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Research Article

Perceived Fitness Benefits and Competitive Engagement of Aero Gymnastics and Conventional Physical Education among Grade 7

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ABSTRACT

This study aimed to investigate the perceived fitness benefits and competitive engagement of aerobic gymnastics and conventional physical education (PE) exercises. A total of 90 students were selected through convenience sampling from the school where the research was conducted. The participants were randomly assigned to two equal groups: one group participated in an eight-week aerobic gymnastics program, while the other engaged in conventional PE exercises. A quasi-experimental non-equivalent control group design was utilized to achieve the study's objectives, enabling a comparative analysis of the two interventions in a controlled environment. Data collection involved a teacher-made questionnaire based on a 4-point Likert scale, which comprised five statements under each subcategory to measure students' fitness levels and engagement. This tool provided a clear visual representation of the data. Participants engaged in distinct activity sets according to their assigned intervention: aerobic gymnastics or conventional PE exercises. For data analysis, both descriptive statistics (means and standard deviation) and inferential statistics (dependent and independent t-tests) were employed to assess changes within and between groups. The findings revealed that participation in both aerobic gymnastics and conventional PE exercises had resulted in significant improvements in students' physical fitness and competitive engagement.

Keywords: *Aero Gymnastics, Conventional Physical Education*

Background

This study explored the effectiveness of aerobic gymnastics compared to conventional physical education (PE) exercises in enhancing students' physical fitness and engagement in competitive activities. Educational institutions recognized their role in promoting active lifestyles and included aerobic gymnastics in PE programs as an innovative approach that uses music and expressive movements to improve

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cardiovascular endurance, flexibility, and coordination. Research supported its benefits, showing increased student motivation, enjoyment, and sustained participation.

In contrast, conventional PE emphasized structured, goal-oriented activities aligned with national standards and measurable outcomes, including team sports and fitness routines. While effective in building overall fitness and collaboration, conventional PE often failed to cater to diverse student interests, leading to declining motivation and participation.

Teachers observed that some students became disengaged, especially in traditional PE settings, which negatively affected their physical development and willingness to compete. The study highlighted the gap in research comparing these two methods, especially regarding their influence on competitive involvement.

Addressing this issue, the research aimed to assess the perceived fitness benefits and competitive engagement levels among students participating in aerobic gymnastics versus conventional PE. The findings aimed to guide educators in developing more inclusive and engaging PE programs that sustain student interest and support physical and competitive growth.

Methods

Research Design

This study utilized a quasi-experimental non-equivalent control group design as a research method to explore the perceived fitness benefits and competitive engagement of aerobic gymnastics and conventional physical education (PE) exercises. The quasi-experimental research approach was chosen to provide an accurate account of existing conditions, as well as to systematically observe, describe, and analyze the outcomes of the two different PE interventions.

Before the intervention, both groups underwent assessments to establish baseline fitness levels and competitive engagement. One group participated in aerobic gymnastics, while the other engaged in conventional PE exercises. Both interventions were conducted over the same duration under similar conditions to maintain consistency.

At the end of the intervention, assessments were administered to measure changes in fitness levels and competitive engagement. The results were then compared to the initial data, analyzing improvements within each group and differences between the two. The researcher used quantitative data to discuss and interpret the perceived fitness benefits and competitive engagement of aero gymnastics and conventional physical education.

Research Instruments

The researcher assessed data on the students' physical and skill-related fitness and competitive engagement before and after the intervention activities. To measure the students' levels of fitness related to physical and skill-related fitness, the researcher administers a survey instrument in a 4-point Likert scale format that ranges from 1 ("Poor") to 4 ("Excellent") designed to measure students' levels of engagement at competitive activities used a 4-point Likert scale format that ranges from 1 ("Strongly Disagree") to 4 ("Strongly Agree") about being active in competitive activities. It comprised five statements for each subcategory, thereby helping in obtaining an organized and elaborate assessment of students' perceptions and attitudes toward physical fitness and competition. The questionnaire was drafted considering content validity. That means the items truly reflect what they are supposed to measure. It was pilot-tested on a small group of students to ascertain clarity, reliability, and suitability for the target population.

In addition to the survey, conventional physical fitness tests were performed in both stages. The tests assessed vital elements of fitness including cardiovascular endurance, muscle strength, flexibility, and agility. Hence, the fitness test results and the survey data both gave an obvious baseline after the intervention.

Research Procedures

Aero Gymnastics

This study rigorously evaluated an eight-week aero gymnastics intervention integrated into a standard physical education curriculum, comparing its impact against a conventional

physical education program. Before the intervention, all participants underwent a comprehensive survey instrument assessment.

The Aero Gymnastics Group followed a meticulously structured program, beginning with an introduction to aero gymnastics in Week 1, which included an explanation of its five core components: dynamic strength, static elements, jumps and leaps, balance, and flexibility. Participants were then divided into subgroups, each focusing on a specific activity area. Weeks 2 through 6 systematically introduced and developed each of these components: Week 2 concentrated on dynamic strength exercises like triceps push-ups and straddle push-ups; Week 3 shifted to static strength elements such as front and rear support; Week 4 focused on jumps and leaps including the 1/2 air turn jump and hitch kick; Week 5 moved to balance activities like the 1/2 turn and incomplete split; and Week 6 addressed flexibility elements. Each week involved detailed instructions, demonstrations, group practice sessions, and culminated in Friday assessments to monitor progress and execution accuracy. Weeks 7 and 8 were dedicated to reinforcement and mastery through a rotational station format, ensuring all subgroups had equal exposure and repetition across all five components. In the final Week 8, music was introduced to accompany performances of selected tasks, serving as both a motivational activity and a final assessment of accumulated skills. Throughout the entire intervention, student development was consistently monitored through both group engagement and individual evaluations, utilizing the same fitness tests and survey instruments administered initially.

Conventional PE

This conventional Physical Education (PE) group underwent an eight-week intervention mirroring the aerobic gymnastics program, with a strong focus on two major fitness test categories: health-related components (cardiovascular endurance, muscular strength, muscular endurance, flexibility, and body composition) and skill-related components (agility, balance, coordination, power, speed, and reaction time).

The initial week involved a pre-survey questionnaire to establish baseline fitness levels. Weeks 2 through 6 systematically introduced and assessed various fitness aspects. In Week 2, after warm-ups, cardiovascular endurance was measured with a 3-minute step test, followed by muscular strength via plank holds and muscular endurance with sit-ups and push-ups. Week 3 focused on flexibility using the sit and reach and zipper tests, and body composition through BMI calculations. Week 4 emphasized skill-related fitness, specifically balance with the stork balance stand and single-leg squat tests, and agility with the hexagon agility test. Week 5 assessed coordination through jump rope exercises and power with the standing long jump. Finally, Week 6 measured speed with a 35-meter sprint and reaction time using the ruler drop test. Throughout these weeks, students were often divided into smaller groups for focused practice, with weekly Friday assessments to monitor progress. The seventh week involved a rotational schedule where participants moved through all previously learned activities in five groups, ensuring comprehensive assessment of every component. In the final Week 8, students were encouraged to creatively integrate all learned health- and skill-related components into a dynamic routine, which they practiced and then presented on the last Friday.

The collected data from both intervention groups were then compiled into a comprehensive report to analyze their respective impacts.

Statistical Treatment of Data

The data gathered were analyzed using a quasi-experimental non-equivalent control group design method to ensure a comprehensive interpretation of the findings. Means and standard deviations, which are part of quasi-experimental research, were used to summarize and present the fitness levels of students as well as their scores on competitive engagement before and after the intervention. These statistical tools provided an overview of the general trends and patterns observed within each group.

For inferential analysis, independent t-tests were used to assess the significance of changes

within each group between before and after intervention results. This method determined whether the aerobic gymnastics and conventional PE interventions produced significant improvements individually. Finally, independent t-tests were conducted to compare post-test results between groups to determine if any statistically significant differences in outcomes were resulting from the type of intervention received.

Result and Discussion

This chapter showed the data that were gathered in the study, which were then presented in tabular form, analyzed based on numerical values, and interpreted accordingly.

Table 1. Physical Health in Aerobic Gymnastics – Cardiovascular

Indicators	Mean	SD	VI
1. I can run farther and stay active longer without getting tired as quickly.	1.78	.823	Average
2. I can handle longer workouts without needing to break.	1.69	.793	Average
3. I can do longer physical activities.	1.60	.809	Average
4. I don't feel out of breath as quickly during activities.	1.78	.927	Average
5. I can gradually increase the duration and intensity of my cardio workouts to build cardiovascular endurance.	1.78	.927	Average
Overall	**1.64**	**.570**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent*

Based on the data analysis, the highest average responses had been observed in areas such as running longer distances, staying active for extended periods without tiring quickly, not getting out of breath as easily during physical activities, and gradually increasing the duration and intensity of cardio workouts to improve cardiovascular endurance. These findings reflected the respondents' perceptions of their cardiovascular capabilities.

This aligned with prior findings that highlighted poor cardiorespiratory fitness among adolescents (Strong et al., 2005; Ortega et al., 2008). It indicated a baseline need for structured interventions such as aerobic gymnastics to improve stamina and sustained physical capacity.

Table 2. Physical Health in Aerobic Gymnastics – Muscular Endurance

Indicators	Mean	SD	VI
1. I can perform with a great energy.	1.69	.793	Average
2. I am more awake and productive throughout the day.	1.60	.809	Average
3. I can do physical activities that maintain correct posture.	1.78	.927	Average
4. I perform activity for a long period of time.	1.84	.999	Average
5. I can do everyday tasks such as climbing stairs and lifting objects.	1.84	.999	Average
Overall	**1.76**	**.609**	**Average**

Legend: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)

Based on the analysis of the collected data, the highest average responses were observed in areas related to performing physical activities for extended periods and accomplishing daily tasks such as climbing stairs and lifting objects.

One notable routine was climbing stairs, as the respondents' classroom was located on the second floor of the building. This daily physical effort acted as a form of regular, informal exercise, which likely contributed to their percep-

tion of increased physical ability and endurance. Regarding the task of lifting objects, some children reported having been exposed to various forms of physical labor to support their education. This exposure not only built physical strength but also enhanced their confidence in performing physically demanding tasks.

A study by the American College of Sports Medicine (ACSM, 2018) found that better cardiovascular endurance was strongly linked to improved functional capacity in daily activities, including stair climbing and carrying loads. On the other hand, respondents who were more awake and productive throughout the day received the lowest mean scores.

Table 3. Physical Health in Aerobic Gymnastics Muscular Strength

Indicators	Mean	SD	VI
1. I can do the task easier.	1.69	.821	Average
2. I can lift weights at a challenging level.	1.98	.892	Average
3. I can perform push-ups with proper form.	1.64	.743	Average
4. I can do recreational activities easier.	1.53	.842	Average
5. I can perform planks for a long period of time.	1.84	.999	Average
Overall	**1.73**	**.539**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

A further examination of the data revealed that, out of all the factors tested, the indicator associated with lifting weights at a challenging level produced the highest mean score. According to Kraemer and Ratamess (2004), individuals with higher muscular strength wereable to perform resistance exercises at greater intensities, which contributed to improved performance in both athletic and daily activities.

However, overall, among the five indicators of muscular strength, the results were generally at the same average level. Yildirim and Tamer (2012) reported that helping students manage physical tasks more easily had a positive effect on muscular endurance and strength when participating in aerobic gymnastics.

Table 4. Physical Health in Aerobic Gymnastics – Flexibility

Indicators	Mean	SD	VI
1. I allow my body to move more freely.	1.87	.968	Average
2. I increased my flexibility and range of motion.	1.49	.869	Poor
3. I can actively work on increasing my range of motion in key muscle groups to enhance my physical performance.	1.64	.743	Average
4. I can touch my toes while keeping my knees straight.	1.53	.842	Average
5. I can modify flexibility exercises and gradually progress to more challenging stretches.	1.84	.999	Average
Overall	**1.67**	**0.522**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

The data indicated that the indicator for the respondents' ability to move their bodies more freely had the highest mean. According to Wulf and Lewthwaite (2016), promoting an external focus and encouraging natural movement patterns enhanced motor performance and learning.

On the other hand, the indicator for improved flexibility and range of motion received the lowest mean score among all the indicators, suggesting that the respondents either experienced or perceived the least progress in this area compared to others. Research by Herbert and de Noronha (2011) and Tucker and Noakes (2009) highlighted that poor flexibility was often associated with a lack of physical activity and limited engagement in stretching exercises.

Table 5. Physical Health in Aerobic Gymnastics – Body Composition

Indicators	Mean	SD	VI
1. I can incorporate activities to build lean muscle mass.	1.78	.850	Average
2. I am more efficient and capable during exercises.	1.69	.949	Average
3. I am in control of how my body moves now.	1.62	.717	Average
4. I am healthier and more fit.	1.62	.860	Average
5. I have a better control over my body.	1.62	.777	Average
Overall	**1.67**	**.463**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

The results showed that the respondents were at an average level in terms of including activities to build lean muscle mass, as this indicator had the highest mean score. Phillips and Winett (2010) highlighted that even uncomplicated, consistent resistance exercises led to significant gains in muscle mass and functional fitness.

While respondents were in control of how their bodies moved, the indicator stating that they were healthier, more fit, and had better control over their bodies received the lowest mean score. This indicated that some respondents may have felt less confident or uncertain about their overall physical fitness, health, and motor control.

These findings aligned with previous research, which demonstrated that aerobic gymnastics promoted cardiovascular health, muscular development, flexibility, and improved body composition (Merz & Klein, 2013; Lee & Kim, 2010).

Skill-related on fitness in Aerobic Gymnastics

Table 6. Level of Skill Fitness of Students in Aero Gymnastics – Agility

Indicators	Mean	SD	VI
1. I can combine walk, run and hop.	1.87	.968	Average
2. I can jump, slide and leap in any directions.	1.49	.869	Poor
3. I can move side to side, forwards, backwards with control.	1.64	.743	Average
4. I can go around quickly, efficiently and safely.	1.53	.842	Average
5. I can perform agility drills with controlled movements.	1.84	.999	Average
Overall	**1.67**	**.522**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

The decision was data-driven; respondents' ability to combine walking, running, and hopping received the highest mean score, suggesting that participants felt confident in performing and coordinating these fundamental locomotor movements. According to Ulrich et al. (2001), practicing a variety of fundamental movement skills together helped improve neuromuscular control and dynamic balance, which were essential for efficient and adaptable physical performance.

In contrast, the mean score for the respondents' ability to jump, leap, and slide in different directions was the lowest. This suggested that participants did not feel confident executing more advanced and multi-directional movements. Although these movements were generally easier than walking or running with sudden directional changes, they required a great deal of coordination, balance, and spatial awareness, and could easily have been difficult to perform.

Table 7. Level of Skill Fitness of Students in Aero Gymnastics – Speed

Indicators	Mean	SD	VI
1. I can do physical activities quicker and precise movement.	1.69	.793	Average
2. I can adjust my speed to match different activities or situations.	1.60	.809.	Average
3. I can change my speed quickly and smoothly when needed.	1.78	.927	Average
4. I can change direction rapidly while preserving speed.	1.84	.999	Average
5. I can incorporate sprint intervals into my workouts to improve my peak speed.	1.84	.999	Average
Overall	**1.76**	**.609**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)]*

The results indicated that respondents scored equally high in two key areas: the ability to rapidly change direction while maintaining speed, and the capacity to incorporate sprint intervals into their workouts to boost peak speed. Both indicators received the same weighted arithmetic mean, reflecting a similar average level of proficiency and earning the highest rank among the five measured skills. The ability of respondents to adjust their speed according to different activities or situations received the lowest mean score among the indicators.

Moreover, the results aligned with research by de Villarreal et al. (2016), which found notable improvements in speed and agility performance among young athletes who underwent structured plyometric and aerobic-based training programs. Overall, across the five indicators, the results revealed that all respondents demonstrated an average level of speed, as assessed within the skill-related components of their fitness.

Table 8. Level of Skill Fitness of Students in Aero Gymnastics – Balance

Indicators	Mean	SD	VI
1. I perform stability exercises.	1.87	.968	Average
2. I am steady during physical balance activities.	1.49	.869	Poor
3. I can balance with my different body parts.	1.64	.743	Average
4. I can do one leg with/without front and back support.	1.53	.842	Average
5. I improve my balance to reduce the risk of falls.	1.84	.999	Average
Overall	**1.67**	**.522**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

The indicator related to performing stability exercises recorded the highest mean score, indicating that respondents felt confident and capable when engaging in well-structured, stability-focused workouts. In contrast, among the five indicators evaluating physical steadiness, the respondents scored the lowest mean value in comparison to the other components. This suggested that a significant number of participants struggled with the basics of balance or were not confident in executing stabilizing and controlling actions.

In conclusion, the findings supported the study of Muehlbauer et al. (2012), which underlined the importance of balance exercises in improving physical stability and lowering fall risk. Similarly, Nagle et al. (2018) discovered that balance training greatly enhanced coordination, thereby validating the efficacy of aerobic gymnastics in improving students' balance.

Table 9. Level of Skill Fitness of Students in Aero Gymnastics – Coordination

Indicators	Mean	SD	VI
1. I perform smoothly and efficiently.	1.78	.850	Average
2. I execute more complex physical movements with confidence and ease.	1.69	.949	Average
3. I can perform using a range of actions with coordination.	1.62	.777	Average
4. I can perform tasks that demand a high level of coordination.	1.62	.860	Average
5. I can perform rhythmic sequences in time to music.	1.62	.777	Average
Overall	**1.67**	**.463**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Based on the analysis of the data, the indicator of performing movements smoothly and efficiently received the highest mean, indicating that respondents generally believed they were able to act in somewhat smooth and efficient ways. In contrast, the indicators related to performing a range of actions with coordination, completing tasks that demanded a high level of coordination, and executing rhythmic sequences in time to music received the lowest mean scores. This indicated that respondents may have found more complex, coordinated, or rhythm-based movements challenging.

As a crucial skill for both athletic performance and everyday activities, the result reflected the positive impact of aerobic gymnastics in improving coordination. This was supported by the study of Miller and Lindauer (2007), which noted that practice in structured physical activities significantly improved coordination and the ability to perform complex movements.

Table 10. Level of Skill Fitness of Students in Aero Gymnastics – Power

Indicators	Mean	SD	VI
1. I perform better in a variety of skills in any activities.	1.87	.968	Average
2. I incorporate explosive movements into fitness routines.	1.84	.999	Average
3. I generate more force quickly for better performance.	1.64	.743	Average
4. I can explosively jump to reach a higher height.	1.53	.842	Average
5. I can perform tumbling activities.	1.49	.869	Poor
Overall	**1.67**	**.522**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Based on the data analysis, the indicator related to performing tumbling activities received the lowest weighted mean, suggesting that respondents felt the least confident or skilled in executing these types of movements, placing them at a poor performance level. This low result may have been attributed to the nature of the activity itself, as many respondents perceived tumbling as difficult and potentially unsafe.

The highest mean among the power indicators in aerobic gymnastics was found in performing better across a variety of skills in different activities. This supported the findings of Araujo et al. (2014), who observed that aerobic exercises enhanced muscular power, allowing for better performance in various physical activities. It also aligned with studies showing that explosive exercises, such as those incorporated in aerobic gymnastics, improved overall power and strength (Harris et al., 2016).

Table 11. Level of Skill Fitness of Students in Aero Gymnastics – Reaction Time

Indicators	Mean	SD	VI
1. I quickly respond to visual or auditory cues.	1.78	.850	Average
2. I perform fast-paced routines with precise timing.	1.69	.949	Average
3. I can do rapid transitions between elements.	1.62	.777	Average
4. I move faster to adapt to changing movements within the routine.	1.62	.860	Average
5. I move with the rhythm and timing of the music.	1.62	.777	Average
Overall	**1.62**	**.614**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

The results indicated that the skill of quickly reacting to visual or auditory cues received the highest overall mean score. This response reflected a good level of sensory-motor responsiveness and demonstrated a high level of attentional engagement while performing. Conversely, respondents scored the lowest mean in their ability to perform rapid transitions between different elements, quickly adjust to changing movements within a routine, and synchronize their movements with the rhythm and timing of the music.

Research by Spittle and Morris (2003) demonstrated that training focused on sensory processing improved reaction times and enhanced motor responses, contributing to better performance across various sports and activities. Allen (2016) explained that adapting quickly and mastering rapid transitions were crucial for dance and rhythmic sports but required specific training.

Table 12. Physical Health in Conventional Physical Education - Cardiovascular

Indicators	Mean	SD	VI
1. I can handle longer games or physical activities without needing to stops and rest.	1.49	.869	Poor
2. I can run a mile under 10 minutes.	1.78	.850	Average
3. I can maintain my target heart rate for a specific length of time during an activity.	1.69	.949	Average
4. I can incorporate interval training into my workouts to challenge my cardiovascular system further.	1.62	.777	Average
5. I can run for 30 minutes without stopping.	1.62	.860	Average
Overall	**1.58**	**.499**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

As shown in the analysis, the task of running a mile in under 10 minutes received the highest weighted mean among the indicators, suggesting that the majority of respondents found this activity more manageable and attainable compared to the others. Therefore, they felt prepared and believed they had the ability to perform it successfully.

Bassett and Howley (2000) also pointed out that cardiovascular fitness was a major performance determinant for running and that regular aerobic training improved both endurance and speed. In contrast, the ability to deal with longer games or continued physical exertion without stopping and taking breaks received the lowest weighted mean, indicating that this task was viewed as more difficult or less likely to be accomplished by the respondents compared to the other indicators.

Table 13. Physical Health in Conventional Physical Education – Muscular Endurance

Indicators	Mean	SD	VI
1. I can increase weights to build my stamina over a period of time.	1.69	.793	Average
2. I exercise to improve my body.	1.60	.809	Average
3. I can do multiple sets of repetitions with light weights.	1.64	.743	Average
4. I can perform 10-15 push-ups.	1.53	.842	Average
5. I can lift weights at a challenging level.	1.84	.999	Average
Overall	**1.67**	**.522**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Through the analysis of the data, the task of lifting weights at a challenging level resulted in the highest weighted mean, suggesting that participants perceived lifting weights at a challenging level as the most demanding of the indicators.

According to Kraemer and Ratamess (2004), consistent, properly programmed weightlifting enhanced muscle strength, power, and overall physical performance. Meanwhile, completing 10–15 push-ups resulted in the lowest weighted mean, indicating that respondents found this task the least strenuous or relatively easier.

Push-up performance was a direct indicator of upper body strength and muscular endurance, both of which could be increased through upper body strength training exercises, according to McArdle et al. (2015).

Table 14. Physical Health in Conventional Physical Education – Muscular Strength

Indicators	Mean	SD	VI
1. I can do the tasks easier like lifting, carrying and pushing.	1.49	.869	Poor
2. I can perform better in sports and physical competitions.	1.78	.850	Average
3. I can do pull-ups.	1.69	.949	Average
4. I can squat with proper form.	1.62	.777	Average
5. I can lift more weight.	1.62	.860	Average
Overall	**1.58**	**.499**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

The indicator "performing better in sport and physical competition" displayed the highest mean as the data were analyzed, which showed that participants considered this an important factor or experienced greater challenges due to succeeding in competitive physical activity. Traditionally, carrying, pushing, and lifting aligned with the lowest weighted

mean score among the indicators. This indicated that the respondents viewed these tasks as either less difficult or more manageable than other activities.

Rhea et al. (2003) emphasized that improved muscular strength directly enhanced performance in functional tasks. The American College of Sports Medicine (2011) highlighted that strength training not only improved muscular endurance but also helped individuals perform daily tasks more efficiently.

The data analysis showed that engaging in activities that helped reduce stiffness received the highest weighted mean among the five indicators, indicating that these tasks were perceived by the respondents as the least challenging and most manageable. The movement involving reaching one hand to overlap the other received the lowest weighted mean, indicating that participants viewed this task as the most challenging or demanding among the assessed activities.

These results were in line with previous work, which stated that regular participation in stretching exercises and flexibility routines greatly improved flexibility and decreased muscle stiffness (Faigenbaum et al., 2020). This stressed the necessity of integrating flexibility training into physical education to enhance general mobility and reduce injury rates

Table 15. Physical Health in Conventional Physical Education – Flexibility

Indicators	Mean	SD	VI
1. I can reach my hand overlap to the other hand.	1.49	.869	Poor
2. I can perform activities that help me feel less stiff.	1.87	.968	Average
3. I can do tasks easily that help me improve my overall flexibility.	1.64	.743	Average
4. I can do shoulder rotations with full range of motion	1.53	.842	Average
5. I can consistently incorporate stretching routines into my workout routine.	1.84	.999	Average
Overall	**1.67**	**.522**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Table 16. Physical Health in Conventional Physical Education – Body Composition

Indicators	Mean	SD	VI
1. I can improve my body composition by making healthy lifestyle choices.	1.78	.850	Average
2. I am more confident in my physical abilities.	1.64	.743	Average
3. I am more capable of completing tasks.	1.53	.842	Average
4. I include regular exercise and balanced nutrition every day.	1.62	.860	Average
5. I improve my control over complex movements.	1.62	.777	Average
Overall	**1.64**	**.358**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

The data analysis suggested that the highest weighted mean for improving body composition through healthy lifestyle choices indicated that participants considered this aspect very important and somewhat difficult. This perception stemmed from the respondents' understanding that they could develop and maintain a healthy body composition through proper lifestyle decisions, even at their young age. Respondents who demonstrated greater capability in completing the tasks received the lowest weighted mean, suggesting that these activities were perceived as easier or were given less importance in the analysis.

This was in line with the study by Pate et al. (2006), who pointed out that regular physical

activity and a good, balanced diet had a favorable impact on body composition and, consequently, on overall health. It also underscored the significance of developing both the body and the mind within physical education curricula.

Table 17. Level of Skill Fitness of Students in Conventional Physical Education – Agility

Indicators	Mean	SD	VI
1. I can move my body quickly in a different direction.	1.87	.968	Average
2. I can adjust quickly if there are changes in my routine.	1.84	.999	Average
3. I can rapidly change direction while maintaining balance and control during movement.	1.64	.743	Average
4. I can improve my footwork to enhance my agility in various situations.	1.53	.842	Average
5. I can coordinate my body movements to smoothly transition between different directions.	1.49	.869	Poor
Overall	**1.67**	**.522**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Based on the data analysis, the skill of moving the body quickly in various directions received the highest mean score, indicating that participants considered this ability either highly important or relatively more difficult to perform compared to other skills. According to the examination of the data, the measure concerning smooth and efficient movement also demonstrated the highest mean, which implied that respondents were, in general, satisfied with their capability to perform actions efficiently and smoothly. Consequently, their capacity for expressing superior coordination remained underdeveloped and thus scored lower in this specific area, even though they felt confident overall in movement.

These results aligned with previous research by Gabbett (2016), which highlighted the role of structured physical education programs in improving motor skills and agility.

Table 18. Level of Skill Fitness of Students in Conventional Physical Education - Speed

Indicators	Mean	SD	VI
1. I can sprint quickly.	1.69	.793	Average
2. I can accelerate to reach top speed.	1.67	.879	Average
3. I can maintain a consistent speed for a set period of time.	1.84	.976	Average
4. I can maintain a fast pace for a sustained period.	1.91	1.94	Average
5. I can practice drills to refine my running form for optimal speed.	1.84	.999	Average
Overall	**1.80**	**.588**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

As shown by the data analysis, maintaining a fast pace over an extended period received the highest weighted mean, suggesting that participants viewed this activity as particularly demanding or important. On the other hand, accelerating to reach top speed received the lowest weighted mean, indicating that this activity was perceived as less challenging or was given less importance by the respondents.

These results were supported by the study of Stojanovic et al. (2017), which emphasized the importance of regular training in improving sprinting speed and acceleration. This study supported the effectiveness of conventional physical education in enhancing students' speed, providing them with the skills to accelerate, maintain high speeds, and sustain these efforts over time.

Based on the analysis of the data, engaging in activities that helped improve and strengthen balance received the highest weighted mean, indicating that respondents placed significant value on this skill. According to Gribble et al. (2004), consistent balance exercises enhanced postural control and reduced the risk of falls and injuries. Meanwhile, on the other hand, improving balance to participate in more advanced activities received the lowest weighted mean.

The data implied that students developed their balance skills at a uniform pace, showing neither significant strengths nor weaknesses in any one area. Their exposure to regular physical activities that involved balance, such as sports, games, and physical education exercises, may have contributed to this balanced performance. As a result, all indicators in the balance component reflected an overall moderate level of proficiency among the students

Table 19. Level of Skill Fitness of Students in Conventional Physical Education – Balance

Indicators	Mean	SD	VI
1. I perform such activity to help strengthen my balance.	2.04	1.08	Average
2. I can stand on one leg for 30 seconds.	1.56	.990	Average
3. I can make daily activities easier that help me improve my balance.	1.76	.883	Average
4. I can improve my balance to participate in more advanced and varied workout routines.	1.53	.842	Average
5. I can maintain balance by staying centered and focused.	1.84	.999	Average
Overall	**1.73**	**.580**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Based on the analysis of the data, engaging in activities that helped improve and strengthen balance received the highest weighted mean, indicating that respondents placed significant value on this skill. According to Gribble et al. (2004), consistent balance exercises enhanced postural control and reduced the risk of falls and injuries. Meanwhile, on the other hand, improving balance to participate in more advanced activities received the lowest weighted mean.

The data implied that students developed their balance skills at a uniform pace, showing neither significant strengths nor weaknesses in any one area. Their exposure to regular physical activities that involved balance, such as sports, games, and physical education exercises, may have contributed to this balanced performance. As a result, all indicators in the balance component reflected an overall moderate level of proficiency among the students.

Table 20. Level of Skill Fitness of Students in Conventional Physical Education – Coordination

Indicators	Mean	SD	VI
1. I can perform a range of activities with control and coordination.	1.78	.850	Average
2. I can do physical activities smoother.	1.91	1.12	Average
3. I can perform a jumping jack with good form.	1.78	.974	Average
4. I can kick, throw, catch, and strike an object.	1.71	.968	Average
5. I can execute a smooth, coordinated jump rope routine with proper form.	1.62	.777	Average
Overall	**1.76**	**.507**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

According to the analysis of the data, performing physical activities more smoothly received the highest weighted mean, indicating that this was the area where respondents felt most confident or capable. The students perceived certain movements or tasks as well-executed, graceful, and efficiently performed, which shaped their responses. On the other hand, executing a smooth and coordinated jump rope routine with proper form received the lowest weighted mean.

In general, the respondents demonstrated a consistent average level across all indicators related to coordination. This meant that while some specific tasks may have been perceived as slightly easier or more difficult than others, the overall ability of the students to coordinate their movements remained balanced. This reflected a moderate and stable level of skill among the group as a whole.

Table 21. Level of Skill Fitness of Students in Conventional Physical Education – Power

Indicators	Mean	SD	VI
1. I can push myself to sprint at maximum speed for short distances.	1.96	1.04	Average
2. I can perform high-intensity exercises with maximum force.	2.09	1.12	Average
3. I can perform tasks easily with power.	1.62	1.00	Average
4. I can jump vertically and land safely.	1.78	.850	Average
5. I can throw a ball with strong force and accuracy.	1.82	1.05	Average
Overall	**1.82**	**.535**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Based on the data analysis, performing high-intensity exercises with maximum force received the highest weighted mean, indicating that respondents felt most confident or capable in this area. Performing tasks easily with power, on the other hand, received the lowest weighted mean. This contrast implied that maximum-effort, high-intensity activities were viewed as more strenuous or valuable compared to routine, powerful movements that were easier to perform.

Faigenbaum and Myer (2010) stated that making tasks such as jumping or sprinting more difficult was a challenge for many youths entering physical training programs with low baseline strength and power. Sprints and vertical jumps helped enhance muscle power and cardiovascular endurance, as shown in the study of Rodrigues et al. (2018). Exercises targeting power and force contributed to muscle development and overall athletic performance. Overall, the students' level of skill-related fitness in conventional PE exercises remained at an average level.

Table 22. Level of Skill Fitness of Students in Conventional Physical Education – Reaction Time

Indicators	Mean	SD	VI
1. I am more aware on what is going on around.	1.78	.850	Average
2. I react quickly if there is a ball coming.	1.98	1.05	Average
3. I can make quicker decisions during physical activities.	1.62	1.05	Average
4. I am focus and can response immediately.	1.62	.912	Average
5. I can execute a movement quickly and efficiently.	1.62	.949	Average
Overall	**1.73**	**.580**	**Average**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Based on the data analysis, the ability to react quickly when a ball was coming scored the highest mean, indicating that participants viewed this skill as especially important and something they were more accustomed to performing. The lowest weighted mean, which focused on the ability to respond and execute movements quickly and efficiently, depicted that participants found the combination of these skills to be the most difficult and complex.

These results supported the findings by Nakamoto and Mori (2018), who highlighted that targeted physical activities focusing on reaction drills enhanced students' perceptual-motor speed and decision-making skills. Furthermore, Schmidt and Lee (2019) emphasized that consistent engagement in coordinated physical education routines led to better synchronization of reaction timing with external stimuli, affirming the positive effects of conventional PE exercises on improving reaction time.

Table 23. Physical Health in Aerobic Gymnastics - Cardiovascular

Indicators	Mean	SD	VI
1. I can run farther and stay active longer without getting tired as quickly.	3.69	.596	Excellent
2. I can handle longer workouts without needing to break.	3.62	.650	Excellent
3. I can do longer physical activities.	3.27	.915	Good
4. I don't feel out of breath as quickly during activities.	3.44	.659	Good
5. I can gradually increase the duration and intensity of my cardio workouts to build cardiovascular endurance.	3.43	.777	Good
Overall	**3.51**	**.506**	**Excellent**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Based on the data analysis, the highest weighted z` occurred in the areas of running longer distances and being active for longer periods of time before tiring. Meanwhile, the indicator with the lowest weighted mean was performing longer physical activities, which suggested that participants either found it more difficult or placed less importance on its benefits compared to other aspects.

According to research by Pate et al. (2016), which demonstrated that students who participated in structured physical education programs had better cardiovascular health outcomes, the positive shift in responses emphasized the potential of aerobic gymnastics to improve cardiovascular health. This was in line with the results of Faigenbaum et al. (2020), who pointed out that by gradually increasing endurance, progressive aerobic exercises improved cardiovascular fitness.

Table 24. Physical Health in Aerobic Gymnastics – Muscular Endurance

Indicators	Mean	SD	VI
1. I can perform with a great energy.	3.62	.650	Excellent
2. I am more awake and productive throughout the day.	3.27	.915	Good
3. I can do physical activities that maintain correct posture.	3.44	.659	Good
4. I perform activity for a long period of time.	3.44	.659	Good
5. I can do everyday tasks such as climbing stairs and lifting objects.	3.38	.777	Good
Overall	**3.49**	**.506**	**Good**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

According to the data analysis, performing with high energy received the highest weighted mean score, indicating that participants either placed great importance on having high energy during physical activities or showed significant improvement in this area. During the same period, respondents indicated that they had the lowest weighted mean regarding their report about being more alert for greater productivity throughout the day.

This situation underlined the critical role of motivation and structured activities in keeping students productive and alert. It implied that although the intervention had a favorable effect on physical energy during exercise, its impact on general day alertness and productivity may have been less pronounced. This suggested a potential disconnect between improvements in physical performance and daily functioning or overall health.

Table 25. Physical Health in Aerobic Gymnastics – Muscular Strength

Indicators	Mean	SD	VI
1. I can do the task easier.	3.82	.490	Excellent
2. I can lift weights at a challenging level.	3.33	.640	Good
3. I can perform push-ups with proper form.	3.56	.755	Excellent
4. I can do recreational activities easier.	3.44	.659	Good
5. I can perform planks for a long period of time.	3.38	.777	Good
Overall	**3.56**	**.503**	**Excellent**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

The data analysis completed after the intervention supported that the ability to engage in tasks with greater easeB the highest weighted mean across all measures. However, lifting weights at a high level of challenge had the lowest weighted mean score, which meant that even after the intervention, respondents still found high-intensity strength tasks challenging or less manageable.

Overall, aerobic gymnastics practice following the intervention program significantly increased students' muscular strength, which enhanced their capacity to carry out strength-related tasks such as lifting weights. Aagaard and Andersen (2010) also emphasized that strength development in youth contributed to improved exercise technique and performance.

Table 26. Physical Health in Aerobic Gymnastics – Flexibility

Indicators	Mean	SD	VI
1. I allow my body to move more freely.	3.62	.716	Excellent
2. I increased my flexibility and range of motion.	3.69	.468	Excellent
3. I can actively work on increasing my range of motion in key muscle groups to enhance my physical performance.	3.31	.848	Good
4. I can touch my toes while keeping my knees straight.	3.44	.659	Good
5. I can modify flexibility exercises and gradually progress to more challenging stretches.	3.64	.712	Excellent
Overall	**3.62**	**.535**	**Excellent**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Based on the analysis of the data, increasing range of motion and flexibility received the highest mean among the five indicators, indicating that participants either placed great

importance on flexibility or experienced noticeable benefits from improved flexibility. However, the statement that respondents actively worked on increasing the range of motion in key muscle groups to enhance physical performance received the lowest mean among the indicators.

Behm et al. (2016) and Garber et al. (2011) found that regular participation in stretching-based programs significantly improved joint range of motion. Nelson and Kokkonen (2007) also affirmed that chronic flexibility training led to measurable gains in functional movement and flexibility. This indicated that engaging in aerobic gymnastics resulted in a notable enhancement of overall flexibility. These results supported the connection between aerobic gymnastics and fitness outcomes in physical education programs aimed at enhancing overall fitness by analyzing its beneficial link to flexibility.

Table 27. Physical Health in Aerobic Gymnastics – Body Composition

Indicators	Mean	SD	VI
1. I can incorporate activities to build lean muscle mass.	3.47	.625	Good
2. I am more efficient and capable during exercises.	3.80	.548	Excellent
3. I am in control of how my body moves now.	3.76	.529	Excellent
4. I am healthier and more fit.	3.38	.747	Good
5. I have a better control over my body.	3.27	.915	Good
Overall	**3.53**	**.301**	**Excellent**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

The data analysis results indicated that the respondents mentioned they found themselves most competent and effective while exercising. On the other hand, the indicator related to respondents having greater body control was among the least noticeable outcomes in the context of aerobic gymnastics. While some participants showed signs of progress, this result had the lowest visibility compared to other indicators.

According to Merz and Klein (2013), aerobic gymnastics encouraged the growth of lean muscle mass while lowering body fat. Youth who engaged in structured physical activity—especially resistance and bodyweight training—developed more lean mass, based on the studies of Faigenbaum et al. (2009) and Lloyd et al. (2014). These findings supported the positive effects of aerobic gymnastics on body composition, as well as its contribution to enhancing general health and fitness, fostering long-term physical well-being.

Table 28. Level of Skill Fitness of Students in Aero Gymnastics – Agility

Indicators	Mean	SD	VI
1. I can combine walk, run and hop.	3.73	.654	Excellent
2. I can jump, slide and leap in any directions.	3.29	.843	Good
3. I can move side to side, forwards, backwards with control.	3.31	.821	Good
4. I can go around quickly, efficiently and safely.	3.89	.318	Excellent
5. I can perform agility drills with controlled movements.	3.36	.679	Good
Overall	**3.53**	**.548**	**Excellent**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

The data analysis showed that the feature characterized by fast, efficient, and secure movement received the highest score. A high average score among the five areas of performance was explained by the nature of the activities in which the respondents participated during the intervention. Meanwhile, the indicator related to the ability to jump, slide, and leap in various directions received the lowest mean among the agility indicators. Although still rated at a good level, it ranked the lowest compared to the other areas.

These results further suggested that the improvement in agility was consistent among students, highlighting the effectiveness of aerobic gymnastics in fostering agility development. This consistent progress indicated that aerobic gymnastics was a valuable approach for improving agility in students.

Table 29. Level of Skill Fitness of Students in Aero Gymnastics – Speed

Indicators	Mean	SD	VI
1. I can do physical activities quicker and precise movement.	3.33	.640	Good
2. I can adjust my speed to match different activities or situations.	3.33	.640	Good
3. I can change my speed quickly and smoothly when needed.	3.31	.848	Good
4. I can change direction rapidly while preserving speed.	3.27	.915	Good
5. I can incorporate sprint intervals into my workouts to improve my peak speed.	3.27	.915	Good
Overall	**3.36**	**.645**	**Good**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

The data analysis revealed that the highest mean was recorded in the indicator related to performing physical activities with quicker and more precise movements, as well as the ability to adjust speed based on different activities or situations. However, the indicators related to rapidly changing direction while maintaining speed and incorporating sprint intervals to enhance peak performance received the lowest mean scores among the five indicators following the intervention phase.

Dynamic and repetitive movement activities, such as aerobic gymnastics, greatly improved neuromuscular coordination and speed. A study by Behm and Sale (2023) supported these findings. Furthermore, a study by de Villarreal et al. (2016) discovered that organized plyometric and aerobic training regimens significantly enhanced young athletes' speed and agility performance.

Table 30. Level of Skill Fitness of Students in Aero Gymnastics – Balance

Indicators	Mean	SD	VI
1. I perform stability exercises.	3.87	.405	Excellent
2. I am steady during physical balance activities.	3.16	.520	Good
3. I can balance with my different body parts.	3.78	.636	Excellent
4. I can do one leg with/without front and back support.	3.33	.826	Good
5. I improve my balance to reduce the risk of falls.	3.80	.505	Excellent
Overall	**3.71**	**.506**	**Excellent**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Upon analyzing the data, it was found that performing stability exercises received the highest mean among the indicators. This top-ranking result indicated that the activities conducted during the intervention phase significantly contributed to enhancing the respondents' skill-related fitness, particularly in terms

of balance and control. Meanwhile, the indicator related to being steady during physical balance activities received the lowest mean among the five skill-related fitness indicators focused on balance.

Research by Behm and Colado (2012) highlighted that stability exercises enhanced neuromuscular control and reduced the risk of injury by improving joint stability and muscular coordination. Maintaining high levels of physical performance was greatly aided by routinely incorporating these exercises.

The ability to perform more difficult physical tasks with confidence and ease received the highest mean among the coordination-related measures. Consequently, their ability to perform complex physical actions with ease turned out to be one of the most prominent results of the intervention.

The significant overall improvement in coordination abilities observed among all students following the intervention program demonstrated its effectiveness in enhancing coordination. These results underlined how aerobic gymnastics improved coordination.

Table 31. Level of Skill Fitness of Students in Aero Gymnastics – Coordination

Indicators	Mean	SD	VI
1. I perform smoothly and efficiently.	3.33	.640	Good
2. I execute more complex physical movements with confidence and ease.	3.78	.560	Excellent
3. I can perform using a range of actions with coordination.	3.69	.514	Excellent
4. I can perform tasks that demand a high level of coordination.	3.31	.848	Good
5. I can perform rhythmic sequences in time to music.	3.60	.654	Excellent
Overall	**3.54**	**.291**	**Excellent**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Table 32. Level of Skill Fitness of Students in Aero Gymnastics – Power

Indicators	Mean	SD	VI
1. I can increase weights to build my stamina over a period of time.	3.20	.757	Good
2. I exercise to improve my body.	3.09	.733	Good
3. I can do multiple sets of repetitions with light weights.	3.62	.650	Good
4. I can perform 10-15 push-ups.	3.22	.902	Good
5. I can lift weights at a challenging level.	3.42	.657	Good
Overall	**3.29**	**.458**	**Good**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

According to the data analysis, the respondents demonstrated the highest weighted mean scores in their ability to perform a wide range of skills across different activities. Although the respondents were able to perform explosive jumps aimed at reaching greater heights, this particular skill recorded the lowest weighted mean among all the indicators assessed.

This aligned with studies showing that explosive exercises, such as those incorporated in aerobic gymnastics, improved overall power and strength (Harris et al., 2016). These results underscored the positive impact of aerobic gymnastics on developing power, highlighting its value in enhancing athletic performance.

The data analysis indicated that the mean score was highest for fast-paced routines requiring accurate timing. Among the indicators measuring reaction time, the respondents' ability to quickly respond to visual or auditory cues received the lowest mean score.

Research by Spittle and Morris (2003) demonstrated that training focused on sensory processing improved reaction times and enhanced motor responses, contributing to better

performance across various sports and activities. Similarly, practice and targeted training enhanced timing accuracy and the capacity to carry out quick, coordinated actions (Miyake et al., 2004).

From the data analysis, the researcher found that the largest mean score was for maintaining the target heart rates for time in the activities. Out of the five indicators used in assessing the respondents' cardiovascular fitness, running a mile within 10 minutes had the lowest weighted mean score. The lower score was mainly because most respondents were unable to run the full mile continuously.

According to Swain and Franklin (2006), monitoring and maintaining exercise within target heart rate zones led to better cardiovascular adaptations and improved overall fitness. The students demonstrated substantial growth in their stamina and cardiovascular capacity through their participation in conventional PE exercises.

Table 33. Level of Skill Fitness of Students in Aero Gymnastics – Reaction Time

Indicators	Mean	SD	VI
1. I quickly respond to visual or auditory cues.	3.33	.640	Good
2. I perform fast-paced routines with precise timing.	4.00	.000	Excellent
3. I can do rapid transitions between elements.	3.36	.484	Good
4. I move faster to adapt to changing movements within the routine.	3.51	.757	Excellent
5. I move with the rhythm and timing of the music.	3.60	.654	Excellent
Overall	**3.69**	**.468**	**Excellent**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Table 34. Physical Health in Conventional Physical Education – Cardiovascular

Indicators	Mean	SD	VI
1. I can handle longer games or physical activities without needing to stops and rest.	3.18	.806	Excellent
2. I can run a mile under 10 minutes.	3.09	.733	Good
3. I can maintain my target heart rate for a specific length of time during an activity.	3.62	.650	Excellent
4. I can incorporate interval trainin into my workouts to challenge my cardiovascular system further.	3.27	.915	Good
5. I can run for 30 minutes without stopping.	3.44	.659	Good
Overall	**3.31**	**.468**	**Good**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Table 35. Physical Health in Conventional Physical Education – Muscular Endurance

Indicators	Mean	SD	VI
1. I perform better in a variety of skills in any activities.	3.71	.458	Excellent
2. I incorporate explosive movements into fitness routines.	3.67	.603	Excellent
3. I generate more force quickly for better performance.	3.51	.626	Excellent
4. I can explosively jump to reach a higher height.	3.18	.490	Good
5. I can perform tumbling activities.	3.42	.866	Good
Overall	**3.51**	**.506**	**Excellent**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

According to the data analysis, lifting a few sets of repetitions with lighter weights had the highest weighted mean score across the various exercises included. Of the various

indicators measured, exercising specifically for body composition received the lowest weighted mean score.

However, the results demonstrated a substantial improvement, with students showing higher confidence in their ability to perform physical tasks that required muscular endurance. Rhea et al. (2003) stated that resistance training with increasing weights resulted in improved muscular stamina over time. The research demonstrated that regular strength and endurance training produced positive effects on muscular fitness, which supported the effectiveness of physical education programs that used resistance exercises and bodyweight training to enhance overall fitness.

The data analysis determined that executing pull-ups received the highest mean rating of the activities considered. Of all the indicators of physical fitness that were measured, the ability to perform a squat properly demonstrated the least level of consistency and clarity.

Faigenbaum et al. (2009) discovered that brief resistance training periods led to substantial strength gains, which simplified these tasks. Rhea et al. (2003) confirmed this finding by stating that resistance training-based strength gains directly improved functional task execution. The findings confirmed earlier studies which demonstrated that structured physical activity programs served as essential tools for developing muscle strength because they led to better overall physical fitness, sports performance, and daily activity capabilities.

Table 36. Physical Health in Conventional Physical Education – Muscular Strength

Indicators	Mean	SD	VI
1. I can do the tasks easier like lifting, carrying and pushing.	3.20	.157	Good
2. I can perform better in sports and physical competitions.	3.24	.743	Good
3. I can do pull-ups.	3.58	.690	Excellent
4. I can squat with proper form.	3.13	.968	Good
5. I can lift more weight.	3.42	.657	Good
Overall	**3.24**	**.484**	**Good**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Table 37. Physical Health in Conventional Physical Education – Flexibility

Indicators	Mean	SD	VI
1. I can reach my hand overlap to the other hand.	3.16	.737	Good
2. I can perform activities that help me feel less stiff.	3.18	.650	Good
3. I can do tasks easily that help me improve my overall flexibility.	3.13	.968	Good
4. I can do shoulder rotations with full range of motion.	3.42	.657	Good
5. I can consistently incorporate stretching routines into my workout routine.	3.31	.733	Good
Overall	**3.13**	**.505**	**Good**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Based on the data analysis, performing shoulder rotations with a full range of motion received the highest weighted mean score among the flexibility tasks assessed. Among the indicators measured, the lowest weighted mean was recorded for the ability to easily perform tasks that contributed to improving overall flexibility.

Overall, this indicated a substantial improvement in overall flexibility. The research findings confirmed previous studies which demonstrated that regular stretching practice

and flexibility training led to better range of motion and reduced muscle stiffness (Faigenbaum et al., 2020). The study results confirmed that flexibility training should have been included in physical education to enhance mobility and decrease injury risk.

According to the data analysis, the highest weighted mean score was observed in respondents who displayed great self-assurance in their physical skills. On the other hand, among participants marked as more capable of performing physical tasks, the lowest weighted mean was noted.

The research findings indicated that standard physical education classes helped students achieve better physical fitness while building their self-confidence and promoting healthier life choices. The research by Pate et al. (2006) supported the findings that physical activity combined with proper nutrition led to better body composition and general physical health.

Table 38. Physical Health in Conventional Physical Education – Body Composition

Indicators	Mean	SD	VI
1. I can improve my body composition by making healthy lifestyle choices.	3.36	.570	Good
2. I am more confident in my physical abilities.	3.58	.690	Excellent
3. I am more capable of completing tasks.	3.31	.793	Good
4. I include regular exercise and balanced nutrition every day.	3.42	.657	Good
5. I improve my control over complex movements.	3.42	.657	Good
Overall	**3.41**	**.363**	**Good**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Table 39. Level of Skill Fitness of Students in Conventional Physical Education – Agility

Indicators	Mean	SD	VI
1. I can move my body quickly in a different direction.	3.38	.747	Good
2. I can adjust quickly if there are changes in my routine.	3.29	.661	Good
3. I can rapidly change direction while maintaining balance and control during movement.	3.31	.701	Good
4. I can improve my footwork to enhance my agility in various situations.	3.22	.902	Good
5. I can coordinate my body movements to smoothly transition between different directions.	3.42	.657	Good
Overall	**3.33**	**.477**	**Good**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

The findings from the data analysis show The ability to coordinate body movements with fluidly transitioning directions received the highest mean score among the five indicators that were analyzed. On the other hand, the indicator related to improving footwork to enhance agility in various situations received the lowest mean score among all the measures assessed.

This further supported the positive impact of the conventional physical education program on students' agility. The study results confirmed Gabbett's (2016) findings about structured physical education programs that enhanced motor skills and agility. The research showed that traditional physical education programs successfully enhanced student agility by teaching them to rapidly adapt and steer their movements during physical activities.

According to the results of the data analysis, practicing drills to refine running form to maximize speed achieved the highest mean score among the indicators measured. On the other hand, the indicator for accelerating to top

speed received the lowest mean score, suggesting that participants faced challenges in generating the explosive power necessary to quickly reach their maximum speed.

This demonstrated an overall enhancement in speed following conventional physical education training. The research findings matched the findings of Stojanovic et al. (2017), who stressed that consistent training led to better sprinting speed and acceleration. The study confirmed that traditional physical education methods worked well to boost student speed while teaching them how to accelerate and maintain quick speeds throughout extended periods.

From the analysis of the data, standing on one leg for 30 seconds had the highest mean score of the five balance indicators related to balance. Among the five indicators assessed, the ability to perform daily activities that aid in improving balance received the lowest mean score.

Granacher et al. (2013) explained that such activities improved core strength and postural stability, which were foundational to performance in a range of physical tasks. Behm et al. (2015) supported that balance-specific training, especially on unstable surfaces, yielded significant gains in motor control. This overall improvement underscored the effectiveness of conventional PE exercises in developing balance, which was crucial for participating in various physical activities and promoting overall fitness.

According to the data analysis, executing jumping jacks with proper form received the highest mean score among the five evaluated indicators. On the other hand, the ability to perform physical activities with smoothness and fluidity received the lowest mean score among the five indicators assessed.

Rudd et al. (2020) emphasized the role of diverse activities in developing smooth, confident, and physically literate movers, demonstrating that students became more proficient in performing activities that required both balance and coordination. These results highlighted the positive impact of conventional PE in helping students develop essential motor skills, contributing to their overall physical fitness and movement proficiency.

Table 40. Level of Skill Fitness of Students in Conventional Physical Education – Speed

Indicators	Mean	SD	VI
1. I can sprint quickly.	3.16	.737	Good
2. I can accelerate to reach top speed.	2.98	.839	Good
3. I can maintain a consistent speed for a set period of time.	3.18	.806	Good
4. I can maintain a fast pace for a sustained period	3.22	.670	Good
5. I can practice drills to refine my running form for optimal speed.	3.29	.727	Good
Overall	**3.11**	**.383**	**Good**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Table 41. Level of Skill Fitness of Students in Conventional Physical Education – Balance

Indicators	Mean	SD	VI
1. I perform such activity to help strengthen my balance.	3.33	.564	Good
2. I can stand on one leg for 30 seconds.	3.58	.690	Excellent
3. I can make daily activities easier that help me improve my balance.	3.27	.837	Good
4. I can improve my balance to participate in more advanced and varied workout routines.	3.42	.657	Good
5. I can maintain balance by staying centered and focused.	3.36	.45	Good
Overall	**3.36**	**.529**	**Good**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Table 42. Level of Skill Fitness of Students in Conventional Physical Education – Coordination

Indicators	Mean	SD	VI
1. I can perform a range of activities with control and coordination.	3.44	.693	Good
2. I can do physical activities smoother.	3.11	.714	Good
3. I can perform a jumping jack with good form.	3.47	.661	Good
4. I can kick, throw, catch, and strike an object.	3.40	.618	Good
5. I can execute a smooth, coordinated jump rope routine with proper form.	3.29	.869	Good
Overall	**3.34**	**.427**	**Good**

Legend: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)

Table 43. Level of Skill Fitness of Students in Conventional Physical Education – Power

Indicators	Mean	SD	VI
1. I can push myself to sprint at maximum speed for short distances.	3.07	.654	Good
2. I can perform high-intensity exercises with maximum force.	3.58	.657	Excellent
3. I can perform tasks easily with power.	3.29	.757	Good
4. I can jump vertically and land safely.	3.40	.654	Good
5. I can throw a ball with strong force and accuracy.	3.16	.316	Good
Overall	**3.27**	**.495**	**Good**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Based on the data analysis, the highest weighted mean score was recorded for completing high-intensity exercises performed with maximum effort, suggesting that participants perceived these sustained, full-power activities as particularly challenging. The highest weighted mean score was also recorded for the ability to sprint at maximum speed over short distances, indicating that participants felt relatively more confident and capable when performing these brief, intense bursts of effort.

Despite this, the students themselves considered this area to be one of the lesser-developed skills among the tests they completed, acknowledging that they had not yet fully reached their maximum power or speed potential in these short sprints. The improvement in power-related fitness skills observed in the students was consistent with research on the effectiveness of physical education programs that emphasized strength and explosive movements. According to Rodrigues et al. (2018), physical activities that involved high-intensity exercises, such as sprints and vertical jumps, helped enhance muscle power and cardiovascular endurance.

According to the data analysis, the ability to execute movements quickly and efficiently received the highest mean score among the five indicators related to response time. Conversely, responding quickly to an approaching ball attained the poorest mean of any of the variables. This reinforced the suggestions made about the development of the respondents' situational awareness and their instinctive processing in terms of responding effectively in an immediate situation.

These results supported findings by Nakamoto and Mori (2018), who highlighted that targeted physical activities focusing on reaction drills enhanced students' perceptual-motor speed and decision-making skills. Furthermore, Schmidt and Lee (2019) emphasized that consistent engagement in coordinated physical

education routines led to better synchronization of reaction timing with external stimuli, affirming the positive effects of conventional PE exercises on improving reaction time.

Table 44. Level of Skill Fitness of Students in Conventional Physical Education – Reaction Time

Indicators	Mean	SD	VI
1. I am more aware on what is going on around.	3.30	.614	Good
2. I react quickly if there is a ball coming.	3.22	.823	Good
3. I can make quicker decisions during physical activities.	3.40	.657	Good
4. I am focus and can response immediately.	3.40	.618	Good
5. I can execute a movement quickly and efficiently.	3.53	.661	Excellent
Overall	**3.40**	**.539**	**Good**

***Legend**: 1.00 – 1.49 (Poor); 1.50-2.49 (Average); 2.50-3.49 (Good); 3.50-4.00 (Excellent)*

Table 45. Competitive Engagement in Aero Gymnastics

Indicators	Mean	SD	VI
1. I am actively participating in competitions with enthusiasm.	3.38	.576	Agree
2. I have boosted my confidence.	3.82	.490	Strongly Agree
3. I am ready to compete in physical activities.	3.67	.564	Strongly Agree
4. I am more eager to take on physical challenges and competitive events.	3.82	.442	Strongly Agree
5. I am better equipped and prepared for physical competitions.	3.67	.514	Strongly Agree
6. I develop a strong and focused competitive mindset.	3.31	.848	Agree
7. I am now more likely to join sports competitions.	3.58	.583	Strongly Agree
8. I am more positive and driven toward the competition.	3.80	.505	Strongly Agree
9. I take on new challenges in physical competitions with a strong desire to compete.	3.69	.514	Strongly Agree
10. I feel more competitive and energized to do the tasks.	3.76	.529	Strongly Agree
Overall	**3.65**	**.271**	**Strongly Agree**

***Legend**: 1.00 – 1.49 (Strongly Disagree)/(Not Engaged); 1.50-2.49 (Disagree)/(Moderately Engaged); 2.50-3.49 (Agree)/(Engaged); 3.50-4.00 (Strongly Agree)/ (Highly Engaged)*

Students generally agreed that their enthusiasm, confidence, mindset, and willingness to participate in competitive physical activities improved following the aerobic gymnastics program. Among the different indicators that measured competitive engagement, respondents showed the highest mean score in regard to feeling increasingly confident and enthusiastic to engage in physical challenges and compete.

This report suggested that the majority of participants reported feeling increasingly confident and motivated to participate in competition-related activities, and this was likely a result of their engagement with aerobic gymnastics, which was a fun and interesting activity that led to positive experiences and outcomes.

Finally, they recognized they could accomplish things they had previously been told they could never achieve. In contrast, the growth

and development of a strong and focused competitive mindset received the lowest mean score among the categories, suggesting that fewer participants were confident that they had fully developed the mental discipline, strategic focus, and resilience generally associated with opportunities for competitive success. Again, a lower score did not mean that this area was considered unimportant or totally absent, but it suggested that many of the participants were only in the early stages of developing these mental characteristics.

However, even though they did not attach much focus to developing their competitive mindset, the overall level of engagement in competitive activities remained high following the intervention phase. The participants demonstrated a good amount of engagement and interest in participating, which indicated that any investment they made during the program ultimately produced a positive impact—namely, their willingness to engage with competitive challenges—and they still had opportunities for self-development.

Similar findings were described in an article by Faigenbaum et al. (2009), which explained that guided physical activity programs can indeed build self-efficacy and motivation in youth to encourage further involvement in sport and competition. Research emphasized that pleasure and a sense of competence in physical activities were essential factors for ongoing engagement and competitive participation, both of which were fostered through lively, enjoyable, and skill-enhancing programs such as aerobic gymnastics, according to Weiss and Ferrer-Caja (2002).

Moreover, Ntoumanis and Biddle (1999) examined the influence of motivational climates in physical education, discovering that settings which fostered mastery and involvement (like those produced by rhythmic and cooperative aerobic activities) greatly improved student motivation and readiness to compete.

Aerobic gymnastics offered a more engaging experience than conventional PE formats by merging physical challenges with artistic expression and teamwork. These findings suggested that the program not only supported physical development but also fostered psychological readiness and enthusiasm for competition. Thus, the high mean responses reflected a successful impact of the physical activity interventions on students' willingness to engage competitively.

Table 46. Competitive Engagement in Conventional Physical Education

Indicators	Mean	SD	VI
1. I become motivated to get involved in sports competitions more enthusiastically.	3.58	.690	Strongly Agree
2. I am more willing to join competitive activities.	3.24	.823	Agree
3. I feel more eager and determined to take on sports and physical challenges.	3.38	.654	Agree
4. I feel better prepared and ready to compete in sports.	3.57	.690	Strongly Agree
5. I have a competitive mindset for physical activities.	3.31	.757	Agree
6. I am confident to compete at higher levels in physical competitions.	3.39	.654	Agree
7. I become more inspired to explore and participate in more competitive events.	3.61	.640	Strongly Agree
8. I find myself more engaged and competitive in sports.	3.37	.720	Agree
9. I am more driven to push myself harder and take on greater challenges in physical competitions.	3.40	.654	Agree
10. I feel more connected and involved in competitive sports and overall activities.	3.40	.618	Agree
Overall	**3.42**	**.431**	**Agree**

***Legend**: 1.00 – 1.49 (Strongly Disagree)/(Not Engaged); 1.50-2.49 (Disagree)/(Moderately Engaged); 2.50-3.49 (Agree)/(Engaged); 3.50-4.00 (Strongly Agree)/ (Highly Engaged)*

Upon analyzing the data, it was found that respondents who showed motivation to engage in sports competitions and those who felt inspired to actively explore and take part in competitive events achieved the highest mean scores. This outcome was attributed to the conventional physical education activities in which they participated, which helped boost their confidence and self-assessment of their abilities. Rather than remaining passive spectators or mere supporters, the respondents felt encouraged to become active participants and players in various sports. They developed the belief that if others could compete, then they too were capable of doing so. This realization fostered a strong sense of motivation within them to join competitive sports events in the future, as they gained a clearer understanding of their skills and potential through their experiences.

On the other hand, respondents who initially indicated only a willingness to join competitive activities received the lowest mean score among the indicators. However, after the intervention stage, there was an observed increase in the number of participants who were willing to enter competitive activities. This growth indicated a substantial change among the students and reflected a meaningful impact focused on recognizing their potential. The results indicated that, overall, the respondents demonstrated a moderate level of engagement in competitive activities, accompanied by generally positive outcomes in terms of motivation and participation.

Additionally, when activities were developmentally appropriate and promoted peer interaction and goal-setting, they proved effective in fostering engagement. Faigenbaum et al. (2009) highlighted the significance of organized PE programs in fostering self-efficacy and motivation—elements that were often integrated into conventional PE through team sports, skill-building drills, and collaborative games that encouraged social interaction and competitive enthusiasm.

This supported previous research by McKenzie et al. (2013), which suggested that traditional PE activities, particularly those that encouraged competitive engagement, significantly enhanced students' motivation, preparedness, and mindset for physical competitions. These results underscored the role of conventional PE in promoting a positive attitude toward competitive sports and physical challenges.

Table 47. Significant difference in the physical fitness level before and after on Aerobic Gymnastics

Physical Fitness in Aerobic Gymnastics	Pre-Test		Post-Test		t	df	P
	Mean	SD	Mean	SD			
Cardiovascular	1.64	0.570	3.51	0.506	-18.95	44	<.000
Muscular Endurance	1.76	0.609	3.49	0.506	-14.89	44	<.000
Muscular Strength	1.73	0.539	3.56	0.503	-16.35	44	<.000
Flexibility	1.67	0.522	3.62	0.535	-20.56	44	<.000
Body Composition	1.67	0.463	3.53	0.301	-21.19	44	<.000

The evaluation of the data indicated that there was a considerable difference between the pre-test and post-test measurements across all five key areas of aerobic gymnastics: cardiovascular endurance, muscular endurance, muscular strength, flexibility, and body composition. The data collected showed that the physical fitness levels of selected Grade 7 students from Pagbilao National High School greatly improved after the intervention program.

The notable increase in measurements implied that the implementation of the intervention program was highly effective in enhancing students' physical fitness. The marked difference between the pre-test and post-test assessments demonstrated the program's influence on the participants' understanding and perception of their progress over time, as reflected through both pictorial and testing modalities.

In addition, this finding indicated that the respondents displayed a genuine sense of commitment and interest in the tasks

they performed. They were motivated by a desire to discover and improve their physical potential, which ultimately contributed to a sense of ownership and dedication to the intervention sessions. Therefore, the program did more than just collect data—it empowered students with a greater understanding of their capabilities, areas for improvement, and the personal significance of these developments. The program had a significant and positive impact on their physical fitness, underscoring the potential of well-designed physical activity programs to promote student health and development.

Dumith et al. (2011) conducted a systematic review that highlighted the importance of consistent physical activity during adolescence, reporting improvements in cardiovascular endurance, muscular strength, and flexibility—benefits that were reflected in the post-test results of this study. Similarly, Naczk et al. (2014) found that gymnastics training among school children led to significant gains in balance, flexibility, and strength—fitness components that also improved significantly in the post-test phase of the present study.

Table 48. Significant difference in the physical fitness level before and after on Conventional PE Exercises

Fitness in Conventional PE Exercises	Pre-Test		Post-Test		t	df	P
	Mean	SD	Mean	SD			
Cardiovascular	1.58	0.499	3.31	0.468	-15.48	44	.000
Muscular Endurance	1.67	0.522	3.29	0.458	-15.19	44	.000
Muscular Strength	1.58	0.499	3.24	0.484	-14.01	44	.000
Flexibility	1.67	0.522	3.13	0.505	-13.54	44	.000
Body Composition	1.64	0.358	3.41	0.363	-20.89	44	.000

The data analysis showed a big There was a clear difference between the pre-assessment and post-assessment results across all five main components of regular PE exercises: cardiovascular fitness, muscular endurance, muscular strength, flexibility, and body composition. These results pointed to improved physical fitness among the selected Grade 7 students at Pagbilao National High School after they completed the program. The outcomes supported the effectiveness of the intervention in enhancing the students' overall fitness levels.

It also became evident that the students developed a better understanding of their physical capabilities. Through participation in the activities, they discovered strengths in certain areas of physical fitness—some of which they had not believed themselves capable of before. This new self-awareness and increased confidence significantly influenced their engagement and performance. As they recognized their own abilities, they became more self-assured in attempting and accomplishing tasks independently. This shift in mindset contributed greatly to the program's overall success.

Ultimately, the results demonstrated that when students engage in well-designed fitness programs, they not only become physically healthier but also develop a stronger sense of self-belief and motivation. This made the intervention beneficial in multiple aspects—physically, mentally, and emotionally.

The findings aligned with those of Myer et al. (2011), who emphasized the benefits of targeted training for developing physical capacity during adolescence. The conclusions of Gutin and Owens also supported this outcome, as they demonstrated that consistent physical activity contributed to healthier body mass ratios in children and adolescents. These results provided compelling evidence that conventional PE exercises were effective in promoting holistic physical development among students, further supporting the body of research advocating for stronger and sustained physical education programs in schools.

The data analysis showed a clear difference in how much Grade 7 students at Pagbilao National High School competed during aerobic gymnastics compared to regular PE classes.

The results revealed that students' involvement varied based on the activity type, with aerobic gymnastics sparking more participation than standard PE exercises. These results suggested that students took a more active part and felt more driven during aerobic gymnastics sessions. The gap in involvement levels stemmed from the unique aspects of aerobic gymnastics, which mixed music with physical activity. This blend created a more fun and exciting atmosphere, which boosted the students' enthusiasm and participation.

This finding was supported by the study of Aleksandravičienė and Stasiulis (2005), who found that aerobic gymnastics systems, which demanded high physical exertion and pushed participants to reach near maximum heart rates, led to greater competitive engagement. Similarly, Kale and Güler (2023) highlighted improvements in both dynamic movement and endurance in aerobic gymnastics, suggesting a greater physical and competitive investment over time. These findings aligned with evidence that athletes in rhythmic disciplines—specifically aerobic gymnastics—demonstrated stronger team cohesion and a task-oriented focus, which contributed to heightened levels of competitive engagement.

Table 49. Significant difference to the level of competitive engagement between aerobic gymnastics and conventional PE group

Competitive Engagement	Aerobic Gymnastics		Conventional PE				
	Mean	SD	Mean	SD	t	df	p
	3.65	.271	3.42	.431	2.980	88	.004

Table 50. Significant difference between male and female physical fitness students exposed to aerobic gymnastics

Aerobic Gymnastics	Mean (Male)	SD	Mean (Female)	SD	t	df	P
Cardiovascular	3.45	.510	3.57	.507	-.730	43	.469
Muscular Endurance	3.41	.796	3.35	.775	.262	43	.795
Muscular Strength	3.50	.512	3.61	.499	-.721	43	.475
Flexibility	3.55	.596	3.70	.470	-.941	43	.352
Body Composition	3.49	.352	3.574	.243	-.922	43	.362

According to the analysis of the data, no significant difference was observed between boys and girls with respect to physical fitness components in the five factors of aerobic gymnastics—cardiovascular endurance, muscular endurance, muscular strength, flexibility, and body composition. This indicated that male and female Grade 7 students of Pagbilao National High School were similar in terms of their physical fitness in these aspects.

The results showed that the intervention produced not only physical development but also equity in opportunities to participate and achieve for all students involved. This strengthened the positive effect of aerobic gymnastics on the competitive development of both males and females, as there were no significant differences between them. This was consistent with the findings of Faigenbaum et al. (2009), who provided evidence of several physical and motivational advantages for both boys and girls following a formal youth fitness program. That research validated the apparently obvious, yet frequently overlooked, observation that with engaging, developmentally appropriate, and well-planned interventions that included various activity types to promote enjoyment and choice—rather than focusing specifically on gender differences—it was possible to achieve a positive impact on students' motivation and engagement.

In general, it could be concluded that aerobic gymnastics served as an effective method to enhance students' participation in competition and appreciation of physical challenges, regardless of gender.

Table 51. Significant difference between male and female competitive engagement of students exposed to aerobic gymnastics

Competitive Engagement	Mean (Male)	SD	Mean (Female)	SD	t	df	p
	3.67	.272	3.63	.275	.517	43	.608

The data analysis was conducted in parallel to the previous aspects of the study, which previously focused on engagement. The data demonstrated no significant differences, suggesting that Grade 7 male and female students from Pagbilao National High School exhibited essentially equal levels of engagement, involvement, and enthusiasm toward competitive activity. The results indicated that the intervention—specifically the introduction of aerobic gymnastics—did not present any advantage or disadvantage for either male or female students in terms of competition and/or engagement. Both males and females showed similar levels of respect and focus on the activity, as well as comparable power, energy, commitment to routines, and enthusiasm and excitement in performing their routines.

Overall, the results confirmed that aerobic gymnastics served as a powerful and inclusive tool for developing a competitive spirit among all students, regardless of gender. It also helped ensure equality in sport participation, allowing both boys and girls to meaningfully highlight their abilities and take part in the physical activity and fitness benefits that come with positive competition.

A study by Truong and Hodge (2017) found that while motivations could vary across genders, competitive engagement levels did not significantly differ among students in a challenging physical education setting. Furthermore, the study by Lopez-Walle et al. (2011) indicated that there was no significant gender bias in motivational engagement levels for athletes, which supported the idea that males and females could share similar attitudes toward competition. Regarding competitive engagement, students who participated in aerobic gymnastics reported the highest levels of motivation, confidence, and intention to remain physically active—consistent with Weiss and Ferrer-Caja's (2002) assertion that enjoyment and perceived competence were two key determinants.

According to the data analysis, the ability to execute movements quickly and efficiently received the highest mean score among the five indicators related to response time. Conversely, responding quickly to an approaching ball attained the poorest mean of any of the variables. This reinforced the suggestions made about the development of the respondents' situational awareness and their instinctive processing in terms of responding effectively in an immediate situation.

These results supported findings by Nakamoto and Mori (2018), who highlighted that targeted physical activities focusing on reaction drills enhanced students' perceptual-motor speed and decision-making skills. Furthermore, Schmidt and Lee (2019) emphasized that consistent engagement in coordinated physical education routines led to better synchronization of reaction timing with external stimuli, affirming the positive effects of conventional PE exercises on improving reaction time.

Conclusion

From the findings, the following conclusions are hereby drawn:

1) The study results show a marked and significant difference in physical fitness levels before and after participating in PE exercises providing sufficient grounds to reject the null hypothesis.
2) The study revealed a notable difference in competitive engagement between aerobic gymnastics and conventional PE leading to the null hypothesis rejection.
3) The study found no significant difference between male and female students in physical fitness and competitive engagement within aerobic gymnastics so the null hypotheses were accepted.

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