Attitude of Junior and Senior High School Students Towards Physical Activity in Abetifi-Kwahu. a Mixed Method Approach

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ABSTRACT

Purpose: Compare the attitudes of junior high and senior high school students towards physical activity (PA) and further determine the prevalence of PA among them.

Method: A descriptive cross-sectional mixed-method approach was employed: The study involving 725 participants aged 12-19 from five junior high schools and a senior high school in Abetifi-Kwahu assessed their attitudes towards PA using interview and the Student's Attitude toward Physical Activity Skill questionnaire, considering social experience, health and fitness, aesthetic experience, and catharsis. Four dimensions of attitudes were considered, namely: social experience, health and fitness, aesthetic experience, and catharsis.

Results: The data was analyzed using statistical means, frequencies, and percentages. The results of the study showed that JHS and SHS students in Abetifi have a favorable attitude towards PA, and they like to participate in such activities to improve their health. There was no significant difference in the attitudes of JHS and SHS students towards physical activity. Most of the participants were aware of the benefits related to participating in PA. The findings also revealed that the prevalence of PA among JHS and SHS students was high, with walking and jogging being the most highly rated PA.

Discussion: The study attests to the fact that because all the students reside in the same environment, there is no point in diverting from the normal, irrespective of age, religion, gender, or school level. This attests to the fact that the environment plays a significant role in the lives of students and every individual. The study recommended that a massive sensitization campaign on PA and its benefits to our health be promoted by institutions, and health institutions.

Keywords: Physical activity, Attitudes, Students, Pre-tertiary Schools, Abetifi

INTRODUCTION

Physical activity (PA) is the central pillar that promotes good and balanced health, and its importance to our survival cannot be overstated. Therefore, individuals who have devoted their lives to PA with a positive

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attitude gain a dynamic, healthy, and productive personality. (Kucukibis and Gul 2019) The practice of engaging in PA starts in the womb and continues throughout the entire stages of human development. Due to the benefits of PA, it is crucial for every human being to engage in PA to be healthy and physically fit to be able to carry out day-to-day activities with ease. Due to the critical nature of PA, nature finds it prudent even for unborn babies to begin to engage in some forms of light PA from the womb by initiating movement of the limbs to their abilities and turn from one position to another. Studies have evidenced that PA reduces the risk of non-infectious diseases, such as cardiovascular disorders, stroke, hypertension, and diabetes, and also for treatment for stress and depression. (Asiamah et al. 2023; Asiamah and Mensah 2017; Blake 2012) However, physical inactivity (PI) is a major cause of Non-communicable diseases (NCDs), such as coronary heart disease, cancer, diabetes, and chronic respiratory illnesses, several malignancies, obesity and high blood pressure. And the outcome of PI is death and morbidity across all age groups around the world, and Ghana is no exception. (Bull et al. 2020) No wonder the mortality rate among the youth is on the rise. The current situation of PI is very much worrisome. According to the literature, improvements in PA have also been found to boost students' school involvement and cognitive and academic performance. (James et al. 2023; Mailing et al. 2019; Szabo-Reed et al. 2019) It is therefore enormously important for every Tom-Dig-and-Harry to appreciate and adapt to PA in their daily lives to maintain longevity of life.

Everything we do is tinged with attitude. Attitude plays a crucial role in all fields of human endeavour. Our attitudes have an impact on whether or not we begin or continue a particular behaviour, as well as whether or not we succeed in certain areas. Attitude formation occurs at a tender age, and we may have a variety of attitudes toward various aspects of life. This study, however, focused on students' attitudes towards PA.

Irrespective of the numerous benefits of physical activity, individuals begin to develop a variety of attitudes toward it as they grow older. A study indicates that children and adolescents who have more positive attitudes toward PA and exercise, for example, engage in more vigorous PA outside of school (Kaya, Isidori, and Sarol 2015). On the other hand, (Kee et al. 2018) assert that pupils lack a basic awareness of PA and its associated benefits, which leads to an unfavorable attitude. (Li et al. 2014), estimate that over 40% of schoolchildren are physically inactive and do not reach the recommended level of physical exercise. (Nxumalo and Edwards n.d.) also echoed this sentiment. This reflects the sedentary lifestyle of young students in general.

Despite the multiple positive impacts of PA, only a minority of children and adolescents engage in at least 60 minutes of daily physical exercise, according to national and international standards(Kolbe 2019). On the contrary, a study conducted by (Guthold et al. 2020) indicated that globally, in 2016, more than 80% of school-going adolescents aged 11–17 years did not meet the required recommendations for daily physical activity, compromising their current and future health. A further study reveals that, barely only 19% of Australian children and adolescents satisfy these guidelines for recommendations (Zeng 2011). In Portugal, a study conducted by (Baptista et al. 2012) among persons age 15 years or more, reveals that Portugal was among 15 member states of the European Union, the country with the lowest prevalence of physical activity in leisure time (40.7%) and the sixth country with the highest prevalence of ‘‘high physical activity’’ (33.1%).

With the rising burden of noninfectious diseases (NIDs) threatening millions around the world, PI has been proclaimed a worldwide epidemic.(Guthold et al. 2020) In 2015, for instance, PI caused approximately 21% of breast cancers, 25% of colon cancers, 27% of diabetes, and 30% of ischemic heart disease worldwide (Kyu et al. 2016).Regrettably, the decline in PA levels, coupled with increasing sedentary behaviour over time(Katzmarzyk and Mason 2009), is affecting younger people, including children and the youth, leading to negative health consequences such as obesity particularly among urban residents (Larrinaga-Undabarrena et al. 2023; Wang and Lim 2012). In the case of sub-Sahara African for instance, (Anon n.d.-a) observed that in the Global School Health Survey of 2003 conducted among students aged 13 to 15 years in Kenya, only 11.1% met the required regular PA threshold of at least 60 minutes per day, and up 40.9% were reported to have sedentary habits. Similarly The 2016 Kenya Report Card indicated that only half of Kenyan children and adolescents were engaging in insufficient levels of physical activity (Onywera et al. 2016)

PI can have serious implications for people’s health, according to the World Health Organization (WHO) (WHO 2014). Approximately 2 million deaths per year are attributed to PI (Anon n.d.-b). WHO observes that 60 to 85% of people in the world from both developed and developing countries lead sedentary lifestyles,

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making it one of the more serious yet insufficiently addressed public health issues. WHO further estimated two-thirds of children are also insufficiently active, with serious implications for their future health(Anon n.d.-b). In high-income countries, NCDs are major determinants of mortality. Similarly, in 2015, about 48% of deaths in both low and middle-income countries were attributed to NCDs among individuals less than 70 years (Bosu 2010; Guthold et al. 2020, 2020; WHO 2014)

NCDs are on the increase in Ghana(Bosu 2010; WHO 2014). In 2012, for instance, about 88,200 deaths had been reported concerning stroke, hypertension, and type 2 diabetes (Doegah and Amoateng 2019) which together accounted for about 42% of all deaths in some countries. Again, evidence from the 2014 and the 2016 Ghana RC revealed low levels of overall PA among Ghanaian youths. In a more triggering development,(Seidu et al. 2021) indicate that, out of 1,542 SHS students sampled in Ghana, only a quarter (25%) met the recommended levels of physical activity by the WHO. Also (Akpene Amenya et al. 2021), reported high levels of PI and sedentary lifestyle of many young children. To buttress it, (Nyawornota et al. 2018), found that 70% of Ghanaian children do not engage in enough PA. (Ocansey et al. 2016)attributed the general level of PI in the Ghanaian schools as; absence of PE and sports policies and the inadequacy of programs and PE teaching periods on school time tables, are major concerns that pose serious challenges for surveillance and monitoring in PA settings.

In the Ghanaian context, the literature available so far indicates that not enough studies have been done on PA(Doegah and Amoateng 2019; Nyawornota et al. 2018; Ocansey et al. 2016). However most of the previous studies conducted were based on a broader focus (Peltzer and Pengpid 2011). In effect, such studies do not present a panoramic view of the determinants of PA among junior and senior high school students in Abetifi in the Kwahu East of Ghana. It is against this backdrop of the scarcity of studies on the PA among the youth (junior and senior high school students) in Ghana that the present study is conducted using a mixed-method approach

METHOD

Participants:

Participants in this study were second and third year junior high school and senior high school students purposively selected from five junior high and one senior high school. The total participants involve in the study was 725 students. All participants completed and signed a consent form indicated their consent to participate in the study. Participants were assured of anonymity by the consent form being detached from the questionnaires by the lead author prior to data entry. Any questionnaires returned without consent forms were not included for data entry. However all the questionnaire were retrieved

The study employed an embedded mixed method research design. Embedded mixed method design refers to a specific approach within the realm of mixed methods research. It entails the progressive integration of many approaches to provide a cohesive and comprehensive causal inference. The underlying framework of this design is rooted in the notion of integration, wherein one approach is employed to establish the ultimate inference, while another approach is utilized to prepare, test, validate, or enhance the analysis that produces this conclusion (Baran and Alzoubi 2020; Paturzo et al. 2016). Within the realm of educational research, the embedded design is recognized as one of the prevalent mixed-method designs, along with three other commonly employed designs. The process entails the concurrent gathering and examination of both quantitative and qualitative data, wherein one method is integrated with the other. This form facilitates a more thorough comprehension of the research inquiry and has the potential to yield useful insights into intricate phenomena. (Sallis et al. 2012)

Population

The participants for this study were all junior and senior high school students attending school in Abetifi township within the Kwahu East District in the Eastern Region of Ghana.

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Table 1. Showing List of Sample Schools Located within Abetifi Town

S/N.	Name of School	Initials of Schools	Category
1	Abetifi Presbyterian Senior High School	APSEC	Second Cycle
2	Abetifi Presbyterian Junior High School	PRESBY	Basic School
3	Abetifi Ridge Junior High school	RIDGE	Basic School
4	Abetifi R/C Junior High School	ROMAN	Basic School
5	Abetifi D/A Junior High School	D/A	Basic School
6	Abetifi Anglican Junior High School	ANGLICAN	Basic School

Source: Author's own source 2023

Measurement

The study adopted Students' Attitude toward Physical Activity" (SATPA) scale by (Schutz et al. 1985). The SATPA instrument was principally developed and used by. (Schutz et al. 1985) The instrument was used to measure the attitude of students toward physical activity and was recommended by several authors.(Ekici, Hacıcaferoğlu, and Bayrakdar 2011; Eraslan 2015; Sallis, Prochaska, and Taylor 2000; Zaman, Mian, and Butt 2018) The Cronbach Alpha of the instrument obtained was calculated and ranged from 0.80 to 0.90.The Students Attitude towards Physical Activity (SAPA), which was used in the current study has the internal consistency reliability score of 0.83. The SAPA as a demographic session and a 4-point Likert type scale ranging from strongly disagree, disagree, agree, and strongly agree. A 4-point Likert-type scale was chosen for the current study to compel students to make a decision. The instrument has 20 items in all, put under four subscales, thus: social experience and fun (6 items), catharsis/benefit (4 items), aesthetic experience and self-esteem (4 items), health and fitness (6 items). In all, respondents took on average between 10 minutes to 16 minutes to answer the questionnaire depending on the level. However, interviews were also conducted for the qualitative data. The interviews were digitally recorded using a system recorder instrument notes were also taken.

Analysis

The quantitative data was analyzed using IBM SPSS Statistics software, version 26.0 (Armonk, NY, USA: IBM Corp). First of all, data cleaning and coding were done. Homogeneity of variance was tested using Levine's test while normality of data was tested using the Shapiro–Wilk test. Descriptive statistics of the participants' attitude were presented as mean and standard deviation (SD). Frequencies and percentages were computed to determine the frequency distribution To determine the statistical difference between junior and senior high school students' attitude towards physical activity, independent T-test was conducted. An alpha level of 0.05 was used in significance testing. For the qualitative data, all interviews were transcribed verbatim and coding done using identified themes from the interview guide and emerging themes from the data. The coding was done using ATLAS Ti.

RESULTS

Table 2 presents the demographic data base on grade level and gender of the participants.

	CLASS/FORMS OF STUDENTS			**TOTAL**	
	JH2	**JH3**	**SH2 HS3**		
GENDER MALE	82(40.6)*	53(46)	87(54.7)	93(37.3)	315(43.4)
FEMALE	120(59.4)	62(53.9)	72(45.3)	156(62.7)	410(56.6)
TOTAL	202	115	159	249	725(100)

Source: Field survey (2021). *percentage

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From table 2 above, the data reveals that participants in JHS 2 thus 82 (40.6%) were male and more than half 120 (59.4%) were female. In JHS 3, 53(46%) were male while 62(53.9%) were female. At the SHS level, 87(54.7%) were male whereas 72(45.3%) were female. In SHS 2 however, 93(37.3%) were male while 156(62.7%) female. in SHS 3. As it can be observed from the data, in both JHS2 and JHS3, there were more female than male participants in this study. However the number of female in JHS2 outnumber their seniors in JHS3. Notwithstanding the gender differences at JHS level, the case of SHS levels was intriguing. There were more male 87(54.7%) than female 72(45.3%) in SHS2. On the contrary, the data reveals more female 156(62.7%) than male 93(37.3%) participants in SHS in Abetifi. The differences in the representation of all forms was not due to chance but due the variation in the population of the participants in the schools.

What is the attitude of students towards physical activity at the Junior and Senior High School Levels?

Did you do any physical activity such as brisk walking, jogging, running, cycling, playing etc, in the past seven (7) days beginning Monday and ending Sunday?

Table 3 Presents Percentage of students' engagement and non-engagement in PA

	Yes	No	Percentage Yes	Percentage No	TOTAL	
JHS	298	19	94.00	5.99	317	100
SHS	374	34	91.66	8.33	408	100
TOTAL	672	53	92.68	7.31	725	100

Source: Field survey (2023)

From table 3 above, the results indicate that n=298 (94%) and n=374 (92%) of JHS and SHS students respectively have admitted engaging in physical activity at least in the past seven days while n= 19 (6%) and n=34 (7%) denied doing any such activity in the past seven days. However over 92% of the total sample size acknowledged doing some sort of physical activity within the past seven days while only a little over 7% never engaged in any sort of physical activity within the past seven days. It can be noted that this disparity is not due to chance, rather this attest to the fact that most students children and adolescent are moving way gradually from sedentary behaviors such as watching moving, playing video games, sleeping and the like.

Table 4: Comparative Analysis of Students Attitude towards Physical Activity

Responses	Grade Level	N	Mean	Std. Dev.
Physical activity for social experience/fun	JHS	317	2.970	.523
	SHS	408	3.081	.543
Physical activity for catharsis/benefits	JHS	317	3.181	.580
	SHS	408	3.276	.613
Physical activity for aesthetic experiences/personal best	JHS	317	3.085	.623
	SHS	408	3.039	.636
Physical activity for health and fitness	JHS	317	3.108	.640
	SHS	408	3.120	.645

Source: Field survey (2023).

In Table 4, the results indicate that in JHS, students engage in physical activity for social experience/fun (M = 2.970, SD = .523), catharsis/benefits (M = 3.181, SD = .580) for aesthetic experience/personal best (M = 3.085, SD = 623) and for health and fitness (M = 3.108, SD = .640). However, SHS students engage in physical activity for social experience or fun (M = 3.081, SD = .534), for catharsis or benefits ((M = 3.276, SD = .613), and for health and fitness (M = 3.120, SD = .645). The highest mean score out of the four attitude domain for both grade levels was catharsis/ benefit. The second mean score was health and fitness. However

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the least mean score was social experience/ fun. This means that even though, students do engage in physical activity, they do so for individual reason or purpose

The summary of the students' attitude towards physical activity is presented in Table5 below

Table 4: Cross tabulation of JHS and SHS Students' Attitude towards Physical Activity

	Grade	N	Mean	Std. Dev.	Remarks
Attitude towards physical activity	JHS	317	3.086	.490	High
	SHS	408	3.129	.493	High

Source: Field survey (2023). M < 2.50 = Low; M > 2.50 = High

As observed from table 5 above, both groups possessed a high attitude towards physical activity in Abetifi as the estimated average mean for each group surpasses the cut-off mean of 2.50.

When qualitative data was collected using interview, it revealed that students in both groups knew the health benefits of physical activity and engaged in it for its health benefits, generally reducing their risk of sickness and improving their physical fitness. This means that students in Abetifi, and thus some individual youths and adolescents within Abetifi community, are aware of the health benefits of physical activity, and this awareness motivates them to be physically active, as illustrated in the following statements:

"Also we (my friends and I) think doing these physical activities like jogging, running and others make us fit, smart and not be always sick and those stuffs." (JHS Female).

"Because engaging in physical activity has health benefits such as losing weight and also helps boosting of the immune system. It also makes you active and energetic." (SHS Male).

"When you do physical activity you can eat plenty and also sleep well". But I do not engage in PA for the purpose of eating or sleeping. Because I was encouraged by my parents and teacher (Female)

DISCUSSION

The quantitative and qualitative results show that junior and senior high school students in Abetifi have a positive attitude toward PA, as can be seen. (Doegah and Amoateng 2019; Stewart 1991) discovered that junior high and senior high pupils were more eager to engage in physical education. The current findings are in support of the findings of (Zaman et al. 2018) using five university students from Pakistan (ages 18–26 years) as respondents. The study concluded that Pakistani students are aware of the advantages of physical activity.

One reason that can influence students' participation in physical activity could be the attitude of parents towards physical activities and the environment. Students' positive attitude towards PA for both junior high and senior high school students might not be far from parental attitude as students see the longitivity of their parents as a by-product of PA, hence they engage in it as such. Another reason might be the nature of the environment and the climatic conditions being experienced. Abetifi is a mountainous area with a constantly low to moderate temperature. The cold weather might be compelling students (youths and adolescents) to constantly engage in some sort of PA in order to keep their bodies warm and active all the time. It also emerged from the study that most of the students constantly walk to school and in their neighbourhood as a form of exercise. This level of participation would encourage many of the students to meet the daily recommended moderate-to-vigorous physical activity as proposed by WHO.

Students' active engagement in constant walking to and from school, jogging, gym work, and other kinds of activities, individually, in pairs, or in groups, is in agreement with (DeFina et al. 2019) who said that during student life, students develop positive or negative attitudes towards different kinds of PA. However, students'

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positive attitude towards PA in Abetifi could also be attributed to the safe paths and pedestrian walkways in the town, coupled with sufficient street lights. Also, there are no attacks on people or travelers, nor any cases of kidnapping (safe environment) in Abetifi. As a result of the safe nature, most of the students participated in physical activities because they were free play and enjoyable. According to (Macphail and Kirk 2006), many different types of PA encourage children's participation. They do different types of activities while walking, jogging, or running, which include stretching, flexibility, and endurance exercises. (Mulvihill, Rivers, and Aggleton 2000) indicated that enjoyment, or fun, was also crucial to PA participation. The findings from the current study confirm the findings of [44] who found that there is a higher likelihood for students in SHS2 and SHS3 to be physically active. Again, the findings in this study also confirm the studies of other researchers who noted that there is a higher likelihood for adolescents in lower classes to be physically active.(Altın, İlter, and Gul 2021; Sallis et al. 2012). Again, the current study is associated with some other studies which have indicated that students who have more positive attitudes toward PA are more likely to participate in PA outside of school (Kaya et al. 2015);(Ding and Sugiyama 2018) and demonstrate higher PA levels (Hagger et al. 2007) than those with less positive attitudes. Evidence is found in(Subramaniam and Silverman 2007), who attest that positive attitudes formed toward PA in PE may play an important role in maintaining an active lifestyle outside school.

(Ahmed et al. 2017; Riddoch et al. 1991) observed that attitudes towards PA are formed in youth and, in most cases, continue to form throughout life. (Sollerhed, Ejlertsson, and Apitzsch 2005) state that a positive attitude towards physical activity is associated with being regularly physically active. They further state that, positive experiences of PA early in life can have an impact on positive attitudes. On the contrary, the current study did not support. (Ahmed et al. 2017) argument that regardless of the type of PA adolescents engage in, the number of adolescents who are physically active appears to be woefully inadequate. Again, the current study also contradicts some studies conducted in Ghana and elsewhere; (Doegah and Amoateng 2019) findings that the Ghanaian youths (15–34 years) are physically inactive and that exercise is not part of Ghanaian youths' and, for that matter, African culture. (Doegah and Amoateng 2019).

The importance of understanding students' general attitude towards PA is very paramount since it is is a panacea for having a healthy life, prevention of non-communicable diseases (NCD), self-esteem, academic pursuits, improving endurance and stamina, reducing BP, increasing metabolic rate, burning extra calories, reducing risk of heart attack, reducing weight, improving muscle tone, etc. With junior high and senior high students' positive attitudes towards PA, it can be concluded that the students in Abetifi aregradually meeting WHO's target rate of a 15% reduction in PI globally by 2030 among adolescents.

CONCLUSION

Majority of students tested at both junior and senior high school had positive (favorable) attitude toward physical activity with regard to the four sub-domains measured. Thus, social experience/fun, catharsis/benefit, aesthetic/self-esteem, and health and fitness. Also, the study finds no significant difference in attitude of junior high and senior high school students towards PA. The study was of the view that, because all the students reside in the same environment practicing and doing almost everything together, there is no point deviating from the normal irrespective of age, religion, gender, or grade level. This attest to the fact that environment and modeling from parents and elderly people play a significant key role in the life of students and every individual. To this end, the study recommended that schools and other institutions as well as youth organizations and churches in the community should embark on sensitization campaign within and out of the community to sensitize the youths on the health benefit engaging in healthy PA. The study further recommended that further studies be carried out among adolescents residing in low and high land region to compare their level of engagement in PA

Limitation

Findings from this study cannot be generalized because of the sample size and the scope of the study since the study only focus on a community rather than expanding the scope to of the study.

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REFERENCES

1. Ahmed, Syed Minhaj Uddin, Lin Luo, Akhileshwar Namani, Xiu Jun Wang, and Xiuwen Tang. 2017. 'Nrf2 Signaling Pathway: Pivotal Roles in Inflammation'. Biochimica et Biophysica Acta (BBA) - Molecular Basis of Disease 1863(2):585–97. doi: 10.1016/j.bbadis.2016.11.005.
2. Akpene Amenya, Priscilla Cecilia, Reginald Adjetey Annan, Charles Apprey, and Elvis Nutifafa Agbley. 2021. 'The Relationship between Nutrition and Physical Activity Knowledge and Body Mass Index-for-Age of School-Aged Children in Selected Schools in Ghana'. Heliyon 7(11):e08298. doi: 10.1016/j.heliyon.2021.e08298.
3. Altın, Yasin, İbrahim İlter, and Mehmet Gul. 2021. 'The Investigation of Attitudes Towards Physical Activity and Their Levels of Life Satisfaction of High School Students'. 17:2021. doi: 10.29329/ijpe.2020.329.2.
4. Anon. n.d.-a. 'Kenya - Global School-Based Student Health Survey 2003'. Retrieved 15 October 2023 (http://catalog.ihsn.org/catalog/3637).
5. Anon. n.d.-b. 'Physical Inactivity a Leading Cause of Disease and Disability, Warns WHO'. Retrieved 19 August 2023.
6. Asiamah, Nestor, and Henry Kofi Mensah. 2017. 'The Association between Work-Related Physical Activity and Depression'. Journal of Physical Activity Research 2:1–6. doi: 10.12691/jpar-2-1-1.
7. Asiamah, Nestor, Faith Muhonja, Akinlolu Omisore, Frank Frimpong Opuni, Henry Kofi Mensah, Emelia Danquah, Simon Mawulorm Agyemang, Irene Agyemang, Sylvester Hatsu, Rita Sarkodie Baffoe, Eric Eku, and Christiana Afriyie Manu. 2023. 'The Association between Core Job Components, Physical Activity, and Mental Health in African Academics in a Post-COVID-19 Context'. Current Psychology 42(9):7235–51. doi: 10.1007/s12144-021-02037-3.
8. Baptista, Fátima, Diana A. Santos, Analiza M. Silva, Jorge Mota, Rute Santos, Susana Vale, José P. Ferreira, Armando M. Raimundo, Helena Moreira, and Luís B. Sardinha. 2012. 'Prevalence of the Portuguese Population Attaining Sufficient Physical Activity'. Medicine and Science in Sports and Exercise 44(3):466–73. doi: 10.1249/MSS.0b013e318230e441.
9. Baran, Evrim, and Dana Alzoubi. 2020. 'Affordances, Challenges, and Impact of Open Pedagogy: Examining Students' Voices'. Distance Education. doi: 10.1080/01587919.2020.1757409.
10. Blake, Holly. 2012. 'Physical Activity and Exercise in the Treatment of Depression'. Frontiers in Psychiatry 3:106. doi: 10.3389/fpsyt.2012.00106.
11. Bosu, William K. 2010. 'Epidemic of Hypertension in Ghana: A Systematic Review'. BMC Public Health 10(1):418. doi: 10.1186/1471-2458-10-418.
12. Bull, Fiona C., Salih S. Al-Ansari, Stuart Biddle, Katja Borodulin, Matthew P. Buman, Greet Cardon, Catherine Carty, Jean-Philippe Chaput, Sebastien Chastin, Roger Chou, Paddy C. Dempsey, Loretta DiPietro, Ulf Ekelund, Joseph Firth, Christine M. Friedenreich, Leandro Garcia, Muthoni Gichu, Russell Jago, Peter T. Katzmarzyk, Estelle Lambert, Michael Leitzmann, Karen Milton, Francisco B. Ortega, Chathuranga Ranasinghe, Emmanuel Stamatakis, Anne Tiedemann, Richard P. Troiano, Hidde P. van der Ploeg, Vicky Wari, and Juana F. Willumsen. 2020. 'World Health Organization 2020 Guidelines on Physical Activity and Sedentary Behaviour'. British Journal of Sports Medicine 54(24):1451–62. doi: 10.1136/bjsports-2020-102955.
13. DeFina, Laura F., Nina B. Radford, Carolyn E. Barlow, Benjamin L. Willis, David Leonard, William L. Haskell, Stephen W. Farrell, Andjelka Pavlovic, Katelyn Abel, Jarett D. Berry, Amit Khera, and Benjamin D. Levine. 2019. 'Association of All-Cause and Cardiovascular Mortality With High Levels of Physical Activity and Concurrent Coronary Artery Calcification'. JAMA Cardiology 4(2):174–81. doi: 10.1001/jamacardio.2018.4628.
14. Ding, Jiandong, and Yoshio Sugiyama. 2018. 'Examining Relationships between the Cognitive Aspect of College Students' Attitudes toward Physical Education and Their Social Skills in Physical Education Classes'. Advances in Physical Education 08(01):20. doi: 10.4236/ape.2018.81003.
15. Doegah, Phidelia, and Acheampong Amoateng. 2019. 'Understanding Physical Activity among Young Ghanaians Aged 15-34 Years'. Cogent Medicine 6. doi: 10.1080/2331205X.2019.1617021.
16. Ekici, Sümmani, Burhanettin Hacıcaferoğlu, and Akan Bayrakdar. 2011. 'Evaluation of Physical Education Course Attitudes of High School Students'. Journal of Human Sciences 8(1):829–39.

17. Eraslan, Meric. 2015. 'An Analysis of Secondary School Students' Attitudes towards Physical Education Course According to Some Variables'. Anthropologist 19:23–29. doi: 10.1080/09720073.2015.11891635.
18. Guthold, Regina, Gretchen A. Stevens, Leanne M. Riley, and Fiona C. Bull. 2020. 'Global Trends in Insufficient Physical Activity among Adolescents: A Pooled Analysis of 298 Population-Based Surveys with 1·6 Million Participants'. The Lancet. Child & Adolescent Health 4(1):23–35. doi: 10.1016/S2352-4642(19)30323-2.
19. Hagger, Martin, Nikos Chatzisarantis, Vassilis Barkoukis, John Wang, Vello Hein, Maret Pihu, Istvan Soós, and Karsai Istvan. 2007. 'Cross-Cultural Generalizability of the Theory of Planned Behavior among Young People in a Physical Activity Context'. Journal of Sport & Exercise Psychology 29:2–20. doi: 10.1123/jsep.29.1.2.
20. James, Joseph, Andy Pringle, Stuart Mourton, and Clare M. P. Roscoe. 2023. 'The Effects of Physical Activity on Academic Performance in School-Aged Children: A Systematic Review'. Children 10(6):1019. doi: 10.3390/children10061019.
21. Katzmarzyk, Peter, and Caitlin Mason. 2009. 'The Physical Activity Transition'. Journal of Physical Activity & Health 6:269–80. doi: 10.1123/jpah.6.3.269.
22. Kaya, Sabri, Emanuele Isidori, and Halil Sarol. 2015. 'An Examination of Adolescents' Attitudes towards Leisure Activities'. Journal of Human Sciences 12(2):485–501.
23. Kee, Y. H., C. K. J. Wang, M. H. Chen, and S. P. Arjunan. 2018. 'Physical Inactivity and Activity Patterns among Taiwanese Secondary Students'. International Journal of Sport and Exercise Psychology 16(6):577–89. doi: 10.1080/1612197X.2017.1292300.
24. Kolbe, Lloyd J. 2019. 'School Health as a Strategy to Improve Both Public Health and Education'. Annual Review of Public Health 40(1):443–63. doi: 10.1146/annurev-publhealth-040218-043727.
25. Kucukibis, H. Fatih, and Mehmet Gul. 2019. 'The Relationship between Attitudes towards Physical Activity and Self-Esteem of High School Students'. Asian Journal of Education and Training 5(1):70–73. doi: 10.20448/journal.522.2019.51.70.73.
26. Kyu, Hmwe H., Victoria F. Bachman, Lily T. Alexander, John Everett Mumford, Ashkan Afshin, Kara Estep, J. Lennert Veerman, Kristen Delwiche, Marissa L. Iannarone, Madeline L. Moyer, Kelly Cercy, Theo Vos, Christopher J. L. Murray, and Mohammad H. Forouzanfar. 2016. 'Physical Activity and Risk of Breast Cancer, Colon Cancer, Diabetes, Ischemic Heart Disease, and Ischemic Stroke Events: Systematic Review and Dose-Response Meta-Analysis for the Global Burden of Disease Study 2013'. BMJ (Clinical Research Ed.) 354:i3857. doi: 10.1136/bmj.i3857.
27. Larrinaga-Undabarrena, Arkaitz, Xabier Río, Iker Sáez, Garazi Angulo-Garay, Aitor Martinez Aguirre-Betolaza, Neritzel Albisua, Gorka Martínez de Lahidalga Aguirre, José Ramón Sánchez Isla, Natalia García, Mikel Urbano, Myriam Guerra-Balic, Juan Ramón Fernández, and Aitor Coca. 2023. 'Physical Activity Levels and Sleep in Schoolchildren (6–17) with and without School Sport'. International Journal of Environmental Research and Public Health 20(2):1263. doi: 10.3390/ijerph20021263.
28. Li, Ran, Li Jin, Ping Hong, Zi-Hong He, Chuan-Ye Huang, Jie-Xiu Zhao, Mei Wang, and Ye Tian. 2014. 'The Effect of Baduanjin on Promoting the Physical Fitness and Health of Adults'. Evidence-Based Complementary and Alternative Medicine 2014:e784059. doi: 10.1155/2014/784059.
29. Macphail, Ann, and David Kirk. 2006. 'Young People's Socialisation into Sport: Experiencing the Specialising Phase'. Leisure Studies 25:57–74. doi: 10.1080/02614360500116290.
30. Mailing, Lucy J., Jacob M. Allen, Thomas W. Buford, Christopher J. Fields, and Jeffrey A. Woods. 2019. 'Exercise and the Gut Microbiome: A Review of the Evidence, Potential Mechanisms, and Implications for Human Health'. Exercise and Sport Sciences Reviews 47(2):75–85. doi: 10.1249/JES.0000000000000183.
31. Mulvihill, Caroline, Kim Rivers, and Peter Aggleton. 2000. 'Views of Young People towards Physical Activity: Determinants and Barriers to Involvement'. Health Education 100:190–99. doi: 10.1108/09654280010343555.
32. Nxumalo, S. A., and S. D. Edwards. n.d. 'Attitudes of Female University Students towards Participation in Sports'.
33. Nyawornota, Vida K., Austin Luguterah, Seidu Sofo, Richmond Aryeetey, Margaret Badasu, John Nartey, Emmanuel Assasie, Samuel K. Donkor, Vivian Dougblor, Helena Williams, and Reginald

Ocansey. 2018. 'Results from Ghana's 2018 Report Card on Physical Activity for Children and Youth'. Journal of Physical Activity & Health 15(S2):S366–67. doi: 10.1123/jpah.2018-0459.

34. Ocansey, Stephen, Samuel Kyei, Ama Diafo, Kwabena Nkansah Darfor, Samuel Bert Boadi-Kusi, and Peter B. Aglobitse. 2016. 'Cost of the Medical Management and Prescription Pattern for Primary Open Angle Glaucoma (POAG) in Ghana–a Retrospective Cross-Sectional Study from Three Referral Facilities'. BMC Health Services Research 16(1):282. doi: 10.1186/s12913-016-1528-x.
35. Onywera, Vincent O., Stella K. Muthuri, Sylvester Hayker, Lucy-Joy M. Wachira, Florence Kyallo, Robert O. Mang'eni, Peter Bukhala, and Caleb Mireri. 2016. 'Results From Kenya's 2016 Report Card on Physical Activity for Children and Youth'. Journal of Physical Activity & Health 13(11 Suppl 2):S195–200. doi: 10.1123/jpah.2016-0359.
36. Paturzo, M., A. Petruzzo, L. Bertò, A. Mottola, M. Z. Cohen, R. Alvaro, and E. Vellone. 2016. 'The Lived Experience of Adults with Heart Failure: A Phenomenological Study'. Annali Di Igiene: Medicina Preventiva E Di Comunita 28(4):263–73. doi: 10.7416/ai.2016.2105.
37. Peltzer, Karl, and Supa Pengpid. 2011. 'Overweight and Obesity and Associated Factors among School-Aged Adolescents in Ghana and Uganda'. International Journal of Environmental Research and Public Health 8(10):3859–70. doi: 10.3390/ijerph8103859.
38. Riddoch, C., J. M. Savage, N. Murphy, G. W. Cran, and C. Boreham. 1991. 'Long Term Health Implications of Fitness and Physical Activity Patterns.' Archives of Disease in Childhood 66(12):1426–33. doi: 10.1136/adc.66.12.1426.
39. Sallis, J. F., J. J. Prochaska, and W. C. Taylor. 2000. 'A Review of Correlates of Physical Activity of Children and Adolescents'. Medicine and Science in Sports and Exercise 32(5):963–75. doi: 10.1097/00005768-200005000-00014.
40. Sallis, James F., Myron F. Floyd, Daniel A. Rodríguez, and Brian E. Saelens. 2012. 'The Role of Built Environments in Physical Activity, Obesity, and CVD'. Circulation 125(5):729–37. doi: 10.1161/CIRCULATIONAHA.110.969022.
41. Schutz, Robert W., Frank L. Smoll, F. Alex Carre, and Richard E. Mosher. 1985. 'Inventories and Norms for Children's Attitudes Toward Physical Activity'. Research Quarterly for Exercise and Sport 56(3):256–65. doi: 10.1080/02701367.1985.10605372.
42. Seidu, Samuel, Clare Gillies, Francesco Zaccardi, Setor K. Kunutsor, Jamie Hartmann-Boyce, Thomas Yates, Awadhesh Kumar Singh, Melanie J. Davies, and Kamlesh Khunti. 2021. 'The Impact of Obesity on Severe Disease and Mortality in People with SARS-CoV-2: A Systematic Review and Meta-Analysis'. Endocrinology, Diabetes & Metabolism 4(1):e00176. doi: 10.1002/edm2.176.
43. Sollerhed, Ann-Christin, Göran Ejlertsson, and Erwin Apitzsch. 2005. 'Predictors of Strong Sense of Coherence and Positive Attitudes to Physical Education in Adolescents'. Scandinavian Journal of Public Health 33(5):334–42. doi: 10.1080/14034940510005833.
44. Stewart, C. P. U. 1991. 'Physiological Considerations in Seating'. Prosthetics and Orthotics International 15(3):193–98. doi: 10.3109/03093649109164288.
45. Subramaniam, Raj, and Stephen Silverman. 2007. 'Middle School Students' Attitudes toward Physical Education'. Teaching and Teacher Education 23:602–11. doi: 10.1016/j.tate.2007.02.003.
46. Szabo-Reed, Amanda N., Erik A. Willis, Jaehoon Lee, Charles H. Hillman, Richard A. Washburn, and Joseph E. Donnelly. 2019. 'The Influence of Classroom Physical Activity Participation and Time on Task on Academic Achievement'. Translational Journal of the American College of Sports Medicine 4(12):84–95. doi: 10.1249/TJX.0000000000000087.
47. Wang, Youfa, and Hyunjung Lim. 2012. 'The Global Childhood Obesity Epidemic and the Association between Socio-Economic Status and Childhood Obesity'. International Review of Psychiatry (Abingdon, England) 24(3):176–88. doi: 10.3109/09540261.2012.688195.
48. WHO. 2014. Global Status Report on Noncommunicable Diseases 2014 /: World Health Organization. World Health Organization,.
49. Zaman, Sobia, Asif Khurshid Mian, and Fraz Butt. 2018. 'Attitude of Young Students towards Sports and Physical Activities'. GMJACS 8(1):10–10.
50. Zeng, Howard. 2011. 'Attitudes of High School Students toward Physical Education and Their Sport Activity Preferences'. Journal of Social Sciences 7:529–37. doi: 10.3844/jssp.2011.529.537.