

## **Health Classification and Its Effect on the Performance of College Students**

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### **INTRODUCTION**

It is a known fact physical activity performance improves health. Not just does it improve circulation, increment blood stream to the mind, and raise endorphin levels, which all assist to diminish pressure, improve temperament and mentality. Physically dynamic students may likewise accomplish all the more scholastically. According to Reilly (2015) physically fit students are more averse to miss school, share in unsafe practices, get pregnant, or endeavor suicide, which are altogether connected with better results in school. Several studies have demonstrated the positive effects of physical education and physical activity on school performance. Increased time for physical activity can lead to better concentration, reduced disruptive behaviors and higher test scores in reading, math and writing (Galla & Duckworth , 2015).

Physical education is at the core of a comprehensive approach to promoting physical activity through schools. All children, from lower to higher grade should participate in quality physical education classes every school day. It helps students develop the knowledge, attitudes, skills, behaviors, and confidence needed to be physically active for life, while providing an opportunity for students to be active during the school day. Physical education is a component of education that takes place through movement. It creates the opportunity for individuals to learn and understand academic applications for healthy lives. In physical education, as in all academic areas, students learn the basic skills, which require practice and refinement in physical education settings. Students integrate and apply these skills in everyday life. Through regular participation in physical activity, students will have the opportunity to develop a pattern of life-enhancing and self-rewarding experiences that will contribute to their potential to be healthier members of society. Students should be challenged to participate daily in healthy choices and health-enhancing activities and behaviors (Deliens, Deforche, De Bourdeaudhuij & Clarys, 2015).

Physical education performs unique function in the curriculum by providing a safe environment where students learn basic concepts about movement and sports, and are exposed to numerous opportunities to develop psycho motor skills. Because the interest, abilities and performance of students vary, offerings in physical education must be diversified enough to meet individual needs of students. Physical well-being and the acquisition of effective motor skills are essential needs for every individual. The well-educated person appreciates the importance of exercise,

understands how to achieve health-related fitness, and has developed sufficient skills to enjoy participating in lifetime sports and activities

Physical activity (PA) provides numerous physiological and psycho-social benefits. However, lifestyle changes, including reduced physical opportunities in multiple settings, have resulted in an escalation of overweight and obesity and related health problems. Poor physical and mental health, including metabolic and cardiovascular problems is seen in progressively younger ages, and the systematic decline in school physical activity has contributed to this trend. Of note, the crowded school curriculum with an intense focus on academic achievement, lack of school leadership support, funding and resources, plus poor quality teaching are barriers to PA promotion in schools. The school setting and physical educators in particular, must embrace the role in public health by adopting a comprehensive school physical activity program (Hills, Dengel & Lubans, 2015).

Considering that students have individual differences, they have also different levels on how they perform in physical education. There are students who really excel and obtain high grades in physical education and there are some who really find it difficult to perform various movements in physical education class. Apparently, in the lower grades, students need sufficient time to develop basic skills in a wide variety of activities and find success and enjoyment in movement. In the secondary schools, students broaden their repertoire of motor skills, increase their understanding of health-related fitness and effectively apply social skills developed through sports and other activities. Thus, it's the ultimate goal of a quality physical education program to prepare and motivate all students to engage in lifetime activities, which promote health and physical well-being. Schools should provide many opportunities for young people to engage in physical activity and can play an important role in motivating young people to stay active and improve performance. As physical educators, spending a great deal of time with students and having considerable influence over students can be powerful role models for physical activity.

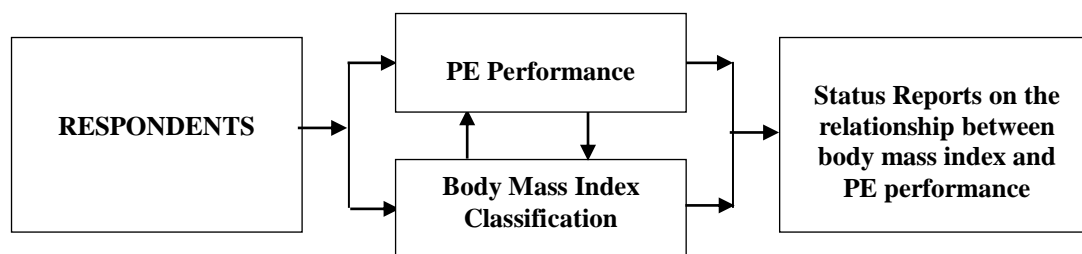
Quality physical education is more than just fun, however; it is also a serious academic discipline. Physical education and health education are recognized as important components of the education curricula. Dyson (2014) explicitly identified what students should know and be able to do as a result of a quality physical education program. There are factors to be considered that basically contribute to the levels of students performance in physical education. Qualified and appropriately trained physical education teachers are the most essential ingredients or factor of a quality physical education. If teaching physical education is a moral activity, it follows that there is a moral component to the preparation of teachers of physical education and thus a moral component to the preparation of teacher educators. Further, physical education is much broader than just physical activity and future potential of the field is harmed if narrow agenda will be adopted. Thus, the importance of looking to the future and broadening the kinds of researches that will value, support, and appreciate the field of physical education is imperative. The study of

Ward (2016), examined the major policies, agendas, and practices that influence preparation in physical education teacher education. Further, argued that from both a utilitarian and realist perspective that it will best serve children and youth in schools by being knowledgeable of the contexts and effects of these policies, agendas, and practices in educating future professors of physical education teacher education. Studies have found that, compared with classroom teachers, physical education specialists teach longer and higher quality classes in which students spend more time being physically active. Secondly, the large class sizes with which physical educators are often confronted are a key barrier to the implementation of quality physical education. Physical education should have the same class sizes as other subjects.

Quality physical education must cover a great deal of content, and physical educators cannot do their jobs effectively or have enough time to work with individual students if classes are overcrowded. Even the best physical education teachers in the world will find it difficult to keep their students active during most of a physical education class if they don't have adequate amounts of equipment and supplies. Many schools don't have enough equipment or supplies to keep their entire students active during physical education class; consequently, many students waste valuable time standing in line and watching others play while they wait for a turn.

Aside from the above-mentioned factors that affect student's performance, it is the goal of this study to identify and classify the health status of the students if there is something to do with how the students perform in physical education. The health status classification or the Body Mass Index (BMI) indicates the level a student is at concerning the makeup of his/her body. This shows the relationship of muscle, bone and fat to the total composition of the body. A fairly wide range is noted to take into account that we are all different. If a student is anywhere within the range it should indicate that he/she is either exercising adequately, eating properly, has an active metabolism, or all three. If a student is above or below the norms, then eating and exercising should be addressed sensibly. Some older children who are within the range have talked of pursuing a lower number by sacrificing meals to become "skinner." This can be dangerous since healthy food is a building block to good growth. In a physical education class, difference between being too thin and being fit striving to achieve a healthy level of "fitness" for mind and body are given emphasis.

Based on the afforested facts, the researchers pursued a study on identifying the relationship between the students' performance in Physical Education and the health status classifications or the body mass index classification and find out its implications in the teaching-learning process in physical education. Specifically, the study described the respondent's physical education performance in physical education class. The health statuses of the respondents were classified according to body mass index results. The significant relationships between two variables were assessed and the implications to teaching and learning in physical education set up were formulated.



**Fig. 1 Relationship between body mass index classification and Students Performance**

**RELATED LITERATURES**

High body mass index (BMI) and low aerobic capacity in late adolescence were associated with higher significant risk factor in adulthood. Findings suggest that interventions to prevent hypertension should begin early in life and include not only weight control but aerobic fitness, even among persons with normal BMI. This study provides evidence that BMI and fitness level are important factors affecting the long-term risk of hypertension. Further findings indicated that obesity has a stronger influence than physical fitness on hypertension risk. However, low aerobic capacity is also a strong risk factor among those with normal BMI. This finding suggests that

better aerobic fitness early in life may have long-term health benefits even among those who are not overweight or obese. Evidence from other studies also suggests that aerobic fitness is associated with better cardiovascular disease prognosis and lower mortality, independent of obesity (Crump, Sundquist, Winkleby, & Sundquist 2016).

In a study to evaluate current evidence-based knowledge about physical activity, physical fitness, and body composition among children and young adults, findings revealed lower levels of participation in physical activity; poorer physical fitness may influence higher prevalence of overweight and obesity among children and young adults. Furthermore, studies confirmed that young adults may need more physical activity to become fitter and have a healthier body composition (Augestad & Jiang, 2015). Taras and Potts-Datema (2005) reviewed the state of research on the association between obesity among school-aged children and academic outcomes, reviewed published studies investigated obesity, school performance, and rates of student absenteeism. Research demonstrates that overweight and obesity are associated with poorer levels of academic achievement.

In the study of Erwin and Castelli (2008) student motor skill competency, strategic knowledge, physical activity, and physical fitness measures, it was noted that students demonstrated difficulty in attaining all four standards, particularly physical activity. Both personal demographics and physical attributes influenced performance. In particular, gender was a correlate of motor competency. Although the expectations may not be attainable at given times because of developmental differences, the study results provided some support for the value of guiding students to competency in all standards, as opposed to a single expectation. These findings also suggest continued use of the standards as a framework for physical education. Further research is warranted to explain student performance levels and develop effective methods for competency.

In the study of Gu, Chang and Solmon 2016, physical activity, physical fitness, and health-related quality of life in school-aged and four components of physical fitness were positively associated with physical and mental function. Path analyses suggested physical fitness mediated the relationship between self-reported physical activities and health related components Results support the conclusion that enhancing children's physical fitness can facilitate positive outcomes including improved health related quality of life.

From the study of Nabi, Rafiq and Qayoom (2015) it was concluded that subjects fitted in the category of fair on cardio respiratory fitness scale, could be because of the decreased physical activity, unhealthy lifestyle behaviors as are established during the years of gaining education, which may influence adult behavior and health status. Physical fitness performance was better in male students than female students. Further, it was reiterated that health promotion policies and physical activity programs should be designed to improve cardio respiratory fitness.

A 3-year longitudinal study of Epstein et al (2008) among older adults showed that declining muscle mass, strength, power, and physical performance are independent contributing factors to increased fear of falling, while declines of muscle mass and physical performance contribute to deterioration of quality of life. Findings reinforced the importance of preserving muscle health with advancing age. In older adults with and without mobility limitations, declining muscle mass, strength, power, and physical performance contribute independently to increase fear of falling, while declines of muscle mass and physical performance contribute to deterioration of quality of life. These findings provide further rationale for developing interventions to improve aging muscle health.

The study assessed the effectiveness of the use of video feedback on student learning in physical education, while also examining the teacher's responses to the innovation. The conditions compared the use of video feedback (either from the teacher or from peers) with no video. The 'video and teacher feedback' condition provided the most positive overall results, with statistically significant improvements in skill execution, technique, and knowledge learning, as well as the highest level of practice. Nonetheless, while acknowledging the utility of video feedback as an instructional tool, the teacher felt overwhelmed by the demands of the technology on both time commitments and in terms of technology competencies (Palao, Hastie, Cruz, & Ortega 2015).

## METHODS AND PROCEDURES

Various methods have been devised in the past to facilitate data gathering and each method is applicable to a particular research study being undertaken. This study will use the descriptive method of research in order to present the relationship between the student's level of performance in physical education and their health status classification. Creswell and Creswell (2017) explains that the descriptive research is a method of gathering, analyzing and classifying data about the prevailing condition, characteristics of the existing phenomenon, practices, processes, trends, and cause and effect relationships and making adequate and accurate interpretation of such data with or without the aid of statistical method (Oluyinka, Shamsuddin, Wahab, Ajagbe, & Enebuma, 2013). A study of electronic commerce adoption factors in Nigeria). The particular technique used in this study was documentary analysis and survey using questionnaire. The target population of this study consists of selected first year college students. There were 2400 physical education students coming from different colleges. Twenty (20) percent of the target population or only 480 student respondents were included by the researchers in the sample. The said student respondents obtained through stratified random sampling with sections as strata. The representatives of each section were drawn using the fish bowl technique where the researchers assigned numbers to students and have an equal chance to participate in the research. For the purpose of this study, the researchers used the survey questionnaire as the main research instrument.

According to Patte (2016), questionnaire is a written form used in gathering information on some subjects consisting of a set of questions distributed to and filled out by the student respondents. The survey questionnaire included the respondents' profile such as the gender, height and weight, and physical education performance record which were identified as excellent = 97, very good = 91-96, good = 82-90, fair = 77-81, and passed = 75-76. Further, the study has two sources of data, from the respondents answered survey questionnaire and from the learning management systems where the researchers got the physical education performance ratings of the respondents. Body Mass Index [BMI] of the students was calculated as Body weight in kilograms divided by square root of Body height in meter, using Quetelet index. Normal weight was defined as BMI 18.5 to  $\leq 22.9$ , Underweight as BMI  $< 18.5$ , Overweight as BMI 23 to  $\leq 24.9$  and Obesity as BMI  $\geq 25$  kg/m<sup>2</sup>, as per revised body type classification (Abarca-Gómez et al., 2017).

## RESULTS AND DISCUSSIONS

Table 1 presents the students' performance in physical education. As can be seen from the table, it shows that there were 7.6% of the students' respondents obtained a mark of fair, 32.6% had a good mark, and 33.1% got a grade of very good while 26.7% have obtained an excellent mark. The data shows that majority of the respondents perform well in their physical education subjects as shown in the data obtained. All learners learn best when motivated. Hence, the way to ensure success of students is first to know what motivates and sustains the learners in the learning



process. Sogunro (2015) conducted a study of 203 university students; the study presented eight top most motivating factors among university students. These include quality of instruction; quality of curriculum; relevance and pragmatism; interactive classrooms and effective management practices; progressive assessment and timely feedback; self-directness; conducive learning environment; and effective academic advising practices. The study concludes that these eight factors are critical to eliciting or enhancing the will power in students in higher education toward successful learning. Likewise, Standage, Duda and Ntoumanis, (2006) affirmed that students' motivational processes and the relationship to teacher ratings to students effort and persistence in school physical education as provided by the teacher enhance students motivation in physical education settings. Specifically, the model showed that students who perceived an autonomy supportive environment experienced greater levels of autonomy, competence, and relatedness and had higher scores on an index of self-determination.

**Table 1: Physical Education Students Performance (GRADES)**

Rank	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	FAIR	26	7.6	7.6
	GOOD	112	32.6	40.1
	VERY	114	33.1	73.3
GOOD	92	26.7	26.7	100
EXCELLENT	344	100.0	100.0	
Total				

Table 2 shows the health status classification of the students based on the computed body mass index. Data shows that there were 22.7% of the respondents who were found to be underweight, 69.2% identified to be in the normal state of 5.2% documented to be overweight while there were 2.9% of the total respondents were also identified to be in the obese classification. It is good to note that majority of the respondents were classified to be in the normal level as shown in the obtained statistics of 69.2%.

Voelker, Reel and Greenleaf (2015) stated that adolescence represents a pivotal stage in the development of positive or negative body image. Many influences exist during the teen years including transitions that affect one's body shape, weight status, and appearance. Weight status exists along a spectrum between being obese (ie, where one's body weight is in the 95th percentile for age and gender) to being underweight. The study provided an overview of the significance of adolescent development in shaping body image, the relationship between body image and adolescent weight status, and the consequences of having a negative body image.

Further, practical implications for promoting a healthy weight status and positive body image among adolescents were given emphasis. Salient influences on body image include the media, which can target adolescents, and peers to help shape beliefs about the perceived body ideal. Internalization of and pressures to conform to these socially prescribed body ideals help to explain associations between weight status and body image. These suggest that effectiveness of interventions aimed at improving physical activity, diet, and/or weight-related behaviors among university/college students are of significance. Tertiary institutions are appropriate settings for implementing and evaluating lifestyle interventions, however more research is needed to improve such strategies (Plotnikoff et al, 2015).

**Table 2: Body Mass Index Classification**

Rank	Frequency	Percent	Valid Percent	Cumulative
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				<b>Percent</b>
Valid				
UNDERWEIGHT	78	22.7	22.7	22.7
NORMAL	238	69.2	69.2	91.9
OVERWEIGHT	18	5.2	5.2	97.1
OBESE 1	10	2.9	2.9	100.0
Total	344	100.0	100.0	

Table 3 reveals the relationship between the respondents’ performance and health status classification or body mass index. As seen in the table, underweight students still performed well in physical education since majority of them belong to good, very good, and excellent performances. Students under normal body mass index have a good and very good performance. Regardless of being overweight, students belong to this group are also belong to good and very good performances. Likewise, those students who are considered obese 1 belong to very good performances. Based on the results, it proved that respondent’s health status classification or body mass index does not affect the respondent’s performance in physical education at all times. However, in the study conducted by Taras and Potts-Datema (2005) demonstrated that overweight and obesity are associated with poorer levels of academic achievement. Data on the association of overweight or obesity with levels of attendance are too sparse to draw conclusions.

Based on the available information gathered by Nihiser et al (2007) emphasized schools that initiate BMI measurement programs should evaluate the effects of the program on BMI results and on weight-related knowledge, attitudes, and behaviors of youth and their families; they also should adhere to safeguards to reduce the risk of harming students, have in place a safe and supportive environment for students of all body sizes, and implement science-based strategies to promote physical activity and healthy eating.

**Table 3: Relationship between Performance and Health Status Classification**

<b>BODY MASS INDEX CLASSIFICATION</b>	<b>STUDENT PERFORMANCE (GRADES)</b>				
	<b>FAIR</b>	<b>GOOD</b>	<b>VERY GOOD</b>	<b>EXCELLENT</b>	<b>TOTAL</b>
Underweight	6 7.7%	22 28.2%	18 23.1%	32 41.0%	78 100.0%
Normal	20 8.4%	80 33.6%	80 33.6%	58 24.4%	238 100.0%
Overweight	0 .0%	10 55.6%	6 33.3%	2 11.1%	18 100.0%
Obese 1	0 .0%	0 .0%	10 100.0%	0 .0%	10 100.0%
<b>TOTAL</b>	26 7.6%	112 32.6%	114 33.1%	92 26.7%	344 100.0%

## CONCLUSIONS

The following conclusions were drawn based on the findings of the study: majority of the students respondents performed well in their PE subjects as shown in the table that most of them obtained a mark of good, very good and excellent while there were only a total of 26 out of 344 respondents got a fair mark. It is good to note that there was a very high percentage of 69.2% who were identified to be in the normal level as far as the body mass index classification was concerned. It shows that the respondent's health status classification or body mass index does not affect the respondent's performance in physical education. It implies that at any rate, students can still obtained a good mark in their PE class even if one is underweight, overweight and obese.

The findings of the study will help PE teachers become more flexible and further enhance their skills and abilities on how to deal with the different level and classification of the students. Students will be enlightened that regardless of the health classification, each one has the capability to perform well in their P.E. subject. This will also help teachers become more creative and good facilitator of the subjects considering the different level of students' performance as well as the body mass index classification. This will pave the way for the teachers to come up with diverse movements to cater the different type of students.

## RECOMMENDATIONS

On the basis of the findings and conclusions of the study, the following recommendations are offered: teachers and students most especially should be made aware that regardless of the health classification, whether the students are underweight, overweight or obese they have still the capability to perform well in their PE subjects. Teachers must be creative in the use of different teaching strategies in formulating different activities that are suited to the different level and classification of the students. Teachers must further encourage the students who obtained a health classification of underweight, overweight and obese that they can also perform the activities what the students who obtained a normal body mass index could perform.

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