ZIBELINE INTERNATIONAL™ PUBLISHING

ISSN: 2948-4901 (Online)
CODEN: MMHJB9

Malaysian Mental Health Journal (MMHJ)

DOI: http://doi.org/10.26480/mmhj.01.2023.07.12

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REVIEW ARTICLE

HEALTH, PHYSICAL FITNESS, AND SKILLS OF FIRST YEAR COLLEGE STUDENTS: EVIDENCE FROM A PHILIPPINE COLLEGE

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ARTICLE DETAILS

Article History:

Received 26 October 2022
Revised 06 November 2022
Accepted 10 December 2022
Available Online 16 January 2023

ABSTRACT

Physical fitness is one of the factors essential for good health and active life. Physical activity and physical fitness are interrelated in the application and health benefits. This study aims to assess the freshmen students' current physical fitness and determine their physical skill capabilities. Department of Education's (DepEd) Physical Fitness Test Manual was used as a guide in developing the assessing instrument. Established standards were used to gauge the physical fitness related to health. There are five (5) health-related components of fitness: body composition, flexibility, cardiovascular fitness, muscular strength, and muscular endurance. Skills have six (6) components: agility, balance, coordination, speed, power, and reaction time. The tests were administered to 52 college students out of 100 students who are in their freshmen. Results show that 70% are physically fit, while 30% are not fit. Although most or 33 of the students' body composition is within the normal range, ten (10) students are underweight, while seven (7) are overweight, and two (2) are obese. Strength tests of 21 students revealed that they did not pass the push-ups test, while 52 or all of them did not pass their curl-up test. These results suggest that the body composition and the strength of the students need improvement. Their lack of exercise could be a factor to consider in improving students' body composition index and strength. The results of the tests show that students' flexibility is normal, and their cardiovascular endurance is excellent. T-test results show that there is no significant difference in the skill-related fitness of 16 to 20 age range of students and the 21 years old and above.

KEYWORDS

Physical Fitness, Physical Skill, Fitness Tests

1. INTRODUCTION

In laymen's words, "physical fitness" refers to the body's ability to adapt to its surroundings and cope with daily activity. Moreover, the person can also do daily activities with maximum efficiency, endurance, and strength while managing disease, weariness, and stress and reducing sedentary behavior. Physical fitness allows a person to perform daily tasks providing extra energy for other leisure activities. It involves a body that can adjust to unforeseen environmental changes and daily pressures. Physical fitness is one of the factors essential for good health and active life. Physical activity is related to physical fitness in its application and health benefits.

Studies show that students can function at the peak of their performance when they are healthy and robust. According to a report presented at the American Heart Association 2010 Conference on Nutrition, Physical Activity, and Metabolism, physical fitness is associated with young people's academic performance. Several studies support the evidence that physical fitness improves academic performance and health benefits of longer life spans and decreases risks of chronic diseases. Physical fitness has two categories: health-related and skills-related physical fitness, with five (5) health-related components: body composition, flexibility, cardiovascular fitness, muscular strength, and muscular endurance. Skill-related fitness has six (6) components: agility, balance, coordination, speed, power, and reaction time.

This research will contribute towards unraveling the physical fitness of students who are in their freshmen in college. This research is vital because it will give educational institutions the information needed to initiate programs to create health awareness for students. Results will serve as a guide for future physical educators and practitioners to improve the quality of physical education programs. Lastly, results may be used to reform the current physical education curricula in high school and college.

This study was undertaken to determine the current physical fitness of the freshmen students and their physical skill capabilities. The objectives of the study are:

A. To assess students' physical fitness related to health in terms of their: Body Mass Index (BMI), Flexibility, Cardiovascular endurance, and strength.

B. To determine the physical skills of students in terms of their Speed, Power, Agility, Reaction, Coordination, and balance;

C. To determine the differences in students' skills who are 20 years old and below compared to those 21 years old and above.

2. LITERATURE REVIEW

The reviews will include Philippine laws and Department of Education requirements; local and foreign studies. School institutions are required by law to incorporate a physical activity program to maintain an adequate number of students' physical activity based on Republic Act no. 5708 or "The Schools Physical Education and Sports Development Act of 1969". It focuses on instilling physical activity as an essential aspect for individual

Quick Response Code	Access this article online	
	Website: www.mmhj.com.my	**DOI:** 10.26480/mmhj.01.2023.07.12

Cite The Article: Ricardo G. Santiago, Venus C. Ibarra (2023). Health, Physical Fitness, and Skills of First Year College Students: Evidence from A Philippine College. *Malaysian Mental Health Journal, 2(1): 07-12.*

development aside from social and mental activities (The Schools Physical Education and Sports Development Act of 1969, 2020).

The Department of Education (DepEd) mandates that all schools promote Physical Education and provide opportunities for students' participation in Physical Education (P.E.) classes following the DepEd D.O. No. 84, signed in 1994. Physical Education is a course taught in primary and secondary schools. The course is designed to develop motor skills, knowledge, and physical activity, and fitness behaviors. Physical Education focuses on developing physical fitness and the ability to perform physical activities with ease. As contained in the curriculum guide of DepEd, the K to 12, P.E. Curriculum should develop the students' skills in accessing, synthesizing, and evaluating information, in making informed decisions, enhancing, and advocating their own and others' fitness and health. The knowledge, understanding, and skills underpin all students' competence, confidence, and commitment to live an active life for fitness and health.

The Commission on Higher Education (CHED) echoes physical fitness concerns by issuing Memorandum Order No. 80, Series of 2019 about the Policies, Standards, and Guidelines on implementing Tertiary Physical Education Courses. It adopted Republic Act (R.A.) No. 7722, better known as "Higher Education Act of 1994". It promotes physical education and encourages sports programs for the development of a healthy and alert citizenry. All educational institutes are mandated to undertake regular sports activities throughout the country in cooperation with athletic clubs and other sectors.

There is a limited number of research focusing on the physical fitness of Filipino students. A study conducted in a private university in the Philippines found that physical activity engagement was inversely proportional with the year level. Physical inactivity was much more prevalent among higher year levels (Acampado and Valenzuela, 2018). It was found out that 67.2% of the students in the study were physically inactive. In the absence of the required physical education classes in the upper year levels, bundled with an increased coursework load in their majors, higher years tend to neglect physical activity as a part of their daily activities.

Kim and Cardinal's claimed that having required physical education classes invites unmotivated students to engage with physical activity (Kim and Cardinal's, 2018). University policies and college curricula play a relevant role in encouraging university students to engage in physical activity and prevent sedentary lifestyles. Personal motivation among Filipino college students is also a relevant factor in the engagement of physical activity. Students highlighted health to be of more importance than sport when stating the reasons for doing physical activity like exercise (Cagas et al., 2009). Health-related motives were found to be extrinsic rather than intrinsic, more long-term, and sustainable.

The Technological Institute of the Philippines conducted a similar study on students enrolled in physical education classes (Technological Institute of the Philippines, 2008). Students underwent different physical fitness tests to determine their fitness status. Included a 50-meter sprint for speed, long jump for power, sit-ups for strength, push-ups for power, shuttle-run for agility, sit and reach for flexibility and a 12-minute run for endurance. The results showed varying levels of physical fitness among the groups of students. However, on average, the fitness status of the participants was generally "impressive" under the CHED standard of physical fitness (Giron, 2008). Aurellado attests that Filipino university students engaged in regular moderate to high-intensity activities (Aurellado, 2015).

A study by Pituk and Cagas revealed that, although university students had adequate amounts of physical activity, there is a difference in physical ability among men and women (Pituk and Cagas, 2019). It was assessed using the upper and lower body flexibility, BMI, and other physical tasks like abdominal curls, distance sprints, and vertical jumps. In their physical fitness status, male students appear to be more physically fit than female students. Male students outperformed in the vertical jump, curl-ups, and cardiovascular fitness; however, female students displayed much lower body flexibility.

Another research is done on female freshman, and sophomore students showed that female students moderately engaged with high levels of physical activity (Aurellado, 2015). It was evaluated using an International Physical Activity Questionnaire and a Sedentary Behavior Questionnaire. Physical activity is attributed to the student's daily activities such as walking from building to building between classes and the students' required P.E. subject. This was in line with Kim and Cardinal's results that physical education classes affect the student's level of physical activity (Kim and Cardinal's, 2018). A recent 2020 study by Xiangyu et al. on Chinese college students explored the link between academic performance and physical fitness. They cited that only 3 out of 10 adolescents (between 9-17) met the moderate-vigorous intensity physical (MVPA) recommendations. The rate was lower for students who are in college.

According to a study by a student gets more preoccupied as they advanced to higher years in college (Caspersen et al., 1985). The greater prevalence of inactivity increased from 3 to 8 percent (3-8%) per year during ages 15 to 18. Based on the study by attending college is a crucial period to be studied because of the tendency of these students to gain more weight than those who do not attend school at the tertiary level (Crombie et al., 2009). According to a study early adolescence is a period of dynamic neurobiological and psychological changes, the ideal time to set foundations for future health (Wassenaar et al., 2019. One way to do this is through physical fitness. The study shows that despite the benefits of physical activity in this age group, actual physical activity levels among young adolescents are low and tend to decline as they age.

A studied the effects of exercise on college students' performance. The results explored the integration of exercising and studying during the day that may enhance the productivity of study time (Frick et al., 2017). The results also identified quantity, timing, and type of exercise as relevant determinants of students' academic performance. The requirement of physical education classes may or may not be a factor in students' motivation to prevent a sedentary lifestyle. Thus, it is essential to evaluate the level of physical activity and lifestyle among Filipino college students. Physical inactivity and fitness among adolescents are of importance at the societal level. There will be a strong possibility of obesity and cardiovascular risks among adults in the Philippines (Gonzalez-Suarez and Grimmer-Somers, 2011).

3. METHODS

The study adopted a descriptive research design employing quantitative method of data collection and analysis. Quantitative research is an approach for testing objective theories by examining the relationship among variables (Kumar et al., 2009). This study was conducted among selected college students at a technological college in Lucena City, Philippines, who were enrolled in their first year under the government program: Diploma in Technical Vocational Teacher Education with a specialization in Food and Service Management. The school offers the program under the Technical Education and Skills Development Authority. All its current students are under a scholarship program, free tuition fees with a living allowance of P14,400 per semester, and other benefits. To be qualified for the grant, the student's family income should be lower than P20,000 ($400) per month. All 100 college students were asked to participate in the research, but only 52 students agreed to participate in the study. The study was conducted at the height of the covid pandemic. Students performed the activities without the observation of the proponents because of the worldwide health crisis preventing face-to-face activities. Students were assisted by another person to record performances.

Department of Education (DepEd) Physical Fitness Test Manual was used to develop the assessing instrument. The physical fitness test is a set of measures designed to determine one's level of physical fitness. Physical fitness related to health and skill comprises several tests, chosen based on time-efficiency in the administration, availability of equipment, simplicity of the procedures, and practicality of the tests. Established standards on health-related fitness were used to assess the student's fitness. In the absence of standards to gauge students' skills, the performances of 20 years old and below were compared to the performances of students who are 21 years old and above.

4. STATISTICAL METHOD

This study made use of percentages to analyze primary data using the formula:

$$P = \frac{f\,(100)}{N}$$

where: P = percentage
f = number of responses
N = number of participants

To determine if there are+ significant differences between the speed, power, agility, reaction time, coordination, and balance between those in the age bracket of 16 to 20 and those in the age bracket of 21 years old and above, T-test was calculated with the following formula:

$$t = \frac{m_A - m_B}{\sqrt{\frac{s^2}{n_A} + \frac{s^2}{n_B}}}$$

where: A and B represent the two groups

mA and mB represents the means of group A and group B, respectively

nA and nB represent the sizes of group A and group B, respectively.

s^2 is the estimator of the common variance of the two samples,

It can be calculated as follows:

$$s^2 = \frac{\sum (x - m_A)^2 + \sum (x - m_B)^2}{n_A + n_B - 2}$$

On the other hand, the degree of freedom (df) will be used with the formula below, considering a significance level alpha of 5%.

df = nA + nB – **2**

5. The Data Analysis

A total of 52 college students participated in this study, where 24% or 8 of them are male while 76% or 44 are females, as shown in Table 1.

Table 1: Age and Gender of Participants

Participants' Age	*Male*	*Female*	*Total Participants*
16 to 20 years old	4	22	26
21 to 25 years old	2	11	13
26 to 30 years old	1	5	6
31 to 35 years old	0	1	1
36 to 40 years old	0	1	1
41 to 45 years old	0	3	3
46 to 50 years old	1	1	2
Total	8	44	52

Half of 50% of the participants are aged between 16 to 20 years old, 25% are between 21 and 25 years old, while 11% are between 26 and 30 years old. It can be noted that 4% of the participants are in the age bracket of 46 to 50 years old. These students wanted to prove that they could still earn a degree even if they were relatively older compared to their classmates. Out of 52 students, 30 are working, while 32 are full-time students.

5.1 Physical Fitness Test

Based on the DepEd Physical Fitness Test Manual, students should be given physical fitness tests to determine their fitness level, identify their strengths and areas for development/ improvement, and identify physical activities that will improve their physical fitness. Physical fitness tests related to health are body composition, flexibility, cardiovascular endurance, and strength. Physical skills are speed, power, agility, reaction, coordination, and balance. DepEd definitions of the tests and skills were used in analyzing the fitness of the students. Data gathered on physical fitness related to health were compared to established standards to determine students' fitness.

Body Composition is the body's relative amount of fat-to-fat-free mass. Body Mass Index (BMI) measures if a person is underweight, normal, overweight, or obese. The formula is

$$\frac{\text{WEIGHT [in Kilograms]}}{\text{HEIGHT [in Meters]}^2 \text{ (squared)}}$$

The U.S. Department of Health and Human Services provided the Body Mass Index (BMI) chart as a guide (Appendix 1). The Department of Education (DepEd) of the Philippines classifies in its Physical Fitness Test Manual the following body types based on the person's BMI:

Underweight – with a BMI of below 18.5

Normal – with BMI of 18.5 to 24.9

Overweight – with a BMI of 25.0 to 29.9

Obese – with a BMI of 30.0 and above

Table 2 shows that 33 out of 52 (63.46%) participants have an average body index. In comparison, 19 did not pass the body mass index distributed as follows: 19.23% are underweight, while 13.46% are overweight, and 3.85% of the participants are obese.

Table 2: Body Mass Index Participants

Body Type	**No. Participants**	**Percent**	**Fitness**
Underweight	10	19,23	Not fit
Normal	33	63.46	Fit
Overweight	7	13.46	Not fit
Obese	2	3.85	Not fit
Total	52	100%	

Flexibility refers to the ability of the joints to move through a full range of motion.

Zipper test is a test of upper arm and shoulder girdle flexibility intended to parallel the strength/endurance assessment of the region. The participants should touch their fingertips together behind the back by reaching over the shoulder and under the elbow. Fitness is based on the 0 to 5 levels described in the DepEd's Physical Fitness Manual:

0 – did not touch fingertips

1 – just touched the fingertips

2 – fingers overlapped by 1-2 cm.

3 – fingers overlapped by 3-4 cm.

4 – fingers overlapped by 5-7 cm.

5 – fingers overlapped by 8 cm. and more

Table 3 below shows the results of the Zipper Test of the students. Two students were not able to touch fingertips, and 15 (28.84%) just touched fingertips. Nineteen19 (36.54%) passed level 2, nine (9) students passed level 3, four (4) passed level 4, and three (3) passed level 5.

Table 3: Results of Flexibility (Zipper Test)

Zipper Test Scoring Standard	Number of Participants	Percentage
Did not touch fingertips	2	3.85
Just touched fingertips	15	28.84
Fingers overlapped by 1-2 cm.	19	36.54
Fingers overlapped by 3-4 cm.	9	17.31
Fingers overlapped by 5-7 cm.	4	7.69
Fingers overlapped by 8 cm. and more	3	5.77
Total	52	100%

Sit and Reach-Test tests the flexibility for the lower extremities, particularly the hamstring. The participant should be able to reach as far as possible without bending the hamstring. Toendsponts.com standards for men and women (Appendix 2) were used to measure participants' flexibility. Results are shown in Table 4.

Table 4: Results of Flexibility Test: Sit and Reach

Physical Test Score	Male No.	Percent	Female No.	Percent
Super (> +25 cm)	3	37.50	20	45.45
Excellent (+17 cm to + 27 cm)	3	37.50	10	22.73
Good (+6 cm to +16 cm)	1	12.50	2	4.55
Average (0 cm to +5 cm)	1	12.50	11	25.00
Fair (-8 cm to -1 cm)	0	0	1	2.27
Poor (-20 cm to -9 cm)	0	0	0	0
Very Poor (< -20 cm)	0	0	0	0
Total	8	100%	44	100%

There were eight (8) male participants in this test. These male participants performed very well in the Sit and Reached -Test; 37.5% were considered super flexible when they reached more than 25 cm. Another 37.5% of the male participants have excellent flexibility as they could reach a distance between +17 cm to +27 cm, as shown in Table 4. The total number of female participants was 44. Twenty (20) or 45.45% of them are considered super flexible. This number is followed by females whose

flexibility is considered average (25%) and excellent (22.73%). All participants passed Sit and Reach flexibility test.

Cardiovascular endurance is the ability of the heart, lungs, and blood vessels to deliver oxygen to working muscles and tissues and the ability of those muscles and tissues to utilize that oxygen. Endurance may also refer to the ability of the muscle to do repeated work without fatigue. According to verywellfit.com, the 3-minute step test result can be interpreted using the standards (Appendix 3). Standard ratings for cardiovascular endurance between males and females are broken down into age groups. Students were grouped into 16 to 20 years, representing 50% of the students and 21% representing the other half of the participants. Table 5 shows the results of the 3-minute step tests for both women and men.

Table 5: Cardiovascular Endurance Results (3-Minute Step Test)

		16 to	20 years	n=52		21 &	Above	n=52
Heart Rates	*Male No.*	*Female No.*	*Total*	*Percent*	*Male No.*	*Female No.*	*Total*	*Percent*
Excellent (50 to 76)	2	11	14	26.9	1	8	9	17.3
Good (79 to 84)	1	7	8	15.3	0	3	3	5.8
Above Average (88 to 93)	1	2	2	3.8	1	6	7	13.5
Average (95 to 100)	0	2	2	3.8	2	3	5	9.6
Total Fit	4	22	26	50%	4	20	24	46.2%
Below Average (102 to 107)	0	0	0	0	0	2	2	3.8
Poor (111 to 119)	0	0	0	0	0	0	0	0
Very Poor (124 to 157)	0	0	0	0	0	0	0	0
Total Not fit	0	0%	0	0%	0	2	2	3.8%

All participants who belong to the 16 to 20 years old bracket passed their cardiovascular endurance test. It represents 50% of the total students with twenty-four (24) or 46.2% of 21 years old and above passed the test while two failed. Strength refers to a muscle's ability to generate force against a physical object. It refers to how much weight one can lift for different strength training exercises in the fitness world. Push-ups and curl-up tests measure strength. Push-ups are used to measure the upper extremities' strength, while curls-up measures the strength of the abdominal muscle. The number of push-ups a participant can do is compared to the push-up norms using kinesiologist.ca (Appendix 4), which are shown according to sex and age. The results of these tests are shown in Table 6.

Table 6: Results of Strength (90-degree push-ups)

		16 to	20 years	n=52		21 &	Above	n=52
No. of Push-ups	*Male No.*	*Female No.*	*Total*	*Percent*	*Male No.*	*Female No.*	*Total*	*Percent*
Excellent (>33)	0	0	0	0	0	0	0	0
Above Average (25 to 32)	1	2	3	5.8	0	0	0	0
Average (18 to 24)	0	3	3	5.8	0	2	2	3.8
Total Fit	1	5	6	11.6%	0	2	2	3.8
Below Average (12 to 17)	1	1	2	3.8	3	6	9	17.3
Poor (<11)	2	16	18	34.6	1	14	15	28.9
Total Not fit	3	17	20	38.4%	4	20	24	46.2%

The majority of the students (84.6%) or 48 out of 52 students have either below average or poor strength manifested by their push-up performances. Only eight (8) students passed this fitness test. Students aged 16 to 20 years have better strength than those who are 21 years old and above. Curl-ups is another test to measure the strength of the participants. The strength is compared with the Curl-up Norms for Age and Gender from kinesiologist.ca (Appendix 5). The result of this test is shown in Table 7.

Table 7: Results of Strength (Curl-ups)

		16 to	20 years	n=52		21 &	Above	n=52
No. of Curl-ups	*Male No.*	*Female No.*	*Total*	*Percent*	*Male No.*	*Female No.*	*Total*	*Percent*
Superior (>61)	0	0	0	0	0	0	0	0
Excellent (51 to 61)	0	0	0	0	0	0	0	0
Good (47 to 50)	0	0	0	0	0	0	0	0
Fair (41 to 46)	0	0	0	0	0	0	0	0
Total Fit	0	0	0	0	0	0	0	0
Poor (36-40)	0	0	0	0	0	1	1	1.9
Very Poor (<36)	4	22	26	50	4	21	25	48.1
Total not fit	4	22	26	50%	4	22	26	50%

All participants failed this test; 51 manifested insufficient strength in doing curl-ups, while one (1) female under the age bracket of 21 and above showed poor strength.

Summary of Findings for physical fitness is presented in Table 8.

The students' physical fitness health-related results show that 61.9% are physically fit, while 38.1% are not fit. Although most or 33 of the students' body composition is within the normal range, ten students are underweight, while seven (7) are overweight and two (2) are obese. The test results determine that the students' flexibility is normal and their cardiovascular endurance is excellent. However, only eight (8) students, or 15.4 %, passed their strength tests, while 84.6% did not pass the push-ups test, and 52 or all of the students did not pass their curl-up test.

Follow-up questions show that 16 students do not exercise. More than half (56.25%) said they have no time to do so, 12.5% do not exercise due to work schedule, and 12.5% because of family-related work. One (1) student admitted being lazy, and another was not interested in exercising.

Table 8: Physical Fitness – Health Related Summary of Findings					
					n=52
	Test	Fit	Percent	Not Fit	Percent
A.	Body Composition Index (BCI)	33	63.5	19	36.5
B.	Flexibility				
	Zipper Test	50	96.2	2	3.8
	Sit and Reach	52	100	0	0
C.	Cardiovascular Endurance				
	3-Mins. Step Test	50	96.2	2	3.8
D.	Strength				
	Push-ups	8	15.4	44	84.6
	Curl-up	0	0	52	100
	Total	193	61.9	119	38.1

5.2 Skill Fitness Test

Skill Fitness tests pertain to speed, power, agility, reaction, coordination, and balance. Since there were no standards established for these types of tests, the T-Test was used to determine if there are significant differences between the skill-related fitness of students who are 20 years old and below and those who are 21 years old and above. Speed is the ability to perform a movement in a short period. A 40-meter sprint is considered as one of the tests to speed. The purpose is to measure running speed. Participants were asked to make a 40-meter sprint. The fastest among the 16 to 20 years old was a speed of 10 seconds recorded by a female participant. The slowest speed was 15 seconds, recorded by a male participant. The average speed of this age group was 15 seconds. As to the group aged 21 years old and above, the fastest was 12 seconds performed by a male participant between 21 to 25, while the most extended speed was 18 seconds by a female participant whose age was between 41 to 45 years. The average speed of this age group was 18 seconds.

Comparing speed test results in the age bracket of 16 to 20 years old and those in the bracket of 21 years old and above, a T-Test was used to determine if there is a significant difference between the two (2) groups of participants. The result shows t-value is -0.15787 and its p-value is 0.437597. That means that the result is not significant at p<.05. The speed of both groups is similar. Power is the ability to transfer energy into force at a fast rate. Two tests were given to determine the power of the participants: the basketball pass test and the standing long jump test. Basketball pass measures the explosive strength and power of the upper body muscle, while standing-long jump test is for the leg muscle.

For the basketball pass, the most powerful in the age group between 16 to 20 years old recorded 13 meters in passing the ball while ages group of 21 years old and above recorded10 meters. Females registered both powerful performances. In using the T-Test, the results show no significant difference between the two groups performing the basketball pass at p<.05. The t-value of the data is 1.36173, and the P-value is 0.089694. Both groups show the same power in passing the ball.

5.3 Standing-Long Jump test

As to the participants' standing long jump test, the longest jump made by those in the age group of 16 to 20 years old was 204 cm. For those in the age group of 21 years old and above, the longest jump made was 169 cm.T-test was used to check if there was a significant difference between the two participants performing the standing jump test. T-test shows no significant difference at p<.05 since the T-value is 0.71791 and the p-value is 0.238076. Both groups' power in standing long jump is similar. Agility is the ability to change direction quickly using a combination of balance, coordination, speed, strength, and endurance. Hexagon Agility test is a simple test to perform, requires limited equipment and space. It measures the ability to move fast while maintaining balance. The most agile age group of 16 to 20 years old performed the test in 7 seconds. On the other hand, the most agile among those aged 21 years old and above recorded 4 seconds.

T-test results showed that there is no significant difference at p<.05. T-value is -1.5173, and P-value is 0.067744 in the agility of the participants. Reaction time is the time elapsed between stimulation and the beginning of the reaction to that stimulation. Stick Drop Test measures the reaction time as to how fast a person can respond to a stimulus; the higher the score, the faster is the reaction time. In Stick Drop Test, the tester dropped a 12-inch ruler, and the participant had to catch it. Speed is determined by looking at the inches where the participant was able to catch the ruler. The smaller the number means the fastest the participant was. As recorded, the fastest reaction was 3 inches for the age bracket of 16 to 20 years old, while for those in the age bracket of 21 years old and above, the fastest reaction was recorded at 4 inches.

Based on the T-test, there are no significant difference between two (2) groups of participants at p>.05 with a T-Value of 0.42766 and a p-value at 0.335368. Coordination is the ability to use the senses with body parts to perform motor tasks smoothly and accurately. Paper juggling is a human physical skill involving the movement of an object, usually through the air, to measure the coordination of the individual in the performance of motor tasks. The more papers are touched, the more coordinated an individual is. Two (2) female participants in the age group of 16 to 20 years old could touch 20 papers in total. For those in the age group of 21 years old and above, two female participants recorded touching the papers 23 times.

Results of the T-test show that there is no significant difference at p<.05 between the two groups of participants on their coordination since the t-value is -1.17865 and the p-value 0.122059. Balance is the maintenance of equilibrium while stationary or while moving. Stork Balance Stand test is to assess the ability to balance on the ball of the foot. Among those between 16 and 20 years old, four female participants had the most prolonged balancing act of 76 seconds. The most prolonged balance performed by 21 years old and above was 60 seconds exhibited by seven female participants.

T-test was used to determine a significant difference between those two groups of participants' balances. The T-test result shows no significant difference at p<.05 between the two groups of participants as the t-value is 0.97759 and the p-value is 0.166492. Table 9 shows the summary of the physical skills of the students. Regardless of age, there is no diversity in speed, power, agility, reaction, coordination, and balance. However, there is a gap between the best performance and the worse performance of the students.

Table 9: Summary of Findings Physical Skills of Students					
A	Speed				
	40-meters sprint (time)	Seconds	Fastest	Slowest	Average
	Ages: 16 to 20		10	15	15
	21 and above		12	18	18
B	Power				
1	Basketball pass (distance)	Meters	Longest	Shortest	Average
	Ages: 16 to 20		13	0.6	3.5
	21 and above		10	0.5	2.6
2	Standing long-jump (distance)	Centimeters	Longest	Shortest	Average
	Ages: 16 to 20		204	42	135.2
	21 and above		169	30	127.7
C	Agility				
	Hexagon Test (time)	Seconds	Fastest	Slowest	Average
	Ages: 16 to 20		7	120	28.7
	21 and above		4	180	45.6
D	Reaction				
	Stick Drop Test (distance)	Inches	Quickest	Slowest	Average
	Ages: 16 to 20		3	10.5	8
	21 and above		4	11.0	7.8
E	Coordination				
	Paper Juggling	Number	Highest	Lowest	Average
	Ages: 16 to 20		20	2	9
	21 and above		23	0	11
F	Balance				
	Stork Balance Stand Test (time)	Seconds	Longest	Shortest	Average
	Ages: 16 to 20		76	5	38.5
	21 and above		60	3	32.2

T-test results show no significant difference in the skill-related fitness of 16 to 20 students and the 21 years old and above. As shown in Table 10.

Table 10: Physical Skills of Students Summary of T-test Results (at P<.05)

	Skills	T Value	P-Value	Interpretation
A	Speed			
	40-meters sprint (time)	-0.15787	0.437597	Not significant
B	Power			
1	Basketball pass (distance)	1.36173	0.089694	Not significant
2	Standing long-jump (distance)	0.71791	0.238076	Not significant
C	Agility			
	Hexagon Test (time)	1.5173	0.067744	Not significant
D	Reaction			
	Stick Drop Test (distance)	0.42766	0.335368	Not significant
E	Coordination			
	Paper Juggling	-1.17865	0.122059	Not significant
F	Balance			
	Stork Balance Stand Test (time)	0.97759	0.166492	Not significant

6. Conclusions

The body composition and strength of the students need improvement. Their lack of exercise could be a factor to consider in improving these two-health related fitness tests. Other than these two areas, freshmen years of this school are physically fit. The study also shows that students can perform the same physical skills regardless of age. Educating students on the significance of exercise in a healthy, balanced lifestyle is essential in incorporating exercise as a lifelong activity. In motivating college students to engage in physical activity, it would be beneficial to focus on the health aspects of physical activity. Amend the current focus of the curricula of promoting physical activity and its role to health rather than of its purpose as a basic requirement. Physical education classes should include motivational factors to include exercises in the daily activities of students.

References

Adams, J., Khan, H.T.A., and Raeside, R., 2014. Research methods for business and social science students. SAGE Publications India Pvt, Ltd.

Al-Jeraisy, K., 2003. Consumer behavior: An analytical study of the Saudi Family's Purchase Decisions. Al-Jeraisy Establishment.

Babuna, P., Yang, X., Gyilbag, A., Awudi, D., Ngmenbelle, D., Bian, D., 2020. The impact of COVID-19 on the insurance industry. International Journal of Environmental Research and Public Health, 17, Pp. 5766. doi: 10.48175/568

Balinbin, A. L., 2019. Study finds most Filipinos 'not fully ready for disasters. Retrieved from https://www.bworldonline.com/study-finds-most-filipinos-not-fully-ready-for-disasters/

Beck, T., and Webb, I.M., 2002. Determinants of life insurance consumption across countries (Issue 2792). World Bank Publications.

Merriam, S.B., and Tisdell, E.J., 2015. Qualitative research: A guide to design and implementation. John Wiley & Sons, Incorporated.

Nation Master (n.d.). Ranking of Insurance Penetration. Nationamaster.com. https://www.nationmaster.com/nmx/ranking/insurance-penetration

Nikam, A., 2022. A study of life insurance consumer buying behavior. International Journal of Advanced Research in Science, Communication and Technology, 2 (1), Pp. 2581-9429.

Singh, K., 2010. An empirical study on perception of consumer in insurance sector. Indian Journal of Economics & Business, 9 (1), Pp. 61-73.

Statista Research Department. 2022. Insurance Industry in Philippines. statisca.com. https://www.statista.com/topics/5581/insurance-industry-in-philippines/#topicHeader__wrapper

Statista Research Department. 2022. Philippines Insurance Penetration rate. statisca.com. https://www.statista.com/statistics/1184188/philippines-insurance-penetration-rate-yearly/

Statista Research Department. 2022. Philippines Number of Licensed Insurance Companies. statisca.com. https://www.statista.com/statistics/1299413/philippines-number-of-licensed-insurance-companies/