (2018) state that a detachment from a healthy dietary pattern takes place during adolescence. During this stage, young people begin to have greater control over their dietary pattern, so that their poor knowledge of nutrition increases their intake of foods rich in processed fats (Melguizo-Ibáñez et al. 2020). In addition, limited cooking time leads to increased consumption of convenience foods (Zurita-Ortega et al. 2018).

In view of the above, the adolescent population is at a crucial moment for the acquisition of active and healthy lifestyles, therefore the following research questions are proposed below: (a) Are the levels of physical activity practice adequate in the adolescent population? (b) Are there any studies that have addressed the problem of the study? (c) Is the problem addressed in this research growing? Finally, the present study aims to conduct a systematic review covering the period 2017–2022 in order to analyse the levels of physical activity and adherence to the Mediterranean diet in the adolescent population.

2. Materials and Methods

After having carried out a contextualisation of the physical, sporting, and health problems in adolescents, we proceeded to carry out a systematic review of the literature. The process carried out to select the articles was based on the PRISMA statement (Moher et al. 2014) in order to be able to establish a correct state of the art and evolution of scientific production.

2.1. Procedure and Search Strategies

A search of the scientific literature was carried out in the Web of Sciences and Scopus database during the month of December 2022. In this case, the main search bases were Web of Science and Scopus. Pubmed was used as a supporting element.

For the Web of Science search, it was carried out in the main collection of the database, limiting the time range to the last five years (2017–2022). The time period was limited to five years, as it was intended to study these variables over the last five years (2017–2022). This was done in order to make the study as recent as possible. The following search terms were used in the search engines: “Physical Activit*” and “Mediterranean Diet” and “Adolescents”. In this case, a total of 266 enquiries were obtained. Subsequently, the search was refined by document type, selecting only the “article” category, reducing the number of research papers to a total of 246 articles. Finally, the following research areas were taken into account: “Education Educational Research”, “Public Environmental Occupational Health”, “Psychology Educational” and “Sport Sciences”, reducing the sample to a total of 58 articles.

In order to make this study more rigid, the Scopus database was also used. In this case, the time period was limited to the period from 2017 to 2022. The search terms “Physical Activit*” and “Mediterranean Diet” and “Adolescents” were also entered, yielding a total of 322 investigations. Next, the search was refined according to the type of research, selecting only the “article”, and obtaining a total of 307 results. Finally, the search was further refined by selecting only the research areas of “Social Sciences” and “Psychology”, reducing the sample to 17 results.

To establish the final sample of research that made up the body of the study, the following inclusion criteria were narrowed down:

Articles written in Spanish or English and which have undergone a peer review process.

Scientific studies that included the words physical activity, Mediterranean diet, and adolescents in the title, keywords, or abstract.

Study populations focused on primary or high school education stage.

Publications presenting a cross-sectional and/or longitudinal methodological design.

Research that has used validated and reliable instruments for data collection.

Studies showing significant results together with conclusions that would allow an analysis of the problem to be carried out.

In order to apply the inclusion criteria, a reading of the abstract and title of the article was carried out. The full text was then read in order to apply the inclusion criteria described above. Following the above, the final study sample consisted of a total of 20 articles (Figure 1).

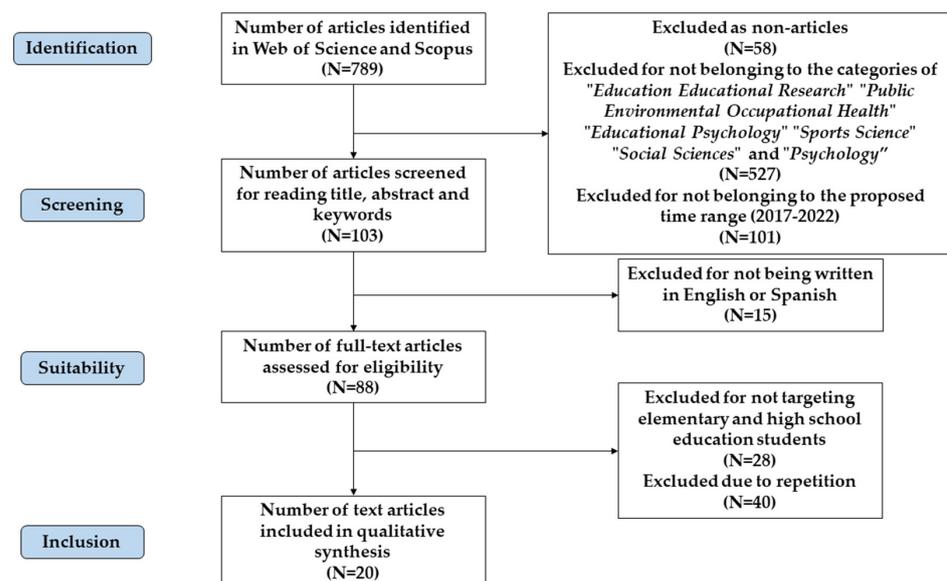


Figure 1. Flow chart of the base body of valid studies for qualitative synthesis.

2.2. Extraction of Data and Description of Selected Items

The data extraction procedure was extracted according to the units of analysis and following the coding shown below: (1) authors; (2) year of publication; (3) journal; (4) research participants; (5) methodological design; (6) study; (7) objective; (8) study variables; (9) instruments used; and (10) results.

The present research was coded by two experts in the field in order to verify the degree of coding and inter-rater reliability in the selection and extraction of data (González-Valero et al. 2019). In this case, the classification level of the different selected research was 89%, obtained by dividing the total number of coincidences by the total number of defined categories of each article, and multiplying the final result by one hundred. The main characteristics of the articles that form the body of the systematic review were then recorded in Table 1.

Table 1. Main characteristics of the sample that makes up the study.

Authors	Year	Journal	Participants	Design
Sánchez-Miguel et al.	2022	Scandinavian Journal of Medicine & Science in Sports	1573 adolescents (861 girls and 712 boys). Age range: 12–16 years	Descriptive cross-sectional study
Melguizo-Ibáñez et al.	2022	Children	567 adolescents (264 girls and 303 boys) (M = 11.10; S.D = 1.24)	Descriptive and cross-sectional study
García-Merino et al.	2022	Retos	290 adolescents (156 boys and 134 girls). Age range: 7–14 years	Cross-sectional comparative descriptive study
Kotova et al.	2022	International Journal of Environmental Research and Public Health	783 adolescents (380 girls and 403 boys). Age range: 10–17 years	Descriptive cross-sectional study
Esposito et al.	2022	International Journal of Environmental Research and Public Health	428 elementary school students (235 girls and 193 boys). Mean age of the sample (M = 8.99; S.D = 1.43).	Descriptive cross-sectional study
Tapia-Serrano et al.	2022	Revista de Psicodidáctica	121 elementary school students (57 girls and 67 boys). Age range: 8–9 years (M = 9.01; S.D = 0.09).	Quasi-experimental design with control group and experimental group pre-test post-test
Hayek et al.	2021	International Journal of Environmental Research and Public Health	563 high school students (280 girls and 283 boys). Age range: 15–18 years (M = 16.76; S.D = 0.73).	Longitudinal study
López-Gil et al.	2021	International Journal of Environmental Research and Public Health	370 elementary school students (106 girls and 204 boys) Age range: 6–13 years old Boys: (M = 8.8; S.D = 1.80) Girls: (M = 8.5; S.D = 1.80)	Descriptive cross-sectional study
Mastorci et al.	2021	Health Behavior and Policy Review	1711 high school students (978 girls and 954 boys). Age range: 10–14 years. Boys: (M = 12.5; S.D = 1.10) Girls: (M = 12.4; S.D = 1.10)	Descriptive cross-sectional study
George et al.	2021	Public Health Nutrition	1972 elementary school students. Age range: 9–13 years (M = 11.1; S.D = 0.60). Boys (M = 11.1; S.D = 0.70) Girls (M = 11.1; S.D = 0.60)	Descriptive cross-sectional study
Manzano-Carrasco et al.	2020	International Journal of Environmental Research and Public Health	194 students (194 boys; 127 pre-pubertal, 67 pubertal). Age range: 8–16 years (M = 12.0; S.D = 2.0).	Descriptive cross-sectional study

Table 1. *Cont.*

Authors	Year	Journal	Participants	Design
Moral-García et al.	2020	International Journal of Environmental Research and Public Health	516 adolescents (248 girls and 268 boys). Age range: 12–16 years (M = 14.20; S.D = 1.55).	Descriptive cross-sectional study
Jiménez-Boraita et al.	2020	Child Indicators Research	761 adolescents (378 girls and 383 boys) Boys (M = 14.55; S.D = 1.64) Girls (M = 14.46; S.D = 1.63)	Cross-sectional correlational study
Melguizo-Ibáñez et al.	2020	Retos	293 adolescents (146 girls; 147 boys) (M = 11.47; S.D = 0.32)	Descriptive cross-sectional study
Badicu et al.	2019	Physical Education of Students	567 participants (149 students from Romania and 427 students from Spain)	Descriptive cross-sectional study
Galán-López et al.	2019	International Journal of Environmental Research and Public Health	387 adolescents (178 girls and 209 boys). Age range: 13–16 years. Boys (M = 13.57; S.D = 1.13) Girls (M = 13.38; S.D = 1.14)	Descriptive cross-sectional study
Evaristo et al.	2018	European Journal of Public Health	956 adolescents (446 girls and 510 boys) (M = 14.5; S.D = 1.80) Boys (M = 14.6; S.D = 1.90) Girls (M = 14.3; S.D = 1.70)	Descriptive cross-sectional study
Peláez-Barrios et al.	2018	SPORT TK-Revista Euroamericana de Ciencias del Deporte	209 secondary school students (117 girls and 92 boys). Age range: 12–18 years	Observational, descriptive, and correlational cross-sectional study.
Alfonso-Rosa et al.	2018	SPORTIS-Scientific Technical Journal of School Sport, Physical Education and Psychomotricity	50 elementary school students (24 girls and 26 boys). Age range: 9–10 years	Observational cross-sectional study
González-Valero et al.	2017	SPORT TK-Revista Euroamericana de Ciencias del Deporte	79 elementary school students (34 girls and 45 boys). Age range: 6–8 years (M = 7.10; S.D = 0.638).	Quasi-experimental study with a pre-test post-test design.

3. Results

Figure 2 shows the evolution of scientific production on the subject of this review study. In this case it is observed that the highest number of investigations are hosted in the year 2020 ($n = 19$). With regard to the scientific production in this area, an evolution of the production in this area is shown up to 2020. From that year onwards, there is a decrease in scientific production until the year 2022. In terms of the databases consulted, it can be seen that the one with the most research on this subject is the Web of Science.

Figure 3 shows the distribution of the selected articles according to educational stage. In this case, it can be seen that most of the studies are carried out in the primary education population ($n = 9$). Next, it can be seen that the research that deals with this subject is carried out at the secondary education stage ($n = 6$). Subsequently, it is evident that only a total of 5 research studies are carried out in primary and secondary education.

In terms of the origin of the research that makes up this study sample (Table 2), it can be seen that the vast majority of the research comes from Europe ($n = 19$), while only one research study is from the Asian continent ($n = 1$). It is noted that there is no research of American and African origin.

Table 3 lists the objectives, variables, data collection instruments, and conclusions obtained in the different investigations. Most of the research studied the variables of physical activity, adherence to the Mediterranean diet, sedentary behaviours, and academic perfor-

mance. For the collection of data related to the aforementioned variables, questionnaires validated by the scientific community were used for the most part.

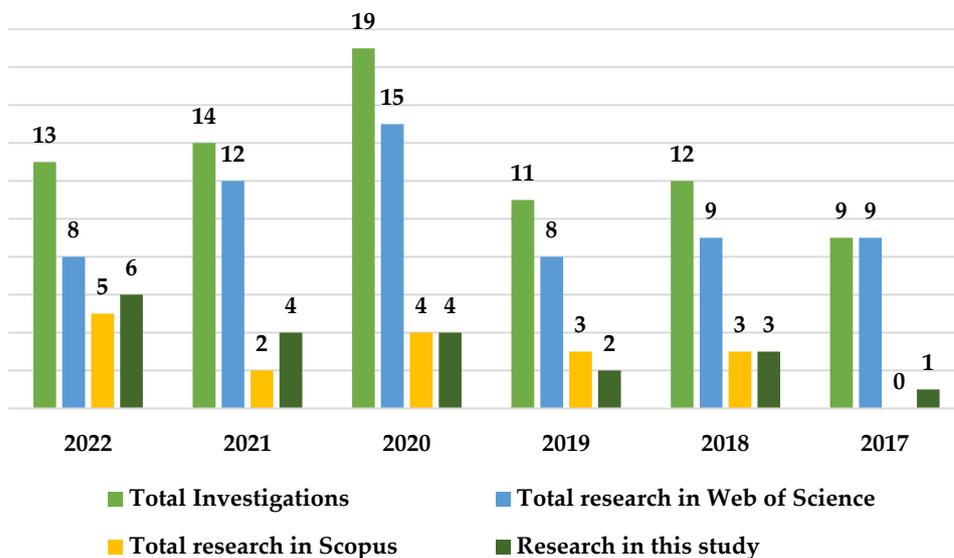


Figure 2. Evolution of scientific output of total articles and selected articles.

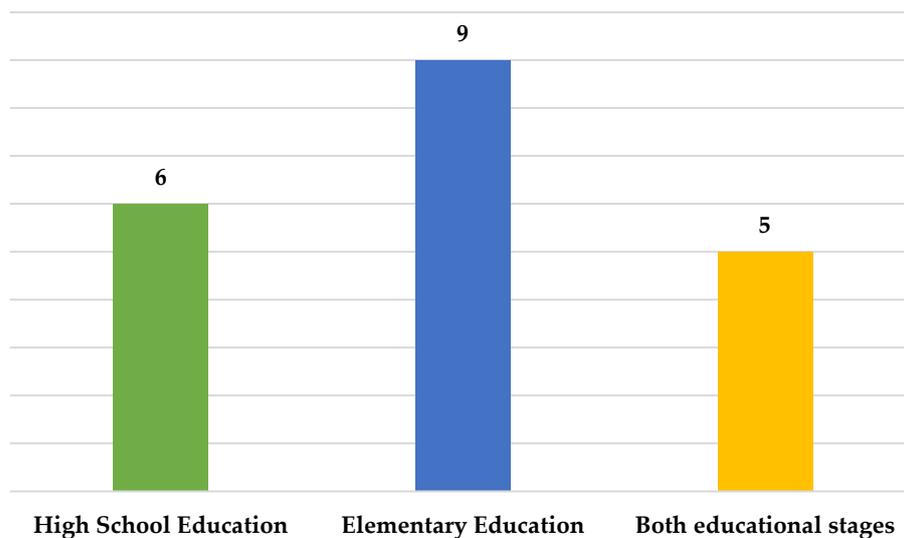


Figure 3. Distribution of the population where the selected studies are being carried out.

Table 2. Origin of the studies in the sample.

Study Provenance	Sample	Percentage
Europe	19	95.0%
Asia	1	5.0%
America	0	0.0%
Africa	0	0.0%
Total	20	100.0%

Table 3. Objectives, variables, instruments, and conclusions obtained from the various research studies selected.

Study	Objectives	Variables	Instruments	Conclusions
Sánchez-Miguel et al. (2022)	<p>(1) To identify screen time profiles using total daily minutes of screen time on school and non-school days for Spanish adolescents.</p> <p>(2) To examine differences in health-related behaviours (physical activity, sleep, and adherence to the Mediterranean diet), physical fitness, body fat, and academic performance according to screen time profiles.</p>	Screen Time	Youth Leisure-Time Sedentary Behaviour Questionnaire (YLSBQ)	Adolescents who accumulated a large amount of screen time on school and non-school days reported worse health-related behaviours, academic performance, and sleep duration
		Physical Activity	Physical Activity Questionnaire for Adolescents (PAQ-A)	
		Sleep duration	Self-Report Sleep Questionnaire	
		Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	
		Cardiorespiratory Fitness	20 m Shuttle Run Test	
		Muscular Strength	Dynamometer TKK 5101 Grip D Takey	
		Body Fat	Holtain Skinfold Caliper	
Academic Performance	Average Marks in First Language (Spanish), Mathematics, Foreign Language (English), and Physical Education.			
Melguizo-Ibáñez et al. (2022c)	<p>(1) To establish the relationship between emotional intelligence, Mediterranean diet adherence, BMI, and age.</p> <p>(2) To develop an explanatory model of emotional intelligence and its relationship with Mediterranean diet adherence, BMI, and age.</p> <p>(3) To test a multi-group analysis as a function of whether students engage in more than three hours of physical activity a week.</p>	Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	Participants who engage in more than three hours of physical activity a week score more highly for emotional intelligence than those who do not meet this criterion. Furthermore, it was also observed that, whilst the majority of the sample was physically active, improvement was required with regards to Mediterranean diet adherence.
		Physical Activity and Socio-demographic Variables	Questionnaire of Own Elaboration	
		Emotional Intelligence	Trait Meta Mood Scale (TMMS-24)	

Table 3. Cont.

Study	Objectives	Variables	Instruments	Conclusions
García-Merino et al. (2022)	To evaluate nutritional status, level of fitness, and diet in children and adolescents from different socio-economic environments.	Body Mass Index	Equation (Weight of person in kilograms divided by height in metres squared)	Regarding nutritional status and physical fitness, there are significant differences in favour of girls of high social status in BMI, waist-to-height ratio, and physical fitness (speed and flexibility) compared with girls with socio-economic disadvantages. Boys with high social status show significant differences in PAQ-C compared with girls of the same group. Concerning to the Mediterranean diet, both groups show a medium adherence.
		Waist Circumference	The equidistant point between the last not floating rib and the iliac crest	
		Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	
		Physical Fitness	Eurofit Battery	
Kotova et al. (2022)	To identify diet and physical activity (PA) patterns in Russian youth and examine their dependence on gender, age, family characteristics, and area of residence.	Family Information	Questionnaire of own elaboration	The behavioural and eating habits of school students depend to a large extent on their gender and age characteristics, family characteristics, social factors, and area of residence.
		Healthy pattern	Questionnaire developed in-house using factor loadings of the main dietary and PA patterns identified.	
		Physical Activity	Self-Report Sleep Questionnaire	
		Sleep Duration		
Esposito et al. (2022)	<p>(1) To examine weekend differences in diet, PA levels, and sedentary behaviour.</p> <p>(2) To analyse the impact of the school canteen on the adequacy of meals during the week among Italian primary school children.</p>	Body Mass Index	Equation (Weight of person in kilograms divided by height in metres squared)	There are differences between weekdays and weekends in children's eating behaviours, physical activity, and screen time between a weekday and a weekend. The quality of lunch and snacks is significantly better on weekdays compared to weekends.
		Physical Activity Practice	Question: Minutes per day in a week spent in sport or recreational-motor activities	
		Screen Time Consumption	Question: Time spent in minutes on television (TV) and personal computer (PC) or video games, daily during a single week.	
		Quality of the Dietary Pattern	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	

Table 3. Cont.

Study	Objectives	Variables	Instruments	Conclusions
Tapia-Serrano et al. (2022)	To examine the effects of a school-based intervention on 24-h interacting movement behaviours (physical activity, screen time, and sleep), Mediterranean diet, and health status.	Socio-economic Status	Family Affluence Scale II	The intervention programme has been shown to be effective in improving children's adherence to the Mediterranean diet and the proportion of active children but does not appear to have a positive impact on other health-related behaviours and perceived health status.
		Body Mass Index	Equation (Weight of person in kilograms divided by height in metres squared)	
		Physical Activity	Physical Activity Questionnaire for Children (PAQ-C)	
		Screen Time	Youth Leisure-Time Sedentary Behaviour Questionnaire (YLSBQ)	
		Sleep Duration	Self-Report Sleep Questionnaire	
		Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	
Health Status	Question: "In general, what would you say your state of health is like?"			
Hayek et al. (2021)	To examine how changes in health behaviours and socio-cognitive factors influence the academic performance of Lebanese adolescents over a 12-month period.	Physical Activity	International Physical Activity Questionnaire (IPAQ)	The findings of this study suggest that an improvement in adherence to the Mediterranean diet and an increase in self-efficacy beliefs were associated with an increase in academic performance over a one-year period.
		Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	
		Harmful Substance Consumption	Question: During the last month, on how many days did you smoke? Question: During the last month, on how many days did you drink alcohol?	
		Academic Performance	Arithmetic average of the grades obtained in the different subjects	

Table 3. Cont.

Study	Objectives	Variables	Instruments	Conclusions
López-Gil et al. (2021)	(1) To assess the association of screen time and cardiorespiratory fitness with adherence to the Mediterranean diet. (2) To determine whether the association between screen time and adherence to the Mediterranean diet is mediated by cardiorespiratory fitness.	Cardiorespiratory Fitness	20 m Shuttle Run Test	High cardiorespiratory fitness and lower screen time are associated with higher adherence to the Mediterranean diet. In addition, medium cardiorespiratory fitness weakens the association between screen time and adherence to the Mediterranean diet.
		Screen Time	Krece Plus Short Test	
		Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	
		Body Mass Index	Digital Scale (Tanita BC-545, Tokyo, Japan) Stadiometer (Leicester Tanita HR 001, Tokyo, Japan).	
Mastorci et al. (2021)	To assess lifestyle habits among Italian adolescents, taking into account the possible influence of gender.	Body Mass Index	Equation (Weight of the person in kilograms divided by height in metres squared)	The population is at average levels of adherence to the Mediterranean diet and physical activity, with males having a higher percentage of overweight and obese individuals. It should be noted that men have a higher risk of obesity in the presence of a single risk factor (low Mediterranean diet or low physical activity), a relationship that we did not find for the girls in our sample.
		Physical Activity	Physical Activity Questionnaire for Children (PAQ-C)	
		Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	
George et al. (2021)	To examine the associations between the level of adherence to the Mediterranean diet with obesity, insulin resistance, metabolic syndrome, and its components in school children.	Physical Activity	Accelerometers	Approximately two-thirds of the examined sample of schoolchildren in Greece have “poor” adherence to the Mediterranean diet, which also increases the likelihood of central obesity, hypertriglyceridaemia, and insulin resistance.
		Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	
		Body Mass Index	Equation (Weight of the person in kilograms divided by height in metres squared)	
		Glucose and Cholesterol	Colorimetric enzyme assays (Roche Diagnostics SA)	
		Socio-economic Aspects	Questionnaire of own elaboration	

Table 3. Cont.

Study	Objectives	Variables	Instruments	Conclusions
Manzano-Carrasco et al. (2020a)	To analyse differences in physical fitness variables, body composition, and adherence to the Mediterranean diet as a function of cardiorespiratory fitness and maturity stage in young football players.	Body Mass Index	Equation (Weight of the person in kilograms divided by height in metres squared)	Children and adolescents who play football recreationally have different anthropometric and respiratory values, as well as hand grip strength, depending on their cardiorespiratory status. Moreover, these differences are greater in the pubertal stage than in the prepubertal stage. Taken together, these results suggest that the practice of physical activity and sport is an important habit to be acquired in pre-pubertal age in order to consolidate skills in pubertal age.
		Physical Fitness	ALPHA health-related fitness battery	
		Cardiorespiratory Fitness	20 m Shuttle Run Test	
		Breathing Capacity	Forced Spirometry Test	
		Muscular Strength	Dynamometer with Adjustable Grip (TKK 5001 Grip A; Tokyo, Japan)	
		Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	
Moral-García et al. (2020)	<p>(1) To determine adolescents' self-perceived health, level of PA practice, adherence to DM, weight status, and alcohol and tobacco consumption.</p> <p>(2) To detect, in the sample analysed, whether there is an association between self-perceived health and level of PA practice, taking into account BMI, DM, and alcohol and tobacco consumption.</p>	Self-perceived Health	Questionnaire of Health and Well-Being	The results of this research indicate that (a) adolescents who practice more PA have better self-perceived health; (b) the KIDMED index shows that more physically active students have higher adherence to the Mediterranean Diet; (c) alcohol consumption is lower in active students compared to sedentary students; (d) the level of health is higher in students with a higher KIDMED index (higher adherence to the MD); and (e) alcohol consumption is lower in students with better health.
		Physical Activity	International Physical Activity Questionnaire (IPAQ)	
		Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	
		Alcohol and Tobacco Consumption	State Survey on Drug Use in Secondary Education	
		Body Mass Index	Equation (Weight of the person in kilograms divided by height in metres squared)	

Table 3. Cont.

Study	Objectives	Variables	Instruments	Conclusions
Jiménez-Boraita et al. (2020)	To analyse the lifestyle differences associated with the health of adolescents as a function of gender.	Self-esteem	Rosenberg Scale	The significant differences found according to the gender of adolescents suggest that educational and health organisations should give more consideration to establishing intervention strategies that are appropriate to the needs of each gender. Specific intervention is important, particularly in the case of females.
		Health-Related Quality of Life	KIDSCREEN 27	
		Perception and Satisfaction of Body Image	Stunkard and Stellar Method	
		Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	
		Physical Activity	Physical Activity Questionnaire for Adolescents (PAQ-A)	
Melguizo-Ibáñez et al. (2020)	(1) Analysing the relationship between the Mediterranean diet and emotional intelligence. (2) To establish relationships between both variables in students in the third cycle of primary education in the province of Granada.	Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	A high percentage of students who practice more than three hours of physical activity out of the school need to improve their diet, whilst more than half of the students who show a low adherence to the Mediterranean diet manifest a suitable level of emotional attention.
		Physical Activity	Questionnaire of own elaboration	
		Emotional Intelligence	Trait Meta Mood Scale (TMMS-24)	
Badicu et al. (2019)	To carry out a comparative analysis between adherence to the Mediterranean diet and the practice of physical activity in students from Romania and Spain.	Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	There are no significant differences between the two countries of origin in terms of adherence to MD and level of PA. Romanian students have a low adherence to MD. In the case of average adherence to MD, the values are similar for both Romanian and Spanish students, and Spanish students have higher scores than Romanian students when it comes to high adherence to MD. There are no significant differences between students at all levels of adherence to MD in terms of PA.
Physical Activity	Physical Activity Questionnaire for Adolescents (PAQ-A)			

Table 3. Cont.

Study	Objectives	Variables	Instruments	Conclusions
Galán-López et al. (2019)	To analyse the independent associations between components of health-related fitness, body composition, and adherence to the Mediterranean diet among adolescents in Reykjavik, Iceland.	Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	Participants in this study show medium/high levels of health-related physical fitness, with girls scoring slightly higher. Participants' adherence to the MD is classified as medium/high and almost 25% at the high level. Significant correlations were found between MD and the endurance test in girls and boys. High adherence to MD also correlates with better results in endurance and agility speed tests in boys.
		Physical Fitness	Alpha Fitness test battery	
		Body Mass Index	Equation (Weight of the person in kilograms divided by height in metres squared)	
		Cardiorespiratory Fitness	20 m Shuttle Run Test	
Evaristo et al. (2018)	To analyse the independent and combined associations between physical fitness and adherence to the Mediterranean diet with quality of life.	Health-related Quality of Life	Kidscreen-10 questionnaire	The combination of high levels of physical fitness and optimal adherence to the Mediterranean diet is positively associated with better health-related quality of life scores in Portuguese adolescents.
		Physical Fitness	Alpha Fitness test battery	
		Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	
		Body Mass Index	Equation (Weight of the person in Kilograms divided by height in metres squared)	
		Puberal Stage	Questionnaire prepared in-house	
		Socioeconomic Level	Family Affluence Scale	
Peláez-Barríos et al. (2018)	To assess adherence to the Mediterranean diet in adolescents in the first and second cycle of ESO and its relationship with BMI and physical activity.	Body Mass Index	Equation (Weight of the person in kilograms divided by height in metres squared)	A high percentage of participants showed optimal adherence to the Mediterranean diet. The mean BMI value of the adolescents indicated normal weight with no differences between sexes or school years. A significant proportion of adolescents complied with PA recommendations. Boys showed a higher level of physical activity than girls, with significant differences between the two.
		Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	
		Physical Activity	International Physical Activity Questionnaire (IPAQ)	

Table 3. Cont.

Study	Objectives	Variables	Instruments	Conclusions
Alfonso-Rosa et al. (2018)	To describe and establish the relationships between adherence to the Mediterranean diet, academic performance, and level of physical activity in primary school pupils.	Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	Half of the population needs to improve their dietary pattern, with more than half of the sample being inactive from a physical-sporting point of view. Likewise, the practice of physical activity and adherence to the Mediterranean diet showed no significant association.
		Physical Activity	International Physical Activity Questionnaire (IPAQ-A)	
		Academic Performance	Arithmetic mean of the grades obtained in the different subjects	
González-Valero et al. (2017b)	<p>(1) To establish the levels of body mass indexes, the degree of adherence to the Mediterranean diet, and self-concept in a sample of primary school students.</p> <p>(2) To determine the possible physical health and psychosocial differences after the implementation of the intervention programme "SportFruits".</p>	Body Mass Index	Equation (Weight of the person in kilograms divided by height in metres squared)	One in five participants are overweight and obese and almost half of the students need to improve their eating habits and adherence to the Mediterranean diet. After applying the intervention, obesity rates have decreased and adherence to the Mediterranean diet has also decreased, with improvements in self-concept.
		Adherence to the Mediterranean Diet	Mediterranean Diet Quality Index for Children and Adolescents (KIDMED)	
		Self-concept	Self-concept Form-5	

The main results show that optimal adherence to the Mediterranean diet and an active lifestyle has a positive impact on various psychosocial, anthropometric, and mental aspects of individuals. It is also noted that most research reports low levels of physical activity along with poor adherence to the Mediterranean diet, showing high levels of screen time. In addition, factors such as the gender of the participants, the stage of development, and the socio-economic status of the families are found to have an impact on whether they lead an active and healthy lifestyle.

4. Discussion

In this research, a systematic review was carried out during the 2017–2022 time period in order to analyse the levels of physical activity and adherence to the Mediterranean diet in the adolescent population. Studies of a similar nature to the present one have been carried out (Malakou et al. 2018), however, the peculiarity of the present research lies in offering a current perspective on the state of the question addressed.

In this case, it has been observed that adolescents have a high prevalence of highly sedentary activities, which are related to high levels of screen time. This statement is corroborated by Sánchez-Miguel et al. (2022) who state that technological development has had a negative influence on active lifestyles, with young people choosing to spend more time on these activities. The socio-economic level of families is also a factor in the promotion of sedentary activities. Research carried out by Kotova et al. (2022) states that families with parents who have a higher socio-economic status are aware of the various psychological and physical benefits of physical sports practice.

An inactive lifestyle has a negative impact on a person's health. Research by Mastorci et al. (2021) establishes that young people who lead a sedentary lifestyle have higher levels of those who are overweight and obese than those who are physically active. In addition, physical inactivity has also been found to act negatively on respiratory capacity and muscle strength (Manzano-Carrasco et al. 2020b), leading to higher blood glucose and cholesterol levels. Elevated low-density lipoproteins can cause chest pain, cardiovascular accidents, and heart attacks (George et al. 2021), while elevated blood glucose levels can cause fatigue, headache, and blurred vision, among other effects (George et al. 2021). Research by González-Valero et al. (2017b) states that the main reason for increased blood cholesterol levels is a sedentary and unhealthy lifestyle, as Mastorci et al. (2021) state that regular physical activity and healthy food intake have numerous health benefits.

In the adolescent population, an increase in sedentary lifestyles coupled with low adherence to a healthy dietary pattern has been reported to increase the number of obese young people in Western societies. The study carried out by Tapia-Serrano et al. (2022) together with González-Valero et al. (2017b) establish that this occurs due to scarce nutritional education together with the lack of presence in the curriculum aimed at the nutritional education of young adolescents. Furthermore, an increase in the consumption of harmful substances, including alcohol and tobacco, has also been observed (Melguizo-Ibáñez et al. 2022a). In view of these findings, Moral-García et al. (2020) establish that the beginning of the process of consuming alcoholic beverages and tobacco originates in adolescence, due to the positive repercussions that the consumption of these substances has on the social self-concept. Despite having a positive impact on the social area of young people, Melguizo-Ibáñez et al. (2022a) state that in the long term, the consumption of alcoholic beverages together with tobacco worsens people's health and can lead to cirrhosis and the appearance of different types of cancer.

In order to raise awareness among adolescents about the different dangers that the consumption of harmful substances can have on their health in the long term, González-Valero et al. (2017b) establish that the educational area plays a fundamental role in raising public awareness. To this end, the area of physical education plays a fundamental role, as longitudinal research carried out by Moral-García et al. (2020) and Hayek et al. (2021) affirms that this curricular area offers sufficient reliability for citizenship education in the physical health perspective.

It has been shown that the subject of physical education has a multidisciplinary vision (Jones et al. 2022). In this case, the study carried out by Jones et al. (2022) affirms that through the use of active methodologies, adolescents can be educated from a holistic perspective. In this case, the experience carried out by Acebes-Sánchez and Ros-Bernal (2022) concluded that through the subject of physical education, the learning of other subjects can be carried out, leading to the improvement of the physical condition of young people. Although this research offers a current perspective on the subject, it has a number of limitations, which are described below.

The study has been carried out over the last five years, leaving aside a wider time span. In this case it would be interesting to include a wider time range to study the number of publications carried out in the two databases consulted. It would also be interesting to include a new socio-demographic variable to study how these variables affect the physical health environment.

With regard to future perspectives, the present review serves to contextualise a research topic, which will be developed and completed through cross-sectional descriptive studies and an intervention programme aimed at the adolescent population. It would also be interesting to conduct a systematic review to study the effects of COVID-19 on the physical health profile in elementary and high school students.

5. Conclusions

The present research highlights the situation of the current scientific literature on the physical health issue in young people.

With regard to the evolution of scientific production in the subject area addressed, a decreasing trend can be observed, with the highest level of production being reached in the year 2020.

In this case, it has been shown that a sedentary lifestyle has numerous academic and health-related detriments. It has been shown that practising any sport has numerous benefits in terms of anthropometric, respiratory, and physical factors, with the stage of development at which young people find themselves playing a key role. Another factor in encouraging the practice of sport is the family, showing that families with a higher socio-economic level show a greater awareness of the health effects of regular physical activity together with adherence to a healthy dietary pattern on the health of young people.

The current situation shows that, among the adolescent population, there is evidence of a decline in the quality of lunch and snacks during weekends and non-working days. Following such behaviours can lead to various health problems such as obesity, hypertriglyceridaemia, and insulin resistance. In addition, increased physical activity time is positively associated with increased adherence to the Mediterranean diet, which has numerous academic, physical, and psychological health benefits.

Finally, the different interventions carried out in the academic field show that the subject of physical education helps directly to combat sedentary behaviour and improve adherence to the Mediterranean diet through the cross-cutting nature of the subject.

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