Contemporary Research Analysis Journal

e-ISSN: 3050-5909
p-ISSN: 3050-5895

Open Access

Volume 03 Issue 09 September 2026

CrossRef DOI: 10.55677/CRAJ/03-2026-Vol03I09

Page no: 604-612

Relationship Between Physical Involvement and Body Mass Index (BMI) Among Adolescent of La Trinidad National High School Students

Guillermo P. Geronimo
Benguet State University

ABSTRACT: The Study Aimed to determine the association between physical involvement and body mass index (BMI) among adolescent high school students attending La Trinidad National High School in the 2024–2025 academic year. The objective of the study was to determine the respondents' Body Mass Index (BMI) and the level of physical involvement based on grade level, gender, and age group. The study used a descriptive-correlational design where 314 students were selected using a random sampling technique from a larger target population. Information was collected using an adapted version of the IPAQ Short Form. Besides collecting the respondents' height and weight, which were used to determine the BMI, the level of physical activity was assessed using the MET-minutes score. Data analysis consisted of descriptive statistics and Spearman rank-order correlation. The results of the study indicated that male respondents engaged in significantly higher levels of physical involvement than their female counterparts. The results of the study showed that male respondents were more involved in activities than female respondents. The results of the study also showed that male respondents were more physically active than female respondents. In the way early adolescents were more physically active than older adolescents. However, there was a negative association between the level of physical activity and BMI for participants who differed in grades, genders, and age groups. Overall, the study established a correlation coefficient of -0.06 and a p-value of 0.29, suggesting that there is no significant relationship between the variables. Therefore, the study concluded that BMI does not explain most of the variance in the physical activity levels of adolescents. Other factors could explain the variance in the study. The study recommends the need to promote school and community programs that encourage people to participate in physical activities to improve their well-being.

KEYWORDS: Body Mass Index, Physical Involvement, Physical Activity, Adolescents, High School Students

Cite the Article: *Geronimo, G. P. (2026). Relationship Between Physical Involvement and Body Mass Index (BMI) Among Adolescent of La Trinidad National High School Students. Contemporary Research Analysis Journal, 3(9), 604-612. https://doi.org/10.55677/CRAJ/03-2026-Vol03I09*

Publication Date: September 28, 2026

**Corresponding Author: Guillermo P. Geronimo*

INTRODUCTION

Physical activities are parts of life that many people should do because they offer many benefits to our bodies. Many studies have shown the effects of physical activity including lowering the risk of type 2 diabetes heart diseases, high blood pressure and stroke (National Institute of Diabetes and Digestive and Kidney Diseases, 2022). In addition, the Department of Health and Human Sciences points out good things like better weight control, stronger bones and muscles better mood, more energy, less stress and better sleep quality.

According to the US government under the American Heart Association (2022) they said that physical activity is a part of regular sport routines that help the well-being and success of all age groups. It was found that everyone can improve their well-being and build a healthier future for themselves and the whole society by adding the recommended physical activity levels and intensities in daily life.

On the side physical inactivity happens when a person does not meet the physical involvement standards recommended for their wellness and fitness specifically if they do not get at least 150 minutes of moderate physical activity or 75 minutes of intense physical activity per week (WHO 2020). Worldwide physical inactivity is seen as one of the causes of death and WHO (2019) said that this could be prevented with an estimated 4-5 million deaths a year if the global population is more physically active.

In relation to that since the pandemic the number of people not being active has gotten worse than before because people are stuck in their homes. Even the recommended GAPPA or Global Action Plan on Physical Activity 2018-2030 by the World Health Organization has changed because of the pandemic (Amini et al. 2021). This is supported by Park et al. (2022) Saying that COVID-

19 has added challenges to the health and health behaviors of people with less movement in different places. More reports from countries showed that the level of physical involvement of children, adolescents and adults has dropped a lot (Physiopedia, n.d.). For example, a report from Canada in 2019 found that 16% of adults aged 18-79 met the physical activity targets. Another report from the Philippines said that 16.9% of people had to-severe depression 28.8% had moderate-to-severe anxiety and 13.4% had moderate-to-severe stress (Tee et al. 2020).

Findings show that being locked up or quarantined which keeps a person away from active physical activity can have big effects on the mind mentally and emotionally (Javed et al., 2020). This is also supported by Mahindru et al. (2023) Saying that physical activity is a part of life that helps a person's mental health and overall well-being.

Reports in the Philippines from the Journal of Exercise Science and Fitness by Cagas et al. (2022) There is a clear lack of physical activity among Filipino children and adolescents even with government efforts to promote physical education, sports and healthy lifestyles. They said that adolescents are not meeting physical activity recommendations in a large number and there is proof of more time spent sitting. This is supported by Runacres et al., (2021) explaining that more time spent sitting is a reason for inactivity with using gadgets as the most commonly measured behavior.

All these findings about involvement and how important it is for every person physical activity is now considered a public health priority that needs to be focused on (Dallman et al., 2009). Especially for adolescents that we see as the generation that can lead a country to success and pass-through generations (UNICEF, n.d.). For adolescents to create a future it all starts with a strong body and mind. According to Siliezar (2021) having a mind and body can help with better school results through active learning. With evidence that students learn better in the classroom when they are physically active.

Studies have shown the role of school-based physical activities in improving the health and fitness of adolescents. Ługowska et al. (2023) Said that increasing physical activity during school hours can lead to improvements in physical fitness among early adolescents showing that structured programs in schools are essential for promoting regular exercise. Supporting this Lee et al. (2021) Found that school-based physical activity programs in Korea have an effect on health-related physical fitness. This means that adding activity to the school curriculum can help improve the fitness of adolescents. Uddin et al. (2020) Gave a view by looking at data from 65 countries showing that being in physical education classes is linked to better overall physical fitness among adolescents. This shows the importance of education in building an active lifestyle. Also, Andermo et al. (2020) Said that physical activity programs in schools not helped with fitness but also improved mental health for children. These studies showed that promoting activities in schools is important for improving the fitness and health of adolescents.

A definition from Law Insider says that physical participation or involvement means that a person or group is actively engaged, showing the importance of taking action than being a passive observer. In this case the term means that real participation is more than being there or cooperating passively; it means people have to be fully involved putting in their effort and energy into the activity. This definition shows the value of being involved where people are not just watching but fully participating in the activity.

Also as defined by the National Institutes of Health (NIH) physical involvement includes a range of activities that need effort like sports, games and fun activities. These activities require work. Use a lot of energy. The NIH definition says that physical involvement is more than exercise—it involves pushing the body through activities that can be of different levels of difficulty and intensity. Whether it's playing a sport taking part in a game or doing activities like hiking or dancing physical involvement needs effort, movement and putting in energy.

In line with this according to studies physical fitness is closely linked with "physical activity" and "body mass index (BMI)" which are seen as two main signs of a person's health. It has been widely. Accepted that being involved in physical activity has a major positive effect on a person's overall physical fitness. On the hand BMI, which is based on a person's weight and height is a simple way to group people into different health categories like underweight, normal weight, overweight or obese. By looking at BMI we can understand parts of a person's health and possible risks from weight-related health problems.

Because these things are connected researchers are getting more interested in looking into whether a person's BMI affects their level of activity and the other way around. For example, people with BMI might not want to do physical activities because of physical discomfort or the feeling that there are barriers, which can affect their fitness. In return doing activity regularly can help control BMI reduce body fat and improve fitness.

However, because there is not a full understanding of how physical involvement, physical fitness and health indicators like BMI are connected researchers are looking for answers. There is a gap in the research and scientific studies about how these things affect each other especially in different groups of people with different levels of physical activity and health backgrounds.

In children and adolescents, the connection between BMI and physical involvement has been studied a lot. There are still big gaps in theory. Studies by Ding and Jiang (2020) found that higher BMI affects fitness and activity levels among adolescents and students. As BMI went up adolescents had fitness and less interest in being active. This showed that BMI directly affects the ability and desire of adolescents to take part in activities.

Studies by Jason et al. (2023) On the link between activity and body mass index show that in the USA adolescents with less time on screens and more steps had lower BMI. In another study the level of exercise among US girls had an effect on changes in BMI and body fat (Kimm et al., 2005). They said that one of the ways to stop obesity is to avoid the big drop-in activity that happens during puberty.

A study by Di, A., Bellantonio, S., & Colella, D. (2019) Showed a link between BMI and how much physical activity adolescents do. The study suggested that higher BMI affects fitness and psychological factors like confidence and enjoyment of physical activity. It stressed the need for research on how BMI affects both physical and mental parts of being active especially over time and across different groups.

Dewi, R. C., Rimawati, N., & Purbodjati, P. (2021) Explained in their study that even though physical involvement shows a person's fitness level, the BMI of adolescents is not seen as a factor that determines fitness, which means more research is needed. Also, it was found that more physical activity is usually linked with BMI but it changes depending on age and gender which makes it harder to understand how BMI and physical involvement mix (Chung et al. 2012).

Even though current research shows links between BMI and physical involvement the theory behind this relationship is still limited. Through this study this will provide an understanding of how BMI affects physical involvement and how programs can be made to help people be more active, in different groups.

Understanding how being affects body mass index is important because both of these things show a lot about someones health. Finding out how they influence each other can help create advice for health programs raise awareness about staying healthy and help people set goals that work for them.

Scientists want to know if being active leads to better fitness or if things like body mass index and health problems change how this works. By looking into these questions future research can give tips to people helping them choose activities that are best, for their health. It can also help public health efforts guide people toward making long-term changes that improve their fitness and overall happiness. This study aims to assess the relationship of the level of physical involvement and body mass index of adolescents at La Trinidad National High School, (LTNHS) SY 2024-2025. 1. What is the Body Mass Index of adolescents at La Trinidad National High School by their: grade level, sex, age group. What are the levels of physical activity involvement of the respondents by their socio demographic profile and is there a correlation between the level of physical involvement and BMI of the respondents considering their socio demographic profile?

METHODOLOGY

Research Design

The study employed a descriptive-correlational research design to assess the relationship between physical activity involvement and body mass index (BMI) among adolescents at La Trinidad National High School (LTNHS) during School Year 2024–2025. The study described respondents' BMI and physical activity levels according to grade level, sex, and age group and examined the association between physical activity involvement and BMI.

Population and Locale of the Study

The study was conducted at La Trinidad National High School, La Trinidad, Benguet, in October 2024. The target population consisted of students from Grades 7 to 12, with a total school population of 989. A sample of 314 students was included in the study. Participants were selected through random sampling, with additional respondents included to ensure adequate representation of both sexes.

Data Collection Instruments

Data were collected using an adapted International Physical Activity Questionnaire (IPAQ) Short Form, which assessed physical activity during the previous seven days in terms of vigorous activity, moderate activity, walking, and sedentary time.

The questionnaire also collected respondents' demographic information. Height and weight were measured using equipment provided by the LTNHS Clinic and were used to calculate BMI.

Data Collection Procedure

Prior to data collection, permission to conduct the study was secured from the school administration. Respondents were oriented regarding the purpose and procedures of the study and were guided in completing the questionnaire. Height and weight measurements were obtained at the school clinic using available measuring equipment. The researchers assisted respondents throughout the survey, clarified questions when necessary, and checked completed questionnaires for completeness.

Treatment of Data

Data were encoded, cleaned, and analyzed using Jamovi version 2.5.3. Physical activity scores were computed using the standard Metabolic Equivalent of Task (MET)-minutes per week approach. Recorded vigorous and moderate activity durations exceeding three hours were truncated to minimize the influence of extreme values. Normality was assessed to determine the appropriate descriptive statistics. Since the data were non-normally distributed, results were summarized using the median and

interquartile range (IQR). The Spearman rank-order correlation coefficient was used to determine the relationship between physical activity involvement and BMI across grade level, sex, and age

RESULTS AND DISCUSSION

Since the data is not normal, nonparametric test was used due to its robustness for this type of data. Additionally, median and IQR in lieu of mean and standard deviation were used to measure the central tendency and variability of the data. Assumption checking is attached on the last page of the analysis, and refer to figure 2.

Body Mass Index of the Adolescents of LTNHS by Their Grade Level, Sex, and Age Group.

The table 1 highlights the Body Mass Index of adolescents covering all grade levels at LTNHS.

Table 1. Body mass index of adolescents

	Median	Descriptive equivalent
Grade Level		
7	19.51	Normal
8	19.80	Normal
9	20.96	Normal
10	21.56	Normal
11	21.04	Normal
12	23.11	Normal
Sex		
Male	20.76	Normal
Female	20.82	Normal
Age Group		
Early	19.51	Normal
Middle	21.17	Normal
Late	23.28	Normal

Table 1 shows the Body mass index of the adolescents of LTNHS by their grade level and age group which shows BMI values on the grade level and age group has a steady increase from Grade 7 to Grade 12. The median BMI for Grade 7 is 19.51, rising to 23.11 by grade 12 which indicates a normal body mass index. As they get older their BMI also rises, which can also be seen in the age group. This implies that when their age increases their weight also changes due to physical changes. The findings are similar with the study of Marcin (2023) which she explains that ages to 9 and 11 begins puberty which physical changes start to appear on their physical appearance.

In addition, table 1 also shows the Body mass index of the adolescents of LTNHS by their sex, which males have a slightly lower median BMI (**20.76**) than females (**20.82**).

BMI differences between males and females are minor but noticeable in late adolescence, possibly due to puberty-related changes. Both sexes experience similar BMI trends throughout adolescence, with slight variations observed in Grade 12 and late adolescence. Furthermore, according to Bratberg et al (2007). BMC Public Health, 7, states that the maturational time was associated with higher BMI at follow-u p for both genders, but the differences were more pronounced in early-mature d girls (**3.5** kg/m2) compared to intermediate (**2.7** kg/m2) and late-matured females (**1.2** kg/m2). Changes in sedentary behaviors, physical activity, diet, and mental health are further characteristics of this developmental and mature stage. Physical activity and participation in sports decline during adolescence, especially among teenage girls, while sedentary behavior, the risk of depression, and issues with body esteem increase.

The Level Of Physical Activity Involvement Of The Respondents According To Grade Level, Sex, And Age Group.

Table 2 highlights average physical activity involvement of adolescents across grade levels to physical activity at LTNHS.

Table 2. Average physical activity involvement of adolescents in a week

	Frequency	Duration (Minutes)	MET (min/wk) D.E.
Grade Level			
7	3.75	299.14	4206.50 (High)
8	3.74	330.35	5082 (High)
9	3.71	336.82	5631

			(High)
10	3.45	284.43	3690 (High)
11	3.96	283.23	4212 (High)
12	3.53	292.06	3222 (High)
Sex			
Male	3.88	352.61	5319 (High)
Female	3.49	261.62	3690 (High)
Age Group			
Early	3.81	291.79	4505.10 (High)
Middle	3.45	306.3	4770 (High)
Late	3.65	316.58	3222 (High)

Table 2 shows the average physical activity involvement of adolescents across grade levels, Grade 7 to 12 engage to physical activity mostly about 3 days per week with Grade 11 having the highest score 3.96 which means almost all of them are engaging to physical activity 4 to 7 days per week while Grade has the lowest score 3.45 which means almost half of them are engaging to physical activity 4 to 7 days per week and the rest Grade 12,9,8 and 7 score from 3.53, 3.71, 3.74 and 3.75 which means that not most of them are engaging to physical activity 4 to 7 days per week. When it comes to duration (minutes) Grade 9 has the highest score 336.82 minutes per day and Grade 11 has the lowest score 283.23 minutes per day and the rest Grade 10, 12, 7, and 8 score from 284.43, 292.06, 299.14 and 330.35 minutes per day. When it comes also to MET (metabolic equivalent task) Grade 9 being the highest which has 5631, Grade 12 being the lowest which has 3222, and the rest Grade 10,7,11, and 8 which has a score from 3692, 4206.50, 4212, and 5082.

According to a recent study of Curtin (2024), in sixth grade, 97 percent of schools require a physical education (PE) course; by the 12th grade, that number drops to 43 percent. About 26% of high school-aged students attend physical education classes five days a week, while 52% attend classes just one day a week. This study shows similarities with the Philippine setting wherein 7th to 10th grade students are required to meet in their PE class five days a week wherein they score high in physical activity participation specially 9th grade, while 11th to 12th grade students have a low score because they usually are required only to attend PE classes one day per week. Despite the higher participation of the higher grades, they have the lowest MET, suggesting that schools that require physical education classes only once per week for higher grades, especially 11th and 12th grades, have a large impact on the physical activity participation of the higher grades' students have, even if they have passed the assessment protocol which shows that they are highly engage to physical activity. The remaining lower grades (7th, 8th, 9th and 10th grades) are also highly involved in physical activity, but higher than 11th and 12th graders as they are required to have physical education classes five days per week.

Furthermore, table 2 also shows the average physical activity involvement of adolescents by their sex which shows males being more frequently involved in physical activity with a score of 3.88 days per week and whereas females score 3.49 days per week. This means that almost all of the male are engaged in physical activity 4 to 7 days per week than females, which is almost half of them. Males also has the highest duration(minutes) for physical involvement 352.61 minutes per day and 261.62 minutes per day for females. When it comes to MET, male has a score of 5319 and females has a score of 3690 which means that all of the scores lead to male being more engaged to physical activity than female.

Males reported exercising more outside of school and during school sports and participating more frequently in sports teams, but females reported attending more activity-related classes and courses (Sallis, J.F. et al, 1996). This study is similar with the finding of this study which tells those men are more engaged in physical activity than females. Factors can be based on work, sports, subjects with physical activities (TVL), training and others which give us a minimal gap of frequency and duration(minutes) and a high gap of MET. Other factors are there only small group of people who have enrolled for TVL and others are mostly enrolled in HUMSS.

In addition, Table 2 also shows the average physical activity involvement of adolescents among age group, early adolescent being the highest 3.81 days per week, next is late adolescent 3.65 days per week and last middle adolescent 3.45 days per week which tells that almost all of the early adolescents are engaged to physical activity 4 to 7 days than late adolescent and almost half of the middle adolescent are engaged to physical activity 4 to 7 days. The data for duration(minutes) is going up as the age group goes up, early adolescent being the last 291.79 minutes per day, middle adolescent being the 2nd 306.3 minutes per day and late adolescent being the highest 316.58 minutes per day. When it comes to MET, all of the age groups have a high level of physical activity involvement middle adolescent being the highest 4770, next is early adolescent 4505.10, and late adolescent being the last 3222.

Early adolescents (11-14 years) are more likely to be physically active than middle adolescents (15-17 years). In general, physical activity decreases with age (Pate, R. R. et al, 2022). There is a quite similarity of this research to the findings of this study, the only difference is that physical activity did not decrease on early adolescent to middle adolescent where it goes up a little and a

big decline when it comes to middle adolescent to late adolescent. Despite being high on physical activity involvement across all of the age groups, there could be factors that affect the MET of the adolescent not just about the age but also factors can be based on work, sports, subjects with physical activities (TVL), training and others. Other factors also to consider is that as age group goes up, the adolescent are not more into sports or any other physical activity involvement related or they are more into other stuffs.

Correlation Between the Level of Physical Involvement and BMI of the Respondents Considering their Grade Level, Sex, and Age Group.

The table highlights the relationship between the Body Mass Index (BMI) of adolescents and their level of physical involvement at LTNHS

Table 3: Correlation between BMI and level of PA

	Correlation Coefficient	Descriptive Equivalent	p-value
Grade Level			
7	-0.16	Very Weak Negative Correlation	0.217^{NS}
8	0.09	Very Weak Positive Correlation	0.536^{NS}
9	0.09	Very Weak Positive Correlation	0.521^{NS}
10	0.02	Very Weak Positive Correlation	0.856^{NS}
11	-0.19	Very Weak Negative Correlation	0.310^{NS}
12	-0.10	Very Weak Negative Correlation	0.588^{NS}
Sex			
Male	-0.13	Very Weak Negative Correlation	0.122^{NS}
Female	0.09	Very Weak Positive Correlation	0.629^{NS}
Age Group			
Early	-0.02	Very Weak Negative Correlation	0.809^{NS}
Middle	0.01	Very Weak Positive Correlation	0.950^{NS}
Late	-0.16	Very Weak Negative Correlation	0.333^{NS}
Overall	-0.06	Very Weak Negative Correlation	0.290^{NS}

Note: NS-not significant, *-significant, **-highly significant

Legend:

Correlation Coefficient	Descriptive Equivalent
1	Perfect Correlation
0.8-0.99	Very Strong Positive/Negative Correlation
0.5-0.79	Moderately Strong Positive /Negative Correlation
0.2-0.49	Moderately Weak Positive/Negative Correlation
0.01-0.19	Very Weak Positive/Negative Correlation
0	No Correlation

Table 3 shows the correlation between BMI and level of PA across grade level which reveal very weak correlations between BMI and physical involvement, with both positive and negative correlations. For instance, Grade 7 shows a very weak negative correlation (-0.16), while Grade 8 shows a very weak positive correlation (0.09). These results indicate that BMI does not

significantly influence physical activity levels and vice versa across grade levels. This suggests that other factors may be more critical determinants of physical involvement than BMI.

The weak correlations indicate that BMI and physical involvement do not have a strong linear relationship. This implies that a student's BMI does not significantly determine their likelihood to engage in physical activity, and vice versa. Furthermore, the weak negative correlation in Grade 7 and the weak positive correlation in Grade 8 emphasize that the relationship is not only minor but also inconsistent. The findings suggest the presence of other, potentially more impactful, determinants of physical involvement. Findings by Hu et al., (2021) include psychosocial factors (motivation, peer influence, and self-esteem), environmental factors (access to facilities, school policies on physical education, and neighborhood safety), cultural and societal norms (expectations regarding physical activity or body image), and health status and energy levels wherein some individuals may have limitations unrelated to BMI that affect their activity levels.

Furthermore, table 3 shows the correlation between BMI and level of PA by their sex which is for males, the very weak negative correlation (-0.13) indicates that as BMI increases, physical involvement slightly decreases, though the correlation is too weak to be meaningful. Females show a very weak positive correlation (0.09), implying a minor increase in physical activity with higher BMI, but again, this relationship is negligible. These findings suggest that BMI and level of physical activity in either sex do not have a significant relationship.

This conclusion contrasts with the findings of Sulemana et al. (2006), who examined the relationship between physical activity and BMI in adolescent females aged 14 to 17. Their study found a statistically significant inverse association between total diurnal physical activity and BMI ($r = -0.37$; $P < 0.05$), indicating that higher physical activity levels were associated with lower BMI in this demographic. This stronger negative correlation suggests a more substantial relationship than observed in the present data.

Additionally, research by Liu et al. (2024) explored the influence of physical activity levels and socioeconomic status on BMI among adolescents, uncovering significant gender differences. Specifically, their study highlighted those girls who engaged in exercise primarily to improve appearance experienced a more pronounced impact on BMI compared to those motivated by health reasons. This finding underscores the role of personal motivations and societal influences in shaping the relationship between physical activity and BMI, which could partially explain the variability in the strength and direction of correlations across different studies.

These discrepancies suggest that while the relationship between BMI and physical activity may exist under specific conditions, it is not universal and is likely influenced by factors such as age, gender, cultural norms, and individual motivations. Further research accounting for these variables is essential to better understand the complex interplay between BMI and physical activity levels.

In addition, table 3 shows the correlation between BMI and level of PA by their age group wherein the early, middle, and late age groups, the correlation between BMI and physical involvement is close to zero, indicating no meaningful relationship. Late adolescents show the highest weak negative correlation (-0.16), suggesting a slight decrease in physical involvement with increasing BMI, though it remains very weak and not significant. These results imply that age does not amplify or diminish the weak relationship between BMI and physical involvement.

The findings in this study, showing a near-zero correlation between BMI and physical involvement across early, middle, and late adolescent age groups, align closely with the results of Raustorp et al. (2004). Their research, conducted in southeastern Sweden, also observed no significant correlation between physical activity (measured through step counts) and BMI across age groups for both boys and girls.

It is evident that while physical activity is crucial for preventing weight gain and supporting overall health, it does not directly translate into significant changes in BMI. The slight weak negative correlation observed among late adolescents in this study (-0.16) is consistent with Raustorp et al.'s findings, further emphasizing that weight management involves a multifactorial approach, including diet, genetics, and other lifestyle factors.

The findings advocate for shifting the focus from solely reducing BMI to encouraging physical activity for its broader health benefits. Promoting consistent physical involvement fosters improved cardiovascular health, mental well-being, and long-term healthy habits, which are critical for adolescents' holistic development and overall quality of life.

Furthermore, as adolescents mature, their activity levels seem to be influenced by factors other than BMI, possibly including academic workload or changing recreational interests. This finding is supported by the study of Endozo, A. and Oluyinka, S (n.d.), which indicates that as adolescents mature, their engagement in physical activities is shaped by a variety of factors. These include personal preferences, physical capabilities, and individual abilities, as well as physiological, psychological, and behavioral influences. These factors collectively play a significant role in shaping an adolescent's decisions and plans to participate in physical activities, highlighting the complexity of what drives physical involvement during this developmental stage.

CONCLUSION AND RECOMMENDATIONS

Conclusions

Based on the results, there is no significant correlation between BMI and level of Physical Involvement. The correlation coefficients for each grade level reveal very weak correlations between BMI and physical involvement, with both positive and negative correlations. For instance, Grade 7 shows a very weak negative correlation (-0.16), while Grade 8 shows a very weak positive correlation (0.09). These results indicate that BMI does not significantly influence physical activity levels and vice versa across grade levels. This suggests that other factors may be more critical determinants of physical involvement than BMI.

The consistently very weak correlations across grade levels, sexes, and age groups suggest that BMI is not a significant factor in determining an adolescent's level of physical involvement. This finding implies that interventions aimed at increasing physical activity among adolescents should not focus primarily on BMI but rather address other factors such as increasing opportunities for engaging in physical activities, promoting active lifestyles, or creating supportive environments for exercise, especially as students grow older.

RECOMMENDATIONS

This study revealed the relationship between physical involvement and body mass index of adolescents and how these physical involvements help them to become successful in their performance and social skills among adolescents.

1. Since the physical involvement of adolescent are not more active are not active. Community will implement campaign to raise awareness about the benefits of physical activity on mental and physical health among adolescents, parents, and educators. Also, the conduct of youth sports program to reduce obesity rates, improve academic performance and enhance social skills among adolescents is encouraged.
2. For the future researcher the importance of categorizing participants as either athletes or non-athletes at the outset of a study to achieve a normal distribution of data. Moreover, by clearly distinguishing between these groups, researchers can produce clearer comparative insights and enhance the robustness of their findings

REFERENCES

1. Amini, H., Habibi, S., Islamoglu, A. H., Isanejad, E., Uz, C., & Daniyari, H. (2021). COVID-19 pandemic-induced physical inactivity: The necessity of updating the Global Action Plan on Physical Activity 2018–2030. *Environmental Health and Preventive Medicine, 26*(1). https://doi.org/10.1186/s12199-021-00955-z
2. American Heart Association. (2022). *Importance of physical activity*. American Heart Association.
3. Andermo, S., Hallgren, M., Nguyen, T.-T.-D., Jonsson, S., Petersen, S., Friberg, M., Romqvist, A., Stubbs, B., & Elinder, L. S. (2020). School-related physical activity interventions and mental health among children: A systematic review and meta-analysis. *Sports Medicine – Open, 6*(1). https://doi.org/10.1186/s40798-020-00254-x
4. Bratberg, G. H., Nilsen, T. I., Holmen, T. L., & Vatten, L. J. (2007). Early sexual maturation, central adiposity and subsequent overweight in late adolescence: A four-year follow-up of 1605 adolescent Norwegian boys and girls: The Young HUNT study. *BMC Public Health, 7*(1). https://doi.org/10.1186/1471-2458-7-54
5. Cagas, J. Y., et al. (2022). *[Study on physical activity among Filipino children and adolescents]*. *Journal of Exercise Science and Fitness*.
6. Chung, A. E., Skinner, A. C., Steiner, M. J., & Perrin, E. M. (2012). Physical activity and BMI in a nationally representative sample of children and adolescents. *Clinical Pediatrics, 51*(2), 122–129. https://doi.org/10.1177/0009922811417291
7. Dallman, A., Abercrombie, E., Drewette-Card, R., Mohan, M., Ray, M., & Ritacco, B. (2009). Elevating physical activity as a public health priority: Establishing core competencies for physical activity practitioners in public health. *Journal of Physical Activity and Health, 6*(6), 682–689. https://doi.org/10.1123/jpah.6.6.682
8. Dewi, R. C., Rimawati, N., & Purbodjati, P. (2021). Body mass index, physical activity, and physical fitness of adolescence. *Journal of Public Health Research, 10*(2). https://doi.org/10.4081/jphr.2021.2230
9. Di, A., Bellantonio, S., & Colella, D. (2019). Negative correlation between BMI and perception of physical activity in adolescents. https://doi.org/10.14198/jhse.2019.14.proc4.69
10. Ding, C., & Jiang, Y. (2020). The relationship between body mass index and physical fitness among Chinese university students: Results of a longitudinal study. *Healthcare, 8*(4), 570. https://doi.org/10.3390/healthcare8040570
11. Hu, D., Zhou, S., Crowley-McHattan, Z. J., & Liu, Z. (2021). Factors that influence participation in physical activity in school-aged children and adolescents: A systematic review from the social ecological model perspective. *International Journal of Environmental Research and Public Health, 18*(6), 3147. https://doi.org/10.3390/ijerph18063147
12. Javed, B., Sarwer, A., Soto, E. B., & Mashwani, Z. (2020). The coronavirus (COVID-19) pandemic's impact on mental health. *International Journal of Health Planning and Management, 35*(5), 993–996. https://doi.org/10.1002/hpm.3008

13. Lee, E.-J., So, W.-Y., Youn, H.-S., & Kim, J. (2021). Effects of school-based physical activity programs on health-related physical fitness of Korean adolescents: A preliminary study. *International Journal of Environmental Research and Public Health, 18*(6), 2976. https://doi.org/10.3390/ijerph18062976
14. Liu, L., Liu, Y., Zhang, T., & Luo, J. (2024). Study on the influence of levels of physical activity and socio-economic conditions on body mass index of adolescents. *International Health*. https://doi.org/10.1093/inthealth/ihae083
15. Ługowska, K., Kolanowski, W., & Trafialek, J. (2023). Increasing physical activity at school improves physical fitness of early adolescents. *International Journal of Environmental Research and Public Health, 20*(3), 2348. https://doi.org/10.3390/ijerph20032348
16. Mahindru, A., Patil, P., & Agrawal, V. (2023). Role of physical activity on mental health and well-being: A review. *Cureus*. https://doi.org/10.7759/cureus.33475
17. Marcin, A. (2023, February 10). *Navigating puberty: The Tanner stages*. Healthline.
18. Pate, R. R., Saunders, R. P., Taverno Ross, S. E., & Dowda, M. (2022). Patterns of age-related change in physical activity during the transition from elementary to high school. *Preventive Medicine Reports, 26*, 101712. https://doi.org/10.1016/j.pmedr.2022.101712
19. Raustorp, A., Pangrazi, R., & Ståhle, A. (2004). Physical activity level and body mass index among schoolchildren in south-eastern Sweden. *Acta Paediatrica, 93*(3), 400–404. https://doi.org/10.1111/j.1651-2227.2004.tb02969.x
20. Sallis, J. F., Zakarian, J. M., Hovell, M. F., & Hofstetter, C. R. (1996). Ethnic, socioeconomic, and sex differences in physical activity among adolescents. *Journal of Clinical Epidemiology, 49*(2), 125–134. https://doi.org/10.1016/0895-4356(95)00514-5
21. Siliezar, J. (2021). *"Active learning" helps students learn better by engaging them physically*. Harvard Gazette.
22. Sulemana, H., Smolensky, M. H., & Lai, D. (2006). Relationship between physical activity and body mass index in adolescents. *Medicine & Science in Sports & Exercise, 38*(6), 1182–1186.
23. Tee, M. L., Tee, C. A., Anlacan, J. P., Aligam, K. J. G., Reyes, P. W. C., Kuruchittham, V., & Ho, R. C. (2020). Psychological impact of COVID-19 pandemic in the Philippines. *Journal of Affective Disorders, 277*, 379–391. https://doi.org/10.1016/j.jad.2020.08.043
24. Uddin, R., Salmon, J., Islam, S. M. S., & Khan, A. (2020). Physical education class participation is associated with physical activity among adolescents in 65 countries. *Scientific Reports, 10*(1), 1–10. https://doi.org/10.1038/s41598-020-79100-9
25. World Health Organization. (2019, May 17). *Physical activity*. World Health Organization.
26. World Health Organization. (2020, November 25). *WHO guidelines on physical activity and sedentary behaviour*. World Health Organization.