Me and My Fitness During CoViD-19 Pandemic: Anthropometric, Physical Activity, and Wellness Lifestyle Habits of Collegiate Students

By

Rhene A. Camarador
College of Human Kinetics Polytechnic University of the Philippines Manila, Philippines

Lualhati A. Dela Cruz
College of Human Kinetics Polytechnic University of the Philippines Manila, Philippines

Sheryll S. Serrano
College of Human Kinetics Polytechnic University of the Philippines Manila, Philippines

Sharmaine P. Banadera
College of Human Kinetics Polytechnic University of the Philippines Manila, Philippines

Abstract

Promoting a healthy and active school environment is very important in higher institutions. This study aimed to determine the anthropometric measures, physical activity levels, and wellness lifestyle habits of 1,872 first year college students of the Polytechnic University of the Philippines. Using the descriptive method and quantitative approach, the findings revealed that most of the students were female, ranging from 18-19 years old take part in passive activities during their leisure time. The findings further revealed that the students experience health-related fitness signs and symptoms, diagnosed with Bronchial Asthma, Anemia, history of operation, while lifestyle diseases are the most common family health history. Students also participates in moderate level of activities; however female students perform less vigorous activity than male. Though anthropometric measures are all in normal range, surprisingly, females have lower Body Mass Index (BMI) range compared to males. More so, students have an excellent awareness on key wellness elements except for health-related fitness that got poor rating. This study provides significant data that could assist the administrators in developing gender-specific programs, support policies, responsive curriculum, and school interventions for promoting healthy and active lifestyle behaviours among students.

Keywords: Anthropometric measures, physical activity engagement, wellness lifestyle habits

1. Introduction

Physical inactivity increase was evident when young persons entered their early adulthood, with the university years seeing the sharpest decline (Kwan et al., 2012; Sigmundova et al., 2013). Therefore, part of the advocacies of higher education institutions is to provide an active and healthy school environment that promotes programs and services to students as an educational standard (Magulod & Capili, 2019). Unfortunately, The Center for Disease Control and Prevention (CDC) elaborates that daily routines, attitudes, psychological constructs, and other internal and external factors all have a vital role in encouraging people to become more active, especially college students. Thus, having the skill to measure and utilize correct data with regards to anthropometric, physical activity and wellness lifestyle status of the students are very important in designing precise wellness programs for students. Anthropometry is a method used to measure different parts of the body which is presented in

anthropology, which is the study of human biological and physiological characteristics and its evolution. Casadei and Kiel (2021) emphasized that anthropometric measurements, which are a series of quantitative measurements of the muscle, bone, and adipose tissue, are used to assess the composition of the body and can be used as basis for physical fitness and its progress, and diagnostic criteria for risk of non-communicable diseases. Wellness on the other hand refers to meeting high standards for quality of life and a sense of well-being. The achievement of wellness encompasses physical, spiritual, environmental, mental, emotional, social, and occupational aspects of well-being (Hoeger & Hoeger, 2015). And for someone to maintain wellness, none of these dimensions must be neglected. Lifestyles are supposed to interact with life conditions and individual patterns of conduct, which are determined by socio-cultural factors and the individual's characteristics. Healthy lifestyle habits like engaging in regular physical activity, maintaining a balanced diet, and refraining from smoking and excessive alcohol consumption have been shown to reduce the overall mortality from non-communicable disease (WHO, 2018), which accounts for 41 million deaths worldwide yearly (WHO, 2021). According to the World Health Organization and Kostak et al. (2014), the health for all in the 21st century emphasizes the importance of improving the health and decreasing risky habits like smoking, using alcohol and controlled substance, exhibiting violent behaviors, having communication problems with family, stressing out over things, and encouraging unhealthy weight control and fad diets.

But in 2020, with the sudden outbreak of the Corona Virus or COVID19, the health of the public was put at risk. This prompted a worldwide cooperative and creative response (WHO, 2020). Because it is a new strain of virus and no specific medical interventions are available, staying at home and limiting social interactions were recommended to prevent the spread of the disease. Tremblay et al. (2017) mentioned that the home isolation strategy became effective for infection control, but the decrease in moderate-to-vigorous physical activity levels and increase in sedentary lifestyle became its repercussions. Furthermore, the closure of open parks, fitness gyms, and recreational areas and the rapid progress of technological activities added more challenge in making the students become more active during the pandemic when physical activities are needed the most. Obesity, which is one of the results of unhealthy habits, has gradually become a serious public health risk worldwide. It is a medical problem that increases the risk of other diseases and health problems such as heart disease, diabetes, high blood pressure and certain cancers. In the United States, the obesity prevalence is 40.0% among adults aged 20-39 (Hales et al., 2020). Children and adolescents are not far behind with approximately 17% affected. This number has tripled since 1980. Similarly, in the Philippines, the number of overweight teenagers has risen in the last 15 years. There is a larger rate of obese and overweight children in urban regions than in rural areas and a higher frequency of various risk factors as well as environmental variables which might quickly raise these rates (Dela Cruz, 2021). According to the CDC (2021), being overweight and obese raises the risk of severe COVID-19 which may also triple the risk of hospitalization. Obesity should therefore be mitigated to prevent future the development of non-communicable diseases brought about by unhealthy lifestyles. In the present locale of this study, it has been observed and discussed during classes that most of the students do not get enough sleep, do not have healthy eating habits, and do not engage in regular physical activities due to personal responsibilities, academic requirements, and environmental factors brought about by the CoViD-19 pandemic which may affect their overall health as well as their academic performance. Thus, it is truly important to measure and monitor the lifestyle of the students as early as we can to provide long-term programs and educational activities in order to prevent another pandemic and mental and health crises.

In Physical Education, measuring student profiles relating it to physical activity plays a significant role in the creation of future physical activity plans. Though there are several related studies on physical activity conducted focused on university population from Canada, United States of America, United Kingdom, and other countries (Fagaras et al., 2015), limited studies were conducted measuring the three variables such as student anthropometric measures, physical activity, and wellness lifestyle habits in determining the fitness level of students during the CoViD-19 pandemic. It is hoped that this study would provide important inputs in the creation of intervention programs to support healthier and active school PE programs. This study examined the fitness status of college students during the CoVid-19 pandemic. Specifically, it aimed to: 1) identify the demographic and medical profile of the student-respondents; 2) determine the perceived physical activity levels using International Physical Activity Questionnaire (IPAQ); 3) find out the anthropometric measures; 4) assess the current wellness lifestyle habits of student-respondents; 5) test the significant differences on the wellness lifestyle habits of the student-respondents when grouped according to selected profile variables; and 6) ascertain the significant relationships on the anthropometric measures of the students to their wellness lifestyle habits and physical activity levels.

2. Materials and Methods

2.1 Research Design

The descriptive method was used to gather information and find out the physical activity level, anthropometric measurements and wellness lifestyle habits of the college first year students. While correlational research design was utilized to test the significant relationship of anthropometric measures of the students to their wellness lifestyle habits and physical activity. Creswell (2012) noted that a correlational research design is a non-experimental quantitative research approach which uses correlational statistics to quantify and characterize the degree of relationship between variables. It attempts to find significant association between respondents' characteristics and their opinions and behavior (Marczyk et al., 2005).

2.2 Respondents and Sampling Procedure

Cochran's formula was used to determine the sample size and cluster sampling technique was utilized in the administration of the survey questionnaires. The respondents of this study were 1,872 college freshmen students of the Polytechnic University of the Philippines in five branches in Metro Manila Campuses namely; Mabini Campus (1,040), Quezon City (409), Taguig (202), Parañaque (100) and San Juan (121) who were enrolled during the school year 2020-2021, 1st semester. Among the participants were 1,271 females and 601 males.

2.3 Instrumentation and Validation

There were three survey instruments employed in this study such as; the fitness questionnaire by Dela Cruz et al. (2020), the IPAQ-SF, and the Wellness lifestyle questionnaire developed by Hoeger & Hoeger (2013). The fitness profiling questionnaire was used to gather the anthropometric and medical profile of the respondents. Part II includes a survey on the level of physical activity of the respondents with the used of International Physical Activity Questionnaire Short Form (IPAQ-SF). The IPAQ-SF is composed of seven-item self-administered questionnaire with high reliability of 0.66-0.88 (Craig et al., 2003; Deng et al., 2008; Dinger et al., 2006; Lee et al., 2011). Through the IPAQ-SF, the levels of physical activity of the respondents were identified. Part III of the survey questionnaire adapted the standardized Wellness Lifestyle Questionnaire from the Lifetime Physical Fitness and

Wellness Program created by Hoeger & Hoeger (2013). The said questionnaire is composed of 36 items with 9 categories namely Health-related fitness, Nutrition, Avoiding chemical dependency, Stress management, Personal hygiene/health, Disease prevention, Emotional well-being, Personal safety, and Environmental health & protection. The responses were rated on a 5-likert scale with (5) "Always", (4) "Nearly Always", (3) "Often", 2 "Seldom", and 1 "Never". Prior to the administration of the test, the instrument went through a reliability testing using Cronbach's Alpha coefficient with a very reliable result of 0.87.

2.4 Data Collection and Analysis

The University Research Ethics Board approved the administration of an online survey. The respondents were informed on the confidentiality of the data, and consent and assent forms were secured. Upon receipt of the certification or the notice to proceed for the data gathering, the online survey was started capturing the Main, Quezon City, Taguig City, Paranaque City, and San Juan City Campuses. A total of 1,872 responses were gathered. The frequency, percentage, and mean average were among the statistical tools used to determine the anthropometric measure, perceived physical activity level, and wellness lifestyle habits of the respondents. While the Mann-Witney U test was employed to measure the significant difference on the wellness lifestyle habits of the respondents when grouped according to sex. On the other hand, Kruskal-Walli's test was utilized to determine the significant difference in terms of age, type of school graduated, and campus enrolled. Likewise, the Pearson-correlation was used to measure the significant relationship between the anthropometric measurement of the respondents and the level of their physical activity.

3. Results and Discussions

3.1 Profile of the Respondents

Table 1. *Demographic Profile of the Respondents*

Description		Frequency	Percent
Age	17	23	1.23
	18	733	39.16
	19	930	49.68
	20	137	7.32
	21	26	1.39
	22-29	23	1.23
Sex	Male	601	32.10
	Female	1271	67.90
Branch/Campus	Manila City (Main)	1040	55.56
	Quezon City	409	21.85
	Taguig City	202	10.79
	Paranaque City	100	5.34
	San Juan City	121	6.46
Type of school graduated in senior high school	Public	812	43.38
	Private	929	49.63
	Semi-private	131	7.00
Hobbies or past times	Reading books/e-books/manga	373	19.925
	Computer/Mobile Games	383	20.459
	Cooking/eating	176	9.401
	Playing with pets	191	10.202
	Sleeping	305	16.292
	Sports/Active Recreation	127	6.784
	Watching TV/Movies/Animes/Series	241	12.873
	Surfing the Internet/Social Media	41	2.190
	Play with instruments	33	1.762
	Creating visual art/Doing crafts	74	3.952

n=1,872

Table 1 shows that majority of the first-year respondents were female, ranging from 18-19 years old and are enrolled at the Mabini Campus in Manila. The participants attended public and private Senior High schools while only 7% were from semi-private schools. When it comes to their hobbies, reading books/e-books/manga, computer/mobile games, sleeping and watching TV/movies/anime/series were the top engaged activities. The result of the present study was supported by Joshi et al. (2016) when it that reported young people and high school youth spend more than 3 hours doing computer works and watching television. The advent of modern technology and digitization lessen the opportunity for young people to engage in any physical activity. Likewise, their sedentary lifestyle makes them vulnerable to health-related diseases.

Table 2. *Medical Background*

A. Signs and symptoms	Frequency	Percent
None	978	37.37
Easy fatigability	235	8.98
Underweight	252	9.63
Chest pain	243	9.29
Overweight	189	7.22
Difficulty of breathing	236	9.02
Dizziness	342	13.07
Lose of weight of unknown reason	70	2.67
High blood pressure	27	1.03
Loss of consciousness	30	1.15
Others	15	0.57
None	978	37.37
B. Diagnosed with health conditions/problems such as		
Heart problem	30	1.56
Hypertension	11	0.57
Bronchial asthma	84	4.36
Diabetes	8	0.41
Anemia	77	3.99
Leukemia	1	0.05
History of surgery/operation	54	2.80
Epilepsy/Seizure disorder	3	0.16
Scoliosis	47	2.44
Fractures	12	0.62
Hyperventilation syndrome	13	0.67
Kidney disease	23	1.19
Others	86	4.46
None	1479	76.71
C. Family history		
Heart illness	256	9.94
Bronchial Asthma	155	6.02
Hypertension	462	17.94
Diabetes	618	24.00
Blood disorder	39	1.51
Kidney disease	71	2.76
Cancer	157	6.10
Others	34	1.32
None	783	30.41

The medical background of the respondents seems impressive since majority of the respondents did not experience any signs and symptoms of non-communicable diseases

(37.37%), except for some who experienced dizziness (13.07%), being underweight (9.63%), chest pain (9.29%), difficulty of breathing (9.02%), easy fatigability (8.98%), and overweight (7.22%). However, 4.46% of the respondents experience other health related problems which need due attention for future research. Likewise, bronchial asthma (4.36%), anemia (3.99%), history of surgery/operation (2.80%), and scoliosis (2.44%) were the common health conditions/problems of PUPians. Cherney, K (2018) and Georgetown University reported that difficulty sleeping, colds, flus, vomiting, nausea, anxiety and stress are some of the common health problems of tertiary students while DOH Philippines (2015) stated that unhealthy diets, physical inactivity and harmful use of tobacco are main factors of non-communicable diseases. This was supported by the study of Küchelová (2014), wherein health problems such as being overweight or underweight, and high blood pressure are evident in college students which is related to their body mass index. Physical inactivity is one of the major causes of these health concerns. Body weight and physical activity are associated with high blood pressure. This shows that health-related fitness has a relationship to health problems and the status of physical health among college students. Küchelová also concluded that physical activity has a positive impact to lung function or process of breathing which affects the cardiovascular system. It is found that there is a relationship between physical activity and respiratory system disorders as well such as bronchial asthma as seen in this study.

3.2 Perceived Physical Activity Levels

Table 3. *Perceived Physical Activity Levels using IPAQ*

Physical Activity Levels	Total n		Male		Female	
	f	%	f	%	f	%
Low Total physical activity of below 600 MET-minutes/week.	506	27.03	134	22.296	372	29.268
Moderate Total physical activity of 600-2999 MET-minutes/week.	1,216	64.96	408	67.886	808	63.571
High Total physical activity of at least 3000 MET-minutes/week	150	8.01	59	9.816	91	7.159
n=	1872	100	601	100	1271	100

Table 3 presents the perceived physical activity levels of freshmen students. Data reveal that majority of the students are in moderate level of physical activities amidst the pandemic. The perceived physical activity of Physical Education students is moderate. Male students are the most active compared to female students. Female students perform less vigorous activity than males. A Physical Education class has a big role in engaging the students to do light to moderate activities. On the other hand, more than 25 percent (506) of the students belong to the low level of physical activities group. This finding runs parallel to the study of Gallo et al. (2020) and Yahia, N., Wang, D., Rapley, M., & Dey, R. (2016). Results showed that students are not having sufficient level of physical activity. Most students who were active before the pandemic have seen a total decrease in physical activity or mild physical activity (Barkley et al., 2020). Contrary to the study of Romero-Blanco et al. (2020), there is an increase in the number of days and minutes students spent doing physical activity during lockdown and social restrictions.

3.3 Anthropometric Measures

Table 4. *Anthropometric Measures*

Anthropometrics	Total(n=1872)	Male(n=601)	Female(n=1271)
Weight (kg)	54±12.78	61.28±14.46	50.55±10.24
Height (cm)	157.70±18.19	165.64±18.09	153.95±17.00
BMI (%)	21.91±14.23	22.71±21.23	21.53±9.21
Waist Circumference (cm)	73.99±10.77	79.42±11.17	71.43±9.56

Table 4 presents the anthropometric measures of the students specifically weight, height, body mass index, and waist circumference. 1872 male and female tertiary level students aged 18 years were enrolled in this study. Their average weight is 54Kilograms, height ranging from 165cm to 157.70cm, body mass index is normal (73.99%), and waist circumference is within the normal range (73cm). The anthropometric profile of the respondents is quite amazing. However, majority of the respondents came from low-income family as Adair et al. (2018) confirmed that weight gain and increase of waistline circumference were highest among higher income women. Also, the result of the present study is in contrary to the previous study suggesting that being overweight and obesity are common among the younger groups.

3.4 Current Wellness Lifestyle Habits

Table 5. *Wellness Lifestyle Habits*

Wellness Categories	Male			Female			Overall		
	Mean	S.D.	Category	Mean	S.D.	Category	Mean	S.D.	Category
Health-related fitness	11.44	3.77	NI	10.84	3.59	NI	11.03	3.66	NI
Nutrition	12.68	2.79	GD	12.48	3.03	GD	12.54	2.95	GD
Avoiding chemical dependency	18.15	2.89	EX	18.76	2.30	EX	18.56	2.52	EX
Stress management	14.38	2.97	GD	14.00	3.01	GD	14.12	3.01	GD
Personal hygiene/health	15.76	2.43	GD	15.89	2.32	GD	15.85	2.36	GD
Disease prevention	12.71	3.2	GD	12.54	3.24	GD	12.6	3.22	GD
Emotional well-being	16.37	2.91	GD	16.17	2.80	GD	16.24	2.84	GD
Personal safety	16.8	2.81	EX	17.79	2.52	EX	17.47	2.66	GD
Environmental health & protection	16.47	2.73	GD	16.84	2.55	EX	16.72	2.61	EX

Excellent (EX) = ≥ 17; Good (GD) = 13–16; Needs Improvement (NI) = ≤ 12

Table 5 shows the current wellness lifestyle habits of freshmen students with respect to gender. As shown in the table, the respondents have an excellent score in avoiding chemical dependency with the highest mean scores for both male and female. This result is consistent with the findings of the study conducted by Musa et al. (2020) and Bellen & Camarador (2020) that college students have an excellent awareness on avoiding chemical dependency and its impact to their health status.

Significant Difference on the Wellness Lifestyle Habits of the Student-Respondents when Grouped According to Selected Profile Variables

Table 6. *Significant Difference on the Wellness Lifestyle Habits in terms of Sex*

Wellness Parameters	Male		Female		p(Mann-Witney)
	Mean	S.D.	Mean	S.D.	
Health-related fitness	11.44	3.77	10.84	3.59	0.001*
Nutrition	12.68	2.79	12.48	3.03	0.158
Avoiding chemical dependency	18.15	2.89	18.76	2.3	0.000*
Stress management	14.38	2.97	14.00	3.01	0.012*
Personal hygiene/health	15.76	2.43	15.89	2.32	0.307
Disease prevention	12.71	3.2	12.54	3.24	0.457
Emotional well-being	16.37	2.91	16.17	2.8	0.075
Personal safety	16.8	2.81	17.79	2.52	0.000*
Environmental health & protection	16.47	2.73	16.84	2.55	0.006*
Overall	3.74	0.46	3.76	0.43	0.636

Excellent (EX) = ≥ 17; Good (GD) = 13–16; Needs Improvement (NI) = ≤ 12
significant at 0.05, (*)..

The table shows the significant difference of male and female student-respondents when grouped according to their profile. As depicted in the table, there are significant differences on the health-related fitness, avoiding chemical dependency, stress management, personal safety and environmental health protection between male and female respondents. It was manifested on the results of this study that men are more active and have higher health related fitness compared to women. This result shows consistency with the previous study conducted by Podstawski et al. (2020), which indicates that in terms of motor fitness, men have a great advantage over women in endurance and strength abilities; whereas there are only minor differences in speed or agility abilities between the sexes, whilst female participants were more flexible than men. Pavlova et al. (2017) mentioned that male students spend more time doing vigorous physical work than females, including cycling and other physical exercises even at home. Females were mostly engaged in moderate-intensity physical activities, which include household chores, gardening, and the like. Also, females spend more time on inactive recreational and leisure activities.

Table 7. *Significant Difference on the Wellness Lifestyle Habits in terms Type of School Graduated*

Wellness Parameters	Public		Private		Semi-private		p(Kruskal-Wallis)
	Mean	SD	Mean	SD	Mean	SD	
Health-related fitness	11.21	3.74	10.84	3.56	11.29	3.75	0.097
Nutrition	12.71	3	12.42	2.87	12.39	3.24	0.068
Avoiding chemical dependency	18.6	2.66	18.54	2.42	18.48	2.34	0.117
Stress management	14.42	2.94	13.88	3.04	14.02	3.05	0.002*
Personal hygiene/health	15.96	2.34	15.76	2.38	15.82	2.3	0.193
Disease prevention	12.63	3.24	12.62	3.2	12.28	3.29	0.444
Emotional well-being	16.44	2.85	16.05	2.84	16.28	2.61	0.004*
Personal safety	17.34	2.78	17.59	2.52	17.47	2.83	0.332
Environmental health & protection	16.75	2.67	16.67	2.58	16.89	2.5	0.532
Overall	3.78	0.45	3.73	0.42	3.75	0.45	0.045

Excellent (EX) = ≥ 17; Good (GD) = 13–16; Needs Improvement (NI) = ≤ 12 significant at 0.05, (*).

Table 8. *Significant Difference on the Wellness Lifestyle Habits in terms of Age*

Wellness Parameters	17		18		19		20		21		22-29		p(Kruskal-Wallis)
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Health-related fitness	10.78	3.67	10.87	3.6	11.07	3.61	11.6	4	11.38	3.43	11.04	5.26	0.465
Nutrition	12.04	2.65	12.52	2.86	12.49	2.97	12.88	3.27	13.19	2.7	13.09	4	0.461
Avoiding chemical dependency	19.09	1.31	18.69	2.45	18.58	2.43	18.26	2.76	17.15	3.95	16.74	4.29	0.023*
Stress management	13	2.7	13.93	2.92	14.24	3.03	14.45	3.21	14.58	2.79	14.39	3.59	0.062
Personal hygiene/health	15.52	2.45	15.88	2.32	15.8	2.32	16.2	2.42	15.54	2.67	15.48	3.74	0.457
Disease prevention	13.43	3.16	12.61	3.06	12.66	3.22	12.2	3.77	11.62	3.77	12.22	4.22	0.445
Emotional well-being	15.26	2.65	16.19	2.79	16.2	2.85	16.91	2.71	16.08	3.6	16.39	3.37	0.020*
Personal safety	18.17	2.23	17.67	2.45	17.45	2.64	17.26	2.85	15.27	4.16	15.26	4.34	0.001*
Environmental health & protection	17.13	2.18	16.6	2.54	16.84	2.53	16.71	3	16.27	3.81	15.65	4.02	0.278
Overall	3.73	0.4	3.75	0.42	3.76	0.43	3.79	0.47	3.64	0.65	3.62	0.73	0.663

Excellent (EX) = ≥ 17; Good (GD) = 13–16; Needs Improvement (NI) = ≤ 12
significant at 0.05, (*).significant at 0.05, (*).

Table 9. *Significant Difference on the Wellness Lifestyle Habits in terms of Campus/Branch*

Wellness Parameters	Manila City (Main)		Quezon City		Taguig City		Paranaque City		San Juan City		p(Kruskal-Wallis)
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Health-related fitness	10.99	3.55	11.02	3.73	11.09	3.94	11.64	3.84	10.79	3.68	0.524
Nutrition	12.36	2.91	12.81	3.01	12.48	3.03	12.9	3.19	13.03	2.68	0.017*
Avoiding chemical dependency	18.83	2.06	18.24	2.86	18.59	2.45	17.65	3.75	18.04	3.32	0.001*
Stress management	14.02	3.02	14.42	2.93	14.24	3.16	13.98	3.2	13.95	2.65	0.146
Personal hygiene/health	15.75	2.3	16.22	2.38	15.79	2.39	15.66	2.54	15.79	2.46	0.007*
Disease prevention	13.1	2.95	11.93	3.46	12.27	3.16	11.49	3.74	12.01	3.52	0.000*
Emotional well-being	16.07	2.92	16.55	2.8	16.47	2.54	16.14	2.85	16.31	2.58	0.045*
Personal safety	17.6	2.47	17.15	2.84	17.44	2.86	17.26	3.01	17.66	2.84	0.092
Environmental health & protection	16.83	2.51	16.58	2.63	16.23	2.85	16.94	2.78	16.92	2.81	0.027*
Overall	3.77	0.42	3.75	0.46	3.74	0.47	3.71	0.46	3.74	0.44	0.770

Excellent (EX) = ≥ 17; Good (GD) = 13–16; Needs Improvement (NI) = ≤ 12 significant at 0.05, (*).

The table shows that there is a significant difference on the stress management and emotional well-being when grouped in terms of type of school graduated from senior high school. It seems that college students who studied in public high school perceived that they can manage their stress and emotional well-being very well compared to private and semi-private schools. It could be influenced by the experiences, programs and activities that schools provide for the students that strengthen the way they act or cope with their stress. Chesak et al. (2019) saw an improvement in stress management as Stress Management and Resiliency Training program was applied among public school teachers and staff. It also positively affected students as they can interact well to them. This could also be associated to the subjective wellbeing or life satisfaction. Kaplan (2017) stated that subjective wellbeing was a significant and negative predictor of emotional problems on youths. It could mean that public high school students have a positive outlook and thinking towards people's expectation and life experience which lessen their emotional problems.

The findings in this study show that chemical dependency varies in age. Younger individuals have a lower risk for drug misuse while older ones are at high risk. Onrust et al. (2016) said that most programs for chemical prevention include parents for younger ages unlike the older age groups. That is why majority of the drug prevention-related programs are for students in high-risk age groups who are not assisted by parents. On the contrary, Kelly et al. (2013) stated that aging adults reduce drug misuse because of adult roles and responsibilities. They tend to be more responsible than younger adults who frequently misuse stimulants. Despite prescriptions of stimulants for younger ones and sedatives for older ones, younger adults tend to misuse while older ones use sedatives for sleep and anxiety which are more present as they age. The result of this study projects that the Quezon City branch has the highest mean in terms of avoiding chemical dependency, emotional well-being, personal hygiene/health, and nutrition. The Manila Times (2018) reported that the Vice Mayor of the city, in partnership with the Department of Education and the Quezon City Anti-Drug Abuse Advisory Council would put up a Special Anti-Illegal Drug Education Center which has the objective of educating the youth in resisting illegal drug use. Mateo, J., (2018) from The Philippine Star reported on December of the same year that more than 8,000 youth from all around the city have joined the anti-drug youth group. Significant Relationships on the Anthropometric Measures of the Students to their Wellness Lifestyle Habits and Physical Activity Levels.

Table 10. *Significant Relationship between Anthropometric Measures and the Wellness Lifestyle Habits of the Students*

Wellness Parameters	Pearson Correlation	HEIGHT	WEIGHT	BMI	WAIST
Health-related fitness	r- value	-0.028	-0.012	-0.007	-0.032
	p- value	0.223	0.594	0.771	0.172
Nutrition	r- value	0.011	0.012	-0.044	0.001
	p- value	0.629	0.608	0.060	0.952
Avoiding chemical dependency	r- value	0.041	-0.052	-0.005	0.071
	p- value	0.079	0.024*	0.813	0.002*
Stress management	r- value	-0.005	0.000	0.007	-0.031
	p- value	0.833	0.990	0.769	0.184
Personal hygiene/health	r- value	0.012	-0.029	0.011	-0.016
	p- value	0.595	0.214	0.627	0.493
Disease prevention	r- value	0.075	-0.025	-0.018	-0.007
	p- value	0.001*	0.281	0.427	0.769
Emotional well-being	r- value	-0.024	-0.002	0.022	-0.016
	p- value	0.308	0.945	0.332	0.493
Personal safety	r- value	0.008	-0.013	0.005	0.029
	p- value	0.726	0.581	0.836	0.217
Environmental health & protection	r- value	-0.015	0.002	0.029	-0.022
	p- value	0.512	0.919	0.214	0.341
Overall	r- value	0.013	-0.021	-0.002	-0.007
	p- value	0.575	0.375	0.939	0.761

significant at 0.05, (*)

The Pearson correlation shows a significant relationship between anthropometric measurements and wellness parameter "avoiding chemical dependency" particularly in weight (p- 0.024) and waistline circumference (p- 0.002). Also, height (p-0.001) has significant relationship to disease prevention. The result of the present study affirmed the study of Johnson et al. (2019) which stated that an individual who has a history of tobacco and drug misuse has a high-risk tendency to increase their waist circumference as well as gain weight than those individuals who are non-users. The addiction to tobacco and drug misuse can lead to obesity resulted to developed health-related diseases. The poly abuser or individuals who are dependent on more than one drug tend to have high appetite or food addiction. Tinghino et al. (2021) confirmed the effects of chemical dependency to the body mass index.

Table 11. *Significant Relationship between Anthropometric Measurements and the Physical Activity Level of the Students*

Anthropometric Measurement	Pearson Correlation	Physical Activity MET			TOTAL MET
		VIGOROUS	MODERATE	WALKING	
Height	r- value	0.050	0.021	-0.006	0.028
	p- value	0.029*	0.373	0.790	0.228
Weight	r- value	0.005	-0.009	-0.007	-0.007
	p- value	0.837	0.683	0.776	0.763
BMI	r- value	-0.012	-0.007	0.088	0.013
	p- value	0.618	0.753	0.000*	0.575
Waist	r- value	0.023	0.004	-0.060	-0.005
	p- value	0.326	0.863	0.009*	0.822

significant at 0.05, (*)

The above table reveals the significant relationship of height to vigorous physical activities (p-0.029). It is a known fact that stretching, flexibility, and other forms of exercises strengthen the body limbs and increases spine flexibility, thus the result of the study confirmed the effects of constant vigorous engagement of physical activity to height. However, Wilson et al. (2019) mentioned the none significance of aerobic exercise and physical activity to height.

4. Conclusion

In conclusion, the researchers found out that most of the first year students experienced and were diagnosed with health-related fitness issues and non-communicable diseases. Diabetes, Hypertension, Heart illness, and Cancer are the most common illness in their family health history. Although in general, students who participate in moderate level of physical activities and anthropometric measures are all in normal range, female students perform less vigorous activities and surprisingly have lower Body Mass Index (BMI) range compared to males. More so, majority of the students have an excellent awareness on key wellness elements consisting of avoiding chemical dependency, environmental health and protection, unfortunately there's a need for improvement in health-related fitness as they got poor rating.

It was also demonstrated in this study that there were significant differences on the wellness lifestyle habits of the respondents when grouped according to their profiles. A great number of male students are engaging with physical activity while female students were found out to be better at avoiding chemical substances, more aware of personal safety, and more engaged in environmental health and protection. In terms of the type of school graduated, students who finished high school from public schools perceived better stress management and emotional well-being than those from private and semi-private schools. Chemical dependency varies in age as found out by this study. The younger the student, the less chance of illegal substance use maybe because of hand's on parents' supervision. The Quezon City Branch topped the results in terms of avoiding chemical dependency, emotional well-being, personal hygiene/health, and nutrition, while the Manila Campus got the highest rate in terms of disease prevention. For the environmental health and protection, the Paranaque Campus got the highest rate. In different profile variables, it can be summed up that the significant differences demonstrated might be influenced by the values at home, the peer, the environment, and the support of the local government units due to their innovative programs. Lastly, this study found significant relationship between anthropometric measurements and wellness parameters specifically "avoiding chemical dependency" to weight and waistline circumference and height to disease prevention. Further, the significant relationship of height to vigorous physical activities and BMI were also found.

Though the study only utilized an online survey and was limited to first year students, this study could be a basis for the school administrators in developing gender-specific programs, support policies, responsive curriculum, and school interventions for promoting healthy and active lifestyle behaviours among students as early as first year. Thus, early interventions and preventions are highly recommended. Future studies might enrich the sample by including all college levels and including other universities to widen the scope. Furthermore, it could be an exceptional way of exploring a parallel study using mixed-method design to have deeper understanding on the issues or an experimental research design for more scientific evidences.

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