

PHYSICAL ACTIVITY LEVEL AND SKILL-RELATED FITNESS AMONG JUNIOR HIGH SCHOOL

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Abstract:

Despite the presence of policies promoting physical activity in the Philippines, many students remain physically inactive, contributing to concerns about their overall health and motor development. This study aimed to determine the physical activity level and skill-related fitness of Junior High School students in a private Catholic basic education institution during the academic year 2023–2024. A quantitative descriptive-correlational research design was used. Data were gathered from 118 students using the Physical Activity Questionnaire for Adolescents (PAQ-A) and the Philippine Physical Fitness Test. Descriptive statistics measured activity and fitness levels, while Spearman-rho correlation tested the relationship between variables. Findings revealed that students demonstrated a moderate level of physical activity and generally good skill-related fitness, with higher scores in agility, balance, and power, and lower performance in coordination and speed. Males and younger students (Grades 7 and 8) showed higher physical activity and fitness levels than females and older students. Notably, middle-income students scored higher than both low- and high-income groups. A significant positive correlation was found between physical activity level and skill-related fitness ($p < .001$), supporting the interdependence of these domains. The study underscores the need for inclusive fitness programs that address demographic and socioeconomic differences. It recommends collaborative efforts among educators, parents, and community stakeholders to promote equitable and sustained physical activity. These findings contribute to policy and practice by reinforcing the value of integrated, skill-based physical education in fostering students' lifelong health and well-being.

Keywords: *physical activity, skill-related fitness, socioeconomic status, junior high school, adolescent health, physical education*

Introduction:

Physical activity is globally recognized as a cornerstone of health, especially in the developmental years of childhood and adolescence. Defined as "any bodily movement produced by skeletal muscles that results in energy expenditure," physical activity includes both structured exercises and everyday movements such as walking and playing (Speakman et al., 2023; Caspersen et al., 1985). Among young people, engaging in physical activity is crucial not only for physical health but also for psychological, emotional, and cognitive development (Pinckard et al., 2019). Despite this, physical inactivity among youth has become a growing concern worldwide, with far-reaching implications for public health.

Skill-related fitness, on the other hand, refers to the specific physical abilities required to perform successfully in athletic and daily physical tasks. These include agility, balance, coordination, power, reaction time, and speed—skills that are foundational for effective movement and physical competence (Avugos, 2024; Williams et al., 2017). These components are especially critical during adolescence, a developmental stage where motor skills and physical literacy are still maturing. Research shows that early development of these fitness domains positively influences lifelong physical activity participation and athletic performance (Lubans et al., 2010; Lopes et al., 2013).

Globally, a growing body of research has aimed to measure and monitor youth fitness through standardized tools. One such instrument is the PERF-FIT test battery, developed to assess motor skill-related physical fitness in children, especially in low-income settings (Smits-Engelsman et al., 2020). The tool's reliability in measuring core motor functions such as jumping, throwing, balance, and agility supports its application in diverse educational settings. The use of valid and culturally relevant assessment tools is essential in formulating responsive fitness interventions for youth, particularly in under-resourced contexts.

Studies suggest a strong interplay between physical activity levels and skill-related fitness. Engaging in regular physical activity enhances motor proficiency, which in turn encourages more frequent participation in exercise—creating a positive feedback loop (Rauner et al., 2013; Gea-García et al., 2020). Conversely, low levels of motor competence can discourage physical activity participation due to frustration, lack of confidence, or limited opportunities for success (Šeflová et al., 2022). Hence, investigating how physical activity and skill-related fitness relate to each other offers important insights for educators and policymakers.

In many contexts, these dynamics are also influenced by individual demographic and socio-economic factors. For instance, research in Krakow found that students from higher socio-economic backgrounds were more likely to engage in physical activity due to better access to resources and opportunities (Jurczak et al., 2021). Similarly, Bohr et al. (2013) found that socio-economic status significantly impacted girls' physical fitness in urban U.S. schools. In developing countries, disparities in access to facilities, parental support, and safety further complicate youth engagement in physical activity (Gerber et al., 2021; Micklesfield et al., 2012).

In Asia, the link between physical strength and activity has been emphasized, particularly in the context of disease prevention and healthy aging (Grauduszus et al., 2023). Physical activity is shown to enhance cardiovascular endurance, muscular strength, and metabolic health while preventing chronic diseases such as diabetes and hypertension (Pinckard et al., 2019). However, these benefits are not uniformly realized across populations due to differences in lifestyle, infrastructure, and health education, especially in low- and middle-income communities.

In the Philippines, national initiatives such as the Philippine Physical Activity Guidelines for Children and Adolescents and the Department of Education's school-based health programs aim to promote active lifestyles among students. Despite these policies, physical inactivity remains widespread among Filipino youth, highlighting a disconnect between policy intentions and on-the-ground implementation. Many schools lack the equipment, trained personnel, and sustained programming needed to translate policy into practice (Reilly et al., 2022).

Moreover, most research in the Philippine context focuses either on physical activity levels or on skill-related fitness in isolation. Very few studies have explored the interrelationship between the two, particularly within private Catholic basic education institutions, which often operate under unique academic structures and value systems. Understanding how these dimensions interact within such contexts is vital to developing targeted interventions that address students' holistic needs.

This study is framed by the Achievement Motivation Theory (Maehr & Sjogren, 1971), which posits that an individual's motivation to pursue a goal is influenced by internal desires and external expectations. In the case of physical activity and fitness, students' performance may be shaped by their drive to succeed, their perception of success, and the support they receive from teachers, parents, and the environment. This theory underscores the need for context-sensitive approaches in promoting youth physical development.

Given this background, the present study investigates the physical activity level and skill-related fitness of Junior High School students in a private Catholic basic education institution in Bais City, Negros Oriental. It aims to determine how these two domains correlate and how they vary across sex, grade level, and socio-economic status. The findings will provide empirical grounding for developing school-based fitness programs that are responsive, inclusive, and aligned with national educational goals.

Methodology:

This study employed a quantitative descriptive-correlational research design to examine the physical activity level and skill-related fitness of Junior High School students. The descriptive component was used to measure the extent to which students engage in physical activities and demonstrate specific skill-related fitness traits, while the correlational aspect sought to determine whether a significant relationship exists between these two variables. This design is appropriate for understanding the patterns and strength of association among measurable variables without manipulating any conditions (Balnaves & Caputi, 2001).

The study was conducted at a private Catholic basic education institution—La Consolacion College Bais City, located in Bais City, Negros Oriental, Philippines—during the School Year 2023–2024. This location was purposefully chosen

as it represents a learning environment where physical activity and skill-related development are part of both curricular and co-curricular engagements. The researcher is currently a faculty member in the said institution, ensuring access and familiarity with the student population.

The respondents of the study were 118 Junior High School students, distributed across four grade levels: 31 from Grade 7, 17 from Grade 8, 26 from Grade 9, and 44 from Grade 10. A complete enumeration technique was employed due to the manageable size of the total population. This approach ensured that every student in the Junior High School was included in the study, thus eliminating sampling bias and enhancing the generalizability of the results within the school context (Warne, 2017).

To gather data, the researcher utilized two standardized tools: the Physical Activity Questionnaire for Adolescents (PAQ-A) and the Philippine Physical Fitness Test (PPFT). The PAQ-A is a self-administered 7-day recall instrument that assesses general levels of physical activity in high school students. It consists of eight items scored on a 5-point Likert scale, covering activities done during school hours, after school, and during weekends. The PPFT, on the other hand, is a widely used tool developed by the Department of Education to assess skill-related fitness through six components: agility, balance, coordination, power, reaction time, and speed.

The instruments used were validated and reliable. The PAQ-A has been extensively tested in various international studies for its psychometric robustness (Biddle et al., 2011). Similarly, the PPFT has undergone national validation in the Philippine context by education experts and is part of the DepEd curriculum standards. For reliability testing, a test-retest procedure was conducted among 30 students who were not part of the main sample. A two-week interval was observed, and data were analyzed using the Pearson Product-Moment Correlation, confirming the instruments' stability and consistency over time.

The data gathering procedure followed ethical and logistical protocols. A letter of permission was first secured from the school president. Informed consent was obtained from the students and their parents or guardians. The physical fitness test was administered with the assistance of the school's MAPEH teachers and health personnel to ensure safety and compliance with health protocols. Respondents were oriented on the purpose of the study, and confidentiality was emphasized. Surveys and performance tests were administered during class hours, ensuring minimal disruption to the academic schedule. Data collected were securely stored and accessible only to the researcher and assigned statistician.

Data were analyzed using descriptive statistics (mean and standard deviation) to determine the levels of physical activity and skill-related fitness across sex, grade level, and socioeconomic status. To test the relationship between the two main variables, the Spearman-rho correlation was applied, as it is appropriate for ordinal data and non-parametric analysis. Additionally, the Shapiro-Wilk test was used to determine the normality of data distribution, guiding the selection of appropriate statistical procedures.

The study adhered to key ethical principles, including respect for persons, beneficence, and justice. Participation was voluntary, and no form of coercion or risk was imposed on any respondent. The identity of all participants was kept anonymous, and data were handled in accordance with the Data Privacy Act of 2012. After analysis, all raw data were disposed of responsibly to prevent unauthorized use. The researcher did not receive external funding and declared no conflict of interest in the conduct of the study.

Results:

The overall physical activity level of Junior High School students was found to be moderate, with a mean score of 2.633 and a standard deviation of 0.687. When analyzed by sex, both male and female students exhibited a moderate level of physical activity. However, males ($M = 2.863$, $SD = 0.630$) were slightly more active than females ($M = 2.319$, $SD = 0.639$). Regarding grade level, students in Grade 7 ($M = 2.915$) and Grade 8 ($M = 2.735$) had higher physical activity levels compared to those in Grade 10 ($M = 2.307$), though all grade levels remained within the moderate category. In terms of socioeconomic status, students from middle-income households had a high physical activity level ($M = 3.026$), while those from low-income groups showed a very low level ($M = 1.677$). Students from high-income families had a moderate physical activity level ($M = 2.205$).

Skill-related fitness, assessed through agility, balance, power, reaction time, coordination, and speed, was generally rated as good across the respondents ($M = 3.233$, $SD = 0.848$). Males ($M = 3.344$) scored slightly higher than females ($M = 3.084$), both categorized as good. Grade-level analysis showed that students in Grade 7 and Grade 8 demonstrated very good skill-related fitness, while Grade 9 and Grade 10 students were rated good. When grouped by socioeconomic status, middle-income students achieved a very good rating ($M = 3.844$), low-income students were rated good ($M = 2.833$), and high-income students were rated only fair ($M = 2.484$).

Among the skill-related components, agility had a very good overall rating ($M = 3.890$). Male students outperformed females ($M = 4.118$ vs. $M = 3.580$), and students in Grades 7 and 8 showed excellent agility, while Grades 9 and 10 were very good. Students from middle-income families displayed excellent agility ($M = 4.734$), whereas low-income students were very good ($M = 3.750$), and high-income students had only good agility ($M = 2.820$).

In terms of balance, the overall rating was also very good ($M = 3.873$). Grade 8 students ($M = 4.706$) and Grade 7 students ($M = 4.452$) achieved excellent ratings, while Grades 9 and 10 were very good. Males ($M = 4.000$) outperformed females ($M = 3.700$). Middle-income students showed excellent balance ($M = 4.625$), while those from low-income ($M = 2.500$) and high-income ($M = 3.020$) backgrounds scored good and very good, respectively.

For power, students received an overall very good rating ($M = 3.432$). Males ($M = 3.882$) were stronger than females ($M = 2.820$), and the highest scores were recorded in Grades 8 and 10. Middle-income students again led the group with very good scores ($M = 4.016$), while both low-income ($M = 2.500$) and high-income ($M = 2.760$) students had good ratings.

Reaction time across all groups was rated very good ($M = 3.483$). There was no significant difference between males ($M = 3.500$) and females ($M = 3.460$). All grade levels received very good ratings, and interestingly, students from low-income households recorded a perfect mean of 4.000. Middle-income students also scored high ($M = 3.859$), while high-income students had a slightly lower score ($M = 2.960$), categorized as good.

In contrast, coordination was one of the weaker areas, with an overall rating of fair ($M = 2.593$). Females slightly outperformed males ($M = 2.820$ vs. $M = 2.426$). Grade 7 and Grade 9 students showed good coordination, while Grades 8 and 10 were rated fair. Low- and middle-income students were both rated good, but high-income students had a fair rating ($M = 1.860$).

Lastly, speed was also a weak area with an overall rating of fair ($M = 2.127$). Both males and females were rated fair, and all grade levels fell into the same category. Among socioeconomic groups, only the middle-income students had a good rating ($M = 2.672$), while low- and high-income students required improvement ($M = 1.500$ and $M = 1.480$, respectively).

A Spearman-rho correlation test was conducted to examine the relationship between physical activity level and skill-related fitness. The results showed a significant positive relationship, with a p-value of $< .001$. This indicates that as physical activity levels increase, skill-related fitness also tends to improve. The finding supports the hypothesis that these two variables are interrelated and mutually reinforcing.

Discussion:

This study aimed to determine the physical activity level and skill-related fitness of Junior High School students and to examine the relationship between the two. The findings reveal several noteworthy patterns that reflect both the students' demographic characteristics and broader socio-environmental influences on physical activity and fitness behaviors.

The overall moderate level of physical activity among students aligns with national and global findings that many adolescents fail to meet the recommended daily physical activity levels (Najafi et al., 2022; Bull et al., 2020). The relatively higher activity levels observed among male students and those in lower grade levels (Grades 7 and 8) support existing literature suggesting that younger adolescents are generally more active than older ones, and that gender plays a role in physical activity participation (Kretschmer et al., 2023). Males may be more inclined toward

vigorous physical activities and competitive sports, whereas females may face cultural, psychological, or environmental barriers that limit their engagement.

The influence of socioeconomic status (SES) on physical activity was particularly significant. Students from middle-income households exhibited the highest levels of physical activity, while those from low-income backgrounds recorded very low activity levels. This mirrors the findings of Eime et al., (2015) and Gerber et al. (2021), who identified disparities in physical activity participation based on SES. Limited access to sports facilities, parental support, and time constraints among low-income families may contribute to reduced activity. Conversely, students from high-income households, while better resourced, may be more sedentary due to digital leisure preferences or over-scheduled academic demands.

In terms of skill-related fitness, students demonstrated good overall performance, particularly in agility, balance, power, and reaction time. Males outperformed females in agility and power, while females had a slight edge in coordination. These differences are consistent with sex-based physiological and developmental differences (Sekulic et al., 2013; Spiteri et al., 2014). The very good to excellent agility and balance scores among students in Grades 7 and 8 may reflect increased exposure to physical activities integrated into PE classes and extracurricular sports during early adolescence.

Notably, middle-income students consistently achieved the highest fitness scores across nearly all components. This further supports the idea that moderate access to resources, combined with a supportive home and school environment, creates optimal conditions for developing physical fitness. Interestingly, high-income students recorded lower scores in agility, coordination, and speed, which may reflect lifestyle patterns that prioritize academics or technology use over active play. This finding is consistent with studies suggesting that higher SES does not always correlate with better fitness, particularly when activity is replaced by passive leisure (Reilly et al., 2022).

Speed and coordination emerged as weaker skill areas across all groups, with only fair ratings observed. These components may require more focused and repetitive practice, possibly lacking in current physical education programs. The lower performance in these areas indicates a need for curriculum and program adjustments that emphasize foundational movement skills to support lifelong fitness and motor competence (Lopes et al., 2013; Šeflová et al., 2022).

The significant positive correlation between physical activity level and skill-related fitness confirms the central hypothesis of the study and echoes the findings of Rauner et al. (2013) and Gea-García et al. (2020). Physical activity not only enhances fitness but is also supported by a foundation of motor skills. The two domains are interdependent: greater motor proficiency promotes more engagement in physical activities, and frequent participation in physical activities reinforces skill development. This relationship emphasizes the importance of a holistic approach to physical education—one that balances both structured skill-building and opportunities for free and active play.

The findings also highlight the need for collaborative and inclusive programming. Physical activity and fitness development should not be confined to MAPEH teachers alone but require the involvement of subject teachers, parents, community organizations, and local government units. Promoting physical fitness must be seen as a whole-school and community effort, particularly in ensuring equitable access to opportunities across gender and socioeconomic lines.

In summary, the results of this study affirm that physical activity and skill-related fitness are essential and mutually reinforcing components of adolescent development. They also underscore the critical role of socioeconomic and demographic factors in shaping students' fitness profiles. The insights gained provide a foundation for designing responsive programs that not only enhance physical health but also contribute to students' overall well-being, academic performance, and social-emotional growth.

Conclusion:

This study explored the physical activity level and skill-related fitness of Junior High School students in a private Catholic basic education institution, with a focus on how these variables relate to sex, grade level, and socioeconomic

status. Using validated assessment tools and a descriptive-correlational approach, the findings offer valuable insights into the fitness profile of adolescents in the school setting.

The results revealed that the students, when taken as a whole, demonstrated a moderate level of physical activity and a generally good level of skill-related fitness. Physical activity levels were influenced by demographic variables: males and younger students (Grades 7 and 8) were more active than females and older students (Grades 9 and 10). Socioeconomic status had a marked impact, with middle-income students exhibiting the highest physical activity and skill-related fitness levels, while students from low-income families showed significantly lower activity levels.

Across the six components of skill-related fitness—agility, balance, power, reaction time, coordination, and speed—students performed best in agility, balance, and power, while coordination and speed emerged as areas needing improvement. These disparities indicate uneven development of motor skills, which may be attributed to differences in physical education delivery, extracurricular opportunities, and lifestyle factors related to socioeconomic background.

A key finding of this study is the significant positive correlation between physical activity level and skill-related fitness, affirming that these two domains are interdependent. Engaging in physical activity promotes the development of fitness skills, which in turn increases confidence and motivation to stay active. This cyclical relationship reinforces the importance of integrated and sustained physical education programs in schools.

The study underscores the need for inclusive, responsive, and well-resourced fitness programs that consider demographic and socioeconomic differences among students. A collaborative approach involving MAPEH teachers, other subject teachers, parents, and community partners is essential to foster a culture of active living and holistic development. When properly supported, physical activity and skill-related fitness can contribute not only to physical health but also to the development of values such as discipline, teamwork, and resilience.

Recommendations:

In light of the findings and conclusions of this study, several recommendations are put forward to enhance the physical activity levels and skill-related fitness of Junior High School students. First and foremost, schools should take a proactive role in integrating physical activity across the curriculum—not only within MAPEH classes but also through interdisciplinary approaches that incorporate movement-based learning in other subject areas. This can encourage consistent engagement and help foster a culture that values physical well-being as much as academic success.

To address the observed differences in physical activity and fitness levels across socioeconomic backgrounds, schools and education authorities should ensure that equitable access to physical activity opportunities is made available to all students. This includes providing adequate sports facilities, equipment, and programs—particularly those that are free or subsidized for students from low-income families. Initiatives such as after-school sports clubs, intramurals, and community fitness events can create more inclusive opportunities for engagement and social development.

Teachers, particularly MAPEH instructors, are encouraged to emphasize skill development in coordination and speed, which emerged as areas of weakness in the study. These components can be developed through regular structured drills, team games, and individual exercises that are both developmentally appropriate and engaging. Training for teachers on differentiated instruction and fitness assessment tools can further support their ability to tailor programs to students' needs and abilities.

Moreover, the development of students' physical fitness should not be left solely to the school. Parent and guardian involvement is crucial. Schools can organize fitness awareness campaigns, parent-child activity days, or workshops that educate families on the importance of physical activity and how to support their children in staying active at home. These programs can foster stronger home-school partnerships and reinforce healthy behaviors outside the classroom.

It is also recommended that schools collaborate with local government units, NGOs, and health organizations to strengthen support systems and mobilize resources for physical fitness initiatives. These partnerships can support

the implementation of community-based fitness programs, youth sports development projects, and wellness campaigns that reach beyond the school campus.

Finally, future researchers may explore longitudinal studies to track physical activity and fitness development over time, or qualitative inquiries that examine students' attitudes and barriers toward physical activity. Expanding the scope of research to include public schools or other regions would provide a broader understanding of how contextual factors influence adolescent fitness and help shape nationwide education and health policies.

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