

Fencing: A Combat Sport as an Ideal Response to Skill-Related Fitness Deficit

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Abstract—This study assesses and comprehends the importance of optimizing a combat sport, namely fencing, in enhancing the skill-related fitness of a group of Grade 11 students from the City of Mandaluyong Science High School. The researcher developed a Scorecard for Skill-Related Fitness Test as a physical component following the Department of Education's Enclosure No. 2 to DepEd Order No. 034, s. 2019. The researchers calculated the weighted mean and percentage for balance, coordination, and reaction time. They then utilized a criterion reference to analyze the score distribution. Upon careful analysis of the data, it became evident that each ability had a significant improvement following the implementation of the required intervention. Ratings for balance, coordination, and reaction time range from 0% to 93.5%, 1% to 57.1%, and 0% to 89.6% respectively. Overall, the data obtained suggests that fencing is an effective solution for addressing the skill-related fitness deficiencies of Grade 11 students at the City of Mandaluyong Science High School. Fencing had a significant influence on improving the students' abilities. The aggregate mean ratings of the three skills resulted in a proficiency rate of 80.1%, showcasing the effectiveness of the one-month training program.

Keywords— Physical Education, Fitness, Skill-related fitness, Fitness program, Combat Sports, Training Program, and Exercise.

I. INTRODUCTION

The COVID-19 pandemic has caused a temporary suspension of education for several months until a system for distance and online learning can be implemented. In order to provide consistent guidance to every student amidst uncertainty, the education sector has largely delegated its responsibilities to online learning across all subjects. In order to enhance the authenticity and practicality of the learning process, teachers and students have increased their level of interaction. Educators have implemented the measurement of delivering high-quality education as a strategic approach. However, the most significant obstacle for every learner has been the process of adjusting to an unfamiliar setting that is distinct from the optimal teaching-learning interaction. Furthermore, several concerns have arisen, encompassing insufficient pedagogy and acquisition of knowledge, academic dishonesty, student attrition, and several physiological considerations. According to Save the Children Organization, the current state of education during the pandemic is considered a "unprecedented global education emergency" due to the fact

that over 1 billion children globally are not attending school and there is a possibility that more than 10 million of them may never return (De Guzman 2021). Although the students comprehended the consequences of not having in-person education on their practical circumstances, many of them had a sense of stagnation during the pandemic.

Meanwhile, many courses and disciplines have proven to be unproductive for students, especially in fields that demand higher levels of performance. One of these fields encompasses Physical Education, which has encountered a substantial obstacle in fulfilling the requirements of the youngsters. Aguinaldo (2021) asserted that educators have faced challenges in transitioning from traditional pedagogy to active online learning pedagogy due to the COVID-19 epidemic. This abrupt transition from in-person instruction to online delivery has resulted in this challenge. Physical education is an academic discipline within the K-12 curriculum that adheres to the national standards for physical education. The program provides cognitive information and guidance with the goal of enhancing motor skills, knowledge, and behaviors related to physical activity and fitness (CDC, 2022). However, Peyton (2000) discovered that there was a limited relationship between students and educators when compared to a traditional classroom environment, which made it difficult for students to be engaged. Teaching physical education online poses challenges in effectively conveying the course's origins and meeting all content standards while ensuring learners' comprehension, execution, and self-improvement. Moreover, due to the learning challenges encountered in the online format, numerous students faced difficulties in adapting to the in-person setting. However, the physical well-being and proficiency in physical fitness of every student have been disregarded for a considerable period, and it is evident that they are oblivious to the resulting repercussions.

With the commencement of in-person classes, the education system has been confronted with fitness challenges, revealing the inadequacy of physical education for pupils. Williams (2022) asserts that while the health components of fitness hold universal importance, the skill-related fitness components, including agility, balance, coordination, power, reaction time, and speed, are particularly relevant to specific individuals. The aforementioned factors are the primary

concerns of students, as the majority of them struggle to achieve or perform efficiently in skill-related fitness. In addition, within the school environment, there is a growing issue regarding students' lack of skill-related fitness. It has been recognized that fencing, a combat sport, is a crucial and effective method to enhance balance, coordination, flexibility, strength, and endurance, as stated by Bobley (2019).

Fencing, as described by the Academy of Fencing Masters (2020), is a martial art that encompasses sword fighting. Throughout history, swords have been utilized by warriors, knights, and mercenaries to inflict harm, incapacitate, and engage in conflict throughout several continents. In the Middle Ages, dueling, which involved sword combat between two individuals, became a prevalent method for resolving problems and disputes among the noble class. Although it has a history marked by fatalities, contemporary fencing is a sport that requires talent, intellect, and psychological control. This sport enhances cognitive engagement, so, scrimmages and matches involve both strategic thinking and skill. A robust correlation between the mind and body is necessary, with the mind consistently anticipating the subsequent potential movement. It is always endeavoring to resolve the subsequent potential attack. Due to the mixed-level training sessions, students get the chance to interact with individuals from diverse age groups, skill levels, and fencing backgrounds.

Conversely, due to the pandemic, students' understanding of fitness has been misguided, impacting all aspects of their lives. This study aims to investigate the importance of Fencing, a martial art, in enhancing students' skill-related fitness, which extends beyond individual fitness concepts. Conducting repeated training sessions based on this concept will enable individuals to identify the deficiencies in their physical condition resulting from remote learning. The study was carried out in the academic year 2022-2023, when face-to-face sessions were fully reintroduced after a three-year break. Researchers, administrators, stakeholders, and the Philippine education sector can potentially adopt this approach to incorporate a form of martial arts into skill-related fitness training. This can help maximize the potential of every Filipino learner by equipping them with knowledge and strategies to address this current fitness challenge.

Statement of the problem:

This study aims to evaluate and comprehend the significance of maximizing a combat sport, specifically fencing, in improving the skill-related fitness of selected Grade 11 students of the City of Mandaluyong Science High School.

This research specifically sought to answer the following questions:

1. What is the student's demographic profile in terms of:
 - 1.1 Age
 - 1.2 Sex
 - 1.3 Height
 - 1.4 Weight
 - 1.5 Body Mass Index (BMI)
2. What is the student's skill-related fitness performance following the PRE physical fitness test in terms of:

- 2.1 balance
- 2.2 coordination
- 2.3 reaction time
3. What is the student's skill-related fitness performance after the POST physical fitness test after implementing the Fencing Training Program in terms of:
 - 3.1 balance
 - 3.2 coordination
 - 3.3 reaction time
4. What are the differences in the skill-related performances of students before and after the intervention program?
5. How effective is the Fencing Training Program in the enhancement of the skill-related fitness performance of students?

II. METHODOLOGY

This research specifically examines the PFT that took place from December 2022 to mid-January 2023, which involved senior high school students in grades eleven and twelve.

Furthermore, senior high school students have undergone a physical fitness assessment as mandated by the Department of Education, as outlined in Enclosure No.2 to DepEd Order No. 034, s. 2019. This assessment comprises tests to evaluate both health-related and skill-related fitness. However, because of the limited time available, this study opted to choose participants from the 11th grade for the research and training program. This decision was made taking into account their availability and the need for intervention based on PFT interpretation.

The researchers determined the sample size of the respondents by identifying the entire population of Grade 11 learners at CMSHS. The researchers employed a purposive sampling or non-probability sampling strategy by selecting respondents based on their performance in a physical fitness test. This sampling design involved deliberate and calculated decisions to choose a specific type of respondent, as stated by Masterclass (2022).

In addition, the researchers determined the total number of students in each specific area and section in Grade 11. They also calculated the overall percentage of students who need assistance, which ranges from 0 to 2 points, and those who do not require assistance, which ranges from 3 to 5 points. The information provided is derived from Enclosure No. 2 to DepEd Order No. 034, s. 2019, which pertains to the interpretation of the Physical Fitness Test (PFT). The table shown displays the overall weighted average of students who were chosen for this study and underwent a training program as an intervention to enhance their most crucial skills, as determined by the evaluation of their physical fitness test.

According to Table 1, a total of 181 Grade 11 students participated in the Physical Fitness Test (PFT). Out of them, 49 students were from the Accountancy Business and Management (ABM) strand, while 132 students were from the STEM strand. The researchers computed the points for each student individually using the PFT interpretation, considering their performance ranging from poor to outstanding, and awarding a scale of 0-5 points. The PFT rule's 0-2.5 point and

2.6-5-point categorization successfully identified 42.6% of Grade 11 students who would benefit from participating in the

intervention program aimed at enhancing their skill-related fitness in the sport of fencing, a combat sport.

TABLE 1. Number of Respondents

Strand	Section	Total No. of Students	Good- Excellent (3-5 Pts.) Non- Intervention Rate	Poor- Fair (0-2 Pts.) Intervention Rate	Actual No. of Students for Intervention
Accountancy Business and Management (ABM)	Gates	25	42%	58%	16
	Jobs	24	56.9%	43.1%	10
Science, Technology, Engineering, Mathematics (STEM)	Beilstein	34	69.6%	30.4%	10
	Fermat	31	62.4%	37.6%	12
	Pauli	32	55.8%	44.2%	14
	Schrodinger	35	57.6%	42.4%	15
TOTAL/AVERAGE	-	181	57.4%	42.6%	77

TABLE 2.1. Skill-Related Performance Rate

Skills	Excellent	Very Good	Good	Fair	Needs Improvement	Poor	Total
Coordination	5.8%	7.9%	12.9%	35.5%	35.8%	2.1%	100%
Agility	1.5%	61.9%	34.2%	0.55%	0%	1.9%	100%
Speed	7.6%	30.8%	27.4%	16.4%	17.8%	0%	100%
Power	10.7%	42.8%	30%	13.3%	1.6%	1.6%	100%
Balance	6.9%	5.6%	9.4%	9.6%	65.8%	2.7%	100%
Reaction Time	2.7%	21.6%	24.7%	30.4%	18.2%	2.4%	100%
Average	5.9%	28.45%	23.1%	17.6%	23.2%	1.8%	100%

The researchers deliberately chose a total of 4 male and 12 female students from Gates, 2 male and 9 female students from Jobs, 1 male and 9 female students from Beilstein, 3 male and 9 female students from Fermat, 4 male and 10 female students from Pauli, and 5 male and 10 female students from Schrodinger. This study involved a total of 77 participants, consisting of 18 males and 58 females. Following the concluding physical fitness exam, every student will fill out a scorecard for skill-related fitness to evaluate any changes in skill-related performance resulting from the suitable intervention within a certain period.

This study employed a quantitative quasi-experimental design, utilizing the standardized Physical Fitness Test Score Card adopted from Enclosure No. 2 of DepEd Order No. 034, s.2019. The purpose was to assess whether Fencing, a combat sport, has a significant impact and is an ideal solution for addressing skill-related fitness deficits among selected Grade 11 students at City of Mandaluyong Science High School during the School Year 2022-2023. According to Dinardo J. (2020), a quasi-experiment is an empirical method used to assess the causal effect of an intervention on the target population.

The researchers employed a purposive sampling method, which involves selecting respondents based on specific characteristics of the population and the study's objectives. In this case, the respondents were chosen based on the physical fitness test results of Grade 11 students from CMSHS, as explained by Crossman, A. (2019) in Understanding Purposive Sampling. The researchers also pinpointed the particular talents that should be emphasized in the study. The data has been analyzed and the overall percentage of each skill has been determined. This analysis was done using the PFT interpretation. The specific abilities that were included in the intervention program were also chosen.

Table 2.1 displays the overall weighted average of each ability, calculated based on the PFT performance of the entire

Grade 11 population. Table 2.2, on the other hand, presents the individual skills that were chosen using intervention and non-intervention criteria.

Table 2.1 displays the proficiency level in skills exhibited by all Grade 11 students due to particular physical activities on the Physical Fitness Test Score Card. The skill level is determined by analyzing the real-time student performance, which spans from subpar to exceptional. Furthermore, it is apparent that agility, speed, and power exhibit superior rates of "good-excellent" compared to the remaining three skills. It received scores of 61.9%, 30.8%, and 42.8% respectively, all of which were classified as very good.

TABLE 2.2. Skills to Improve

DETERMINING SKILLS TO IMPROVE			
Skill	Non-Intervention Rate	Intervention Rate	For Improvement
Balance	21.9%	78.1%	YES
Coordination	26.6%	74.4%	YES
Reaction Time	49%	51%	YES
Speed	65.8%	34.2%	NO
Power	83.5%	16.5%	NO
Agility	97.6%	2.4%	NO

The researchers deliberately selected the particular abilities to be incorporated into the intervention program based on a majority decision. A majority, often referred to as a simple majority or absolute majority, denotes more than half of the total (Robert's Rule, 2021). Table 2.2 displays the rates of intervention for balance, coordination, and response time as 78.1%, 74.4%, and 51%, respectively. Skills such as speed, power, and agility exhibit a higher non-intervention rate.

TABLE 2.3. Mean, STDEV, and V.I. for Skills to Improve

Skill	Mean	Standard Deviation	Verbal Interpretation
Balance	1.25	0.830	Needs Improvement
Coordination	1.48	0.754	Needs Improvement
Reaction Time	2.10	1.078	Fair
Overall	1.61	0.887	Needs Improvement

Table 2.3 depicts the average values of 1.25, 1.48, and 2.10 for the variables of balance, coordination, and response time. These values were verbally assessed as needing improvement and being fair, respectively. Moreover, it possesses a mean value of 1.61 in total and was verbally assessed as requiring improvement following the pre-physical fitness examination.

Statistical Treatment

The data collected from the study participants was analyzed using the following statistical methods.

Simple Percentage Calculation. The demographic profile factors of the respondents were examined by calculating the simple percentage using the following formula:

$$P = \frac{F}{N} \times 100$$

Where:

P= Percentage

F= Frequency for each category

N= Total number of respondents

100= constant multiplier

Weighted Mean. This statistical method was utilized to calculate the weight of the performance on the Physical Fitness Test Score Card during the Skill-Related PRE and POST evaluation. This was also utilized to ascertain the competencies that will be incorporated into the intervention program. The formula for the weighted mean is as follows:

$$WM = \frac{\sum FW}{N}$$

Where:

WM= Weighted Mean

\sum = Summation symbol

F= Frequency for each option

W= Assigned weight

N= Total number of frequencies

Then, the researchers employed score distribution using a criterion reference shown below.

TABLE 3. Criterion Reference (Verbal Interpretation)

Score	Interpretation	Equivalent	Remarks
5	Excellent	2.6 to 5	Non-Intervention
4	Very Good		
3	Good		
2	Fair	0 to 2.5	Intervention
1	Needs Improvement		
0	Poor		

The criterion reference was used to determine which students would be included in the training program to enhance their skill-related fitness performance following the PRE evaluation.

The *Paired T-test* is a statistical test that examines the differences between two values inside a single pair, where one value is subtracted from the other. By employing this approach, the researchers can ascertain whether there is a notable improvement in performance resulting from the intervention, how it impacts the skill-related fitness of the students, and whether the intervention program is statistically significant.

$$t = \frac{\sum d}{\sqrt{\frac{n(\sum d^2) - (\sum d)^2}{n-1}}}$$

where d: difference per paired value
n: number of samples

III. RESULTS AND DISCUSSION

This chapter presents the data, results, and findings of the study consolidated from answering the study’s statement of the problem, showing relevant reports and statistical analysis.

1. Demographic Profile of Respondents

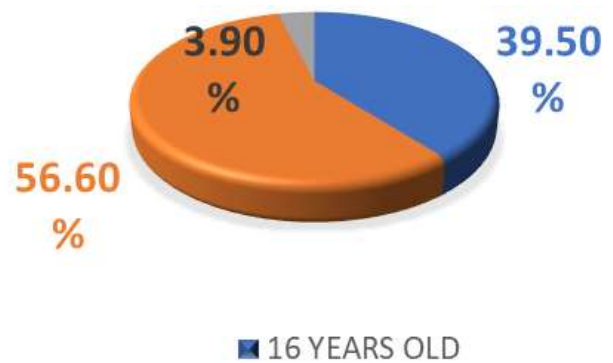


Figure 1.1. Age

Figure 1.1. shows that thirty-nine-point fifty percent (39.50%) were sixteen (16) years old; fifty-six-point sixty percent (56.60%) were seventeen (17) years old; and three-point-ninety percent (3.90%) were eighteen (18) years old.

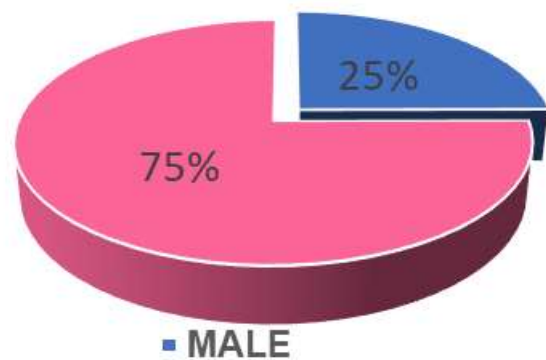


Figure 1.2. Sex

Figure 1.2. shows that majority (75%) of the respondents were female. The rest (25%) were male. Apparently, more female respondents had undergone the intervention program designed to enhance their skill-related fitness performance

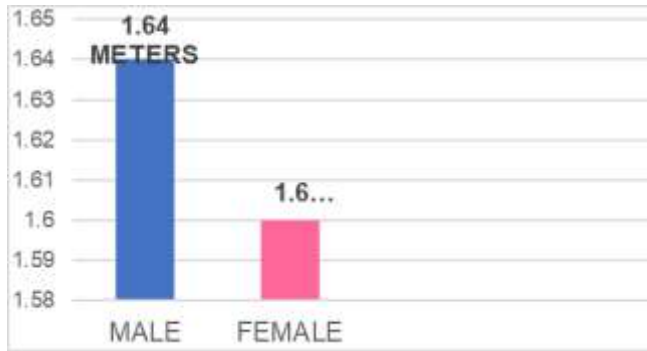


Figure 1.3. Height

Figure 1.3. shows the height difference between male and female respondents. The result displays 1.64 meters average height for males; and 1.60 meters average height for females.

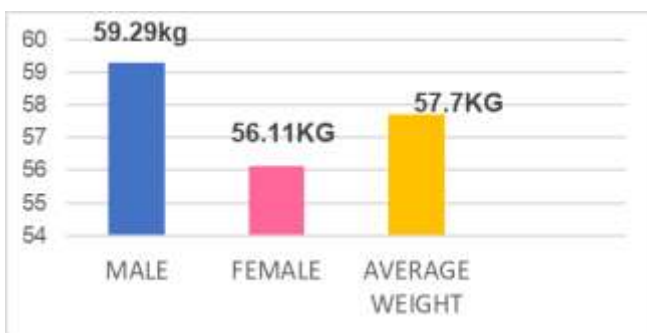


Figure 1.4. Weight

Figure 1.4. shows the average weight of the respondents; where the male is averaging 59.29 kilograms while the female is 56.11 kilograms. The respondents of the study have a weighted average of 57.7 kilograms.

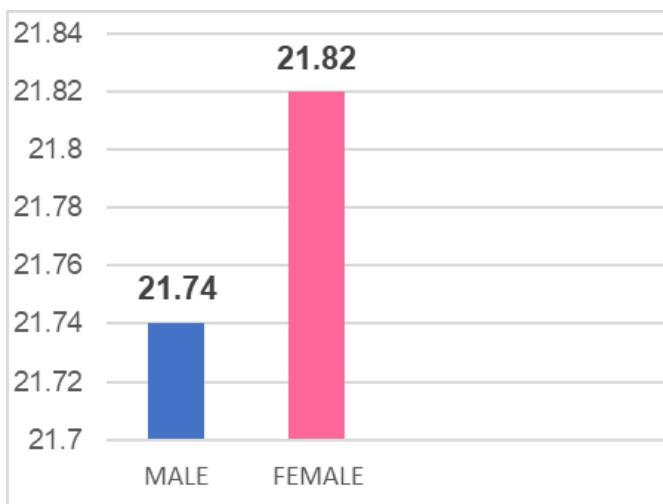


Figure 1.5. Body Mass Index (BMI)

Figure 1.5 displays the Body Mass Index (BMI) of the participants, with males having an average BMI of 21.74 and females having an average BMI of 21.82. The responses were classified as normal according to the Obesity Action Coalition (2023) Classification on average. Hence, the participants

exhibited average weight and height and maintained physical well-being throughout the duration of the intervention program.

According to a study published in Research Gate Studies (2022), those who are in good health and physically active are able to enjoy life to the maximum extent without experiencing significant medical or physical issues. Empirical evidence has shown that engaging in regular physical activity enhances cognitive performance and promotes general welfare.

Additionally, it has the potential to reduce blood pressure, enhance cardiovascular well-being, and enhance one's physical aesthetics.

These respondents play a crucial role in guaranteeing the trustworthiness and authenticity of the research findings, while also offering useful insights. By employing a representative sample size, the researchers are able to draw well-founded inferences and conclusions that are applicable to the entire population. As the sample size increases, the accuracy of the research study also increases, leading to greater dependability and validity. Consequently, the researcher is required to undergo a meticulous selection procedure to guarantee that suitable participants align with the research aims and criteria of the study, so preventing any potential bias.

2. Student's Skill-Related Fitness Performance After

Pre-Physical Fitness Test Evaluation in Terms of:

2.1 Balance

2.2 Coordination

2.3 Reaction Time

TABLE 4.1. Percentage of the Pre-Physical Fitness Test

SKILLS	Excellent	Very Good	Good	Fair	Needs Improvement	Poor
Balance	0%	3%	5%	32%	57%	3%
Coordination	1%	3%	5%	5%	81%	5%
Reaction Time	0%	14%	18%	35%	29%	4%
Average	0.33%	6.67%	9.33%	24%	55.67%	4%

Table 4.1 illustrates the mean percentage of each skill derived from the real performance of students during the pre-physical fitness test. The distribution of ratings for balance is as follows: 0% exceptional, 3% very good, 5% good, 32% fair, 57% requires improvement, and 3% poor. These ratings indicate a clear need for progress in this talent.

Concurrently, the coordination skill was evaluated as follows: one percent (1%) was rated as exceptional, three percent (3%) as very good, five percent (5%) as good and fair, eighty-one percent (81%) as needing work, and five percent (5%) as poor. The skill achieved an intervention rate of 74.4%. In contrast, the skill of response time exhibited a distribution of ratings as follows: no participants achieved an exceptional rating (0%), fourteen percent (14%) achieved a very good rating, eighteen percent (18%) achieved a good rating, thirty-five percent (35%) achieved a fair rating, twenty-nine percent (29%) were rated as needing development, and four percent (4%) received a poor rating.

In addition, the overall average rating for the three skills is as follows: 0.33% excellent, 6.67% very good, 9.33% good,

24% fair, 55.67% in need of improvement, and 4% poor. The selection of skills for the intervention program was completely based on the student's performance during the pre-physical fitness test evaluation. The need for improvement in these skill sets has been demonstrated.

According to Williams (2022), enhancing your overall physical condition might have advantages irrespective of the specific sport or activity you engage in. Nevertheless, in terms of performance, the most significant improvements arise from training that specifically targets the development of skills that are distinct from the activity you have selected.

TABLE 4.2. Mean, STDEV and V.I. of Pre-Physical Fitness Test

Skill	Mean	Standard Deviation	Verbal Interpretation
Balance	1.25	0.830	Needs Improvement
Coordination	1.48	0.754	Needs Improvement
Reaction Time	2.10	1.078	Fair
Overall	1.61	0.887	Needs Improvement

Table 4.2 shows the mean of 1.25, 1.48, and 2.10 for balance, coordination, and reaction time which were verbally interpreted as needing improvement, and fair respectively. Furthermore, it has an overall mean of 1.61 and was verbally interpreted as needing improvement after the pre-physical fitness.

3. Student's Skill-Related Fitness Performance After the Post-Physical Fitness Test Evaluation in Terms of:

- 3.1 Balance
- 3.2 Coordination
- 3.3 Reaction

TABLE 5.1. Percentage of the Post-Physical Fitness Test

SKILLS	Excellent	Very Good	Good	Fair	Needs Improvement	Poor
Balance	93.5%	6.5%	0%	0%	0%	0%
Coordination	57.1%	31.2%	7.8%	3.9%	0%	0%
Reaction Time	89.6%	6.5%	3.9%	0%	0%	0%
Average	80.1%	14.7%	3.9%	1.3%	0%	0%

Table 5.1 presents the outcomes of the evaluation conducted after the participants completed the one-month Fencing Training Program. The data clearly shows the changes in the percentage and the significant increase in each skill. Specifically, the balance was 93.5% excellent, 6.5% very good, and 0% good, fair, needs improvement, and poor ratings. In addition, the coordination skill exhibited varied outcomes, with 57.1% rated as excellent, 32.2% as very good, 7.8% as good, 3.9% as fair, and 0% as needing improvement or poor. Regarding reaction time, the evaluations are as follows: 89.6% excellent, 6.5% very good, 3.9% fair, and 0% for requires improvement and poor ratings. Moreover, the intervention program had a significant influence on the kids' aptitudes. The aggregate mean evaluations of the three abilities resulted in an 80.1% rate of excellence, showcasing the effectiveness of the one-month training program.

Table 5.2 displays the average values of 4.95, 4.43, and 4.86 for balance, coordination, and response time, respectively. These values were verbally described as

excellent, very good, and excellent, correspondingly. Moreover, it possesses a mean value of 4.75 in total and was verbally assessed as excellent following the post-physical fitness test inside the specified intervention program.

TABLE 5.2. Mean, STDEV, and V.I. of Post-Physical Fitness Test

Skill	Mean	Standard Deviation	Verbal Interpretation
Balance	4.95	0.223	Excellent
Coordination	4.43	0.802	Very Good
Reaction Time	4.86	0.451	Excellent
Overall	4.75	0.492	Excellent

Quinn (2023) stated that a fitness test, usually referred to as a fitness assessment, comprises a series of exercises specifically designed to evaluate one's overall health and physical fitness. These evaluations utilize a range of established protocols, such as body composition analysis, heart stress examinations, endurance assessments, and range of motion measurements.

The purpose of these tools is to ensure your safety and to equip the trainer with the necessary knowledge to establish specific and impactful training objectives.

4. The Differences in the Skill-Related Performances of Students Before and After the Intervention Program

Figures 2.1 and 2.2 below depict the disparity in the student's performance in skill-related fitness prior to and during the training program. It illustrates the significant improvement in each skill following targeted intervention for their enhancement. Regardless, the researchers ascertained the amplification of each skills by comparing data prior to and subsequent to the intervention program.

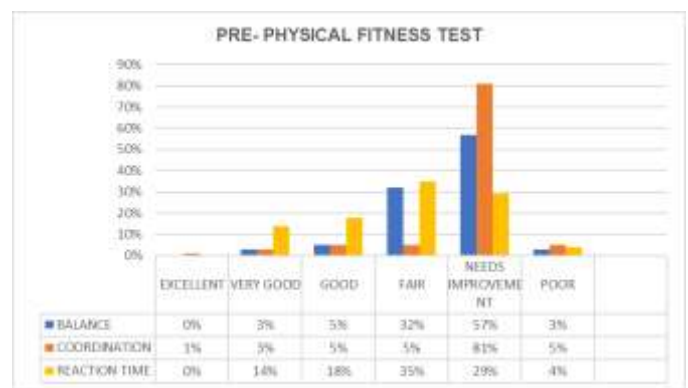


Figure 2.1. Percentage Comparison of Skills in Pre-Test



Figure 2.2. Percentage Comparison of Skills in Post-Test

Upon conducting a comprehensive assessment of the skills comparison before and post the training program, it is clearly

apparent from the data presented in Figures 2.1 and 2.2 that there is a noticeable disparity in the performance of the students following their participation in the intervention program. Ratings for balance, coordination, and reaction time range from 0% to 93.5%, 1% to 57.1%, and 0% to 89.6% respectively.

5. Effectiveness of the Fencing Training Program in the Enhancement of the Skill-Related Fitness Performance of Students.

TABLE 6.1. t-Test Paired Two Sample for Mean of Balance

t-Test: Paired Two Sample for Means		
Balance	1	5
Mean	1.25	4.947368
Variance	0.69666667	0.050526
STDEV	0.834665602	0.224781
t Stat	32.4413183	
P(T<=t) one-tail	3.44973E-46	
t Critical one-tail	1.665425373	
P(T<=t) two-tail	6.89946E-46	
t Critical two-tail	1.992102154	

Table 6.1. shows the t stat averaging 32.4413183 and t Critical two- tail with the standard deviation of 0.834 under the balance skill. Since the t Stat is greater than the Critical two-tail value, the researchers identified that the intervention program is significant in improving the balance skill of the students.

TABLE 6.2. t-Test Paired Two Sample for Mean of Coordination

t-Test: Paired Two Sample for Means		
Reaction Time	1	5
Mean	2.105263158	4.855263158
Variance	1.162105263	0.205438596
STDEV	1.078009862	0.453253347
t Stat	20.53234076	
P(T<=t) one-tail	8.16184E-33	
t Critical one-tail	1.665425373	
P(T<=t) two-tail	1.63237E-32	
t Critical two-tail	1.992102154	

Table 6.2 shows the t stat with an average of 21.8627451 and the standard deviation of 0.757 under coordination skills. The same with the balance, the t Stat is greater than the t Critical two-tail which means the intervention program is significant in improving the coordination skill of the students.

TABLE 6.3. t-Test Paired Two Sample for Mean of Reaction Time

t-Test: Paired Two Sample for Means		
Coordination	1	5
Mean	1.486842105	4.421053
Variance	0.573157895	0.647018
STDEV	0.757071922	0.804374
t Stat	21.8627451	
P(T<=t) one-tail	1.43188E-34	
t Critical one-tail	1.665425373	
P(T<=t) two-tail	2.86376E-34	
t Critical two-tail	1.992102154	

Table 6.3 provides the t-statistic for the response time skill, with an average of 20.53234076 and a standard deviation of 1.078. Similarly, in terms of balance and coordination, the t Statistic exceeds the t Critical value for a two-tailed test. This

indicates that the intervention program has a considerable impact on enhancing the response time ability of the pupils.

The Intervention program plays a vital role in fostering the growth of persons who need support in realizing their maximum capabilities. The objective of this program is to offer supplementary assistance and resources to individuals in order to tackle difficulties, foster chances for development, and enhance self-confidence. The main objective of this intervention program is to promptly address issues before they escalate into a critical situation. These pupils who are experiencing skill-related fitness challenges, learning difficulties, and behavioral problems would derive benefits from i

TABLE 7. Mean, STDEV, and V.I. of Post-Physical Fitness Test of the Skills Evaluation

Skill Related	Mean		Standard Deviation		Verbal Interpretation
	Pre-Test	Post Test	Pre-Test	Post-Test	
BALANCE	1.25	5	0.83	0.23	EXCELLENT
COORDINATION	1.49	4.42	0.91	0.48	VERY GOOD
REACTION TIME	2.11	5	0.95	0.69	EXCELLENT

Table 7 displays the mean values for the pre-test and post-test, which are 1.25 and 5, respectively. The standard deviation for the pre-test is 0.83, and for the post-test, it is 0.23. The balance, coordination, and reaction time were assessed as outstanding, very good, and excellent, respectively. However, the training program conducted by the researchers had a considerable impact on improving the skill-related fitness of the participants.

Hawthorne (2021) stated that intervention programs are vital in assisting individuals in surmounting obstacles and attaining their utmost capabilities. These programs are specifically developed to offer focused and personalized assistance to persons facing challenges such as learning disabilities, substance addiction, and mental health issues. The significance of intervention programs resides in their capacity to detect and tackle issues at an early stage when they are still within the realm of control. They offer a secure and nurturing setting for individuals to openly discuss their challenges and obtain essential assistance and direction. Intervention programs facilitate the cultivation of resilience, enhancement of coping mechanisms, and establishment of salubrious habits, all of which are imperative for achievement in college and beyond. Hence, it is crucial that we allocate resources and endorse intervention initiatives to provide equal access for all individuals to achieve their maximum capability

IV. CONCLUSION

The researchers concluded, based on the study's findings, that the respondents perceive the Fencing training program to be advantageous in enhancing their skill-related fitness, specifically in terms of balance, coordination, and reaction time. This conclusion is supported by the calculation of the weighted mean and the comparison of pre-test and post-test results. Based on the T-test analysis, the intervention had a significant impact on the skill-related fitness of the

respondents. Specifically, the t-statistic for the balance skill averaged 32.4413183, for the coordination skill it averaged 21.8627451, and for the reaction time skill it averaged 20.53234076. Hence, the researchers deduce that the Fencing Training program had a substantial impact on enhancing skill-related fitness, particularly in terms of balance, coordination, and reaction time, as evidenced by the higher t-statistic values compared to the constant t-critical two-tail value of 1.992.

Ultimately, the intervention program possesses the capacity to profoundly alter individuals' lives. The program offers a conducive atmosphere that facilitates individuals in acquiring novel skills and ways to enhance their resilience and effectively manage challenging circumstances. The acquisition of skills, confidence, and resilience through this process also enables individuals to tackle new difficulties, such as the pursuit of improving their fitness levels related to certain talents. The significance of intervention programs cannot be overstated, and we must persist in allocating resources towards them in order to offer assistance to individuals facing difficulties and equip them with the necessary skills for achievement.

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