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Research Article

Motives and Barriers to Exercise among Underweight Filipino College Students

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ABSTRACT

In many cases, underweight students may be left behind due to poor nutrition, health issues, or lack of access to resources that would help them thrive and achieve their academic goals. This condition is often overlooked, but it can have serious health consequences. In this paper, the researchers used the free-listing method to ascertain the perceived motives and barriers to exercise among underweight Filipino university students. This quantitative-descriptive study comprised 300 underweight Filipino college students enrolled in 'PATHFIT-2: Exercise-Based Fitness Activities' for first-year students during their Second Semester of the Academic Year 2022-2023 from the main campus of a state university in Pampanga, Philippines, who were classified as having BMIs below the normal weight. Furthermore, EMI-2 from Mullan et al. (1997) subscales were used to categorize responses in the free list for motives, whereas Myers and Roth's (1997) subscales were utilized to categorize barriers. The top five reported motives for underweight students were "positive health," "strength and endurance", "ill health avoidance", "appearance", and "weight management". While "competition", "nimbleness", "affiliation", and "health pressures" did not elicit a response. On the other hand, most respondents do not have enough time and are too lazy to exercise since it may interfere with their school-related tasks. The findings provided educational institutions with precise recommendations on how to establish exercise programs that are in line with what motivates students and examine any barriers that may prevent such physical activity engagement.

Keywords: *Barriers, Free-listing methodology, Motives, Physical activity, Physical education, Underweight*

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Introduction

Being underweight is considered as having a body mass index (BMI) that is below what is considered healthy for a normal adult, adolescent, or child and it can also occur in the elderly (Uzogara, 2016). Underweight in developing countries has become a major public health concern (Asim & Nawaz, 2019; Chowdhury et al., 2018; Tolentino et al., 2022). It has been estimated that 110 million (19% of the world population) are moderately or severely underweight (Asim & Nawaz, 2019). In Bangladesh, which has one of the highest rates of underweight cases in the world, Chowdhury et al. (2018) claimed that underweight is a significant public health issue. An estimated 31.67% of children were underweight, with 8.81% seriously underweight. The joint committee of the United Nations International Children's Emergency Fund (UNICEF), World Health Organization (WHO), and World Bank Group (WBG) have stated that children under the age of five (5) are underweight in at least 29% in South Asia in which the region bears an unfair burden of undernutrition (Kumar et al., 2019).

In the Philippines, as in other Asian nations, there is a very high frequency of underweight children across all age categories, according to the Food and Nutrition Research Institute-Department of Science and Technology's findings in 2019. The percentage of underweight malnutrition among children aged 6 to 10 was 25.0% in 2018. According to the National Nutrition Census. According to the National Nutrition Survey conducted in the Philippines, more than a quarter of Filipino individuals or 36% of adults and 23% of children felt that the food they were eating was unhealthy. The problem is continuously dispersed across the sixteen (16) areas of the nation (Ieiri et al., 2020). Based on Social Weather Station (SWS) results, two million (2) Filipino families are moderately food-starved, and six hundred and twenty-one thousand (621,000) Filipino families are severely underweight (dela Luna & Bullecer, 2020).

According to the study conducted by Fishman et al. (2014), there is a lack of studies on underweight children and adolescents, and the health effects of being skinny in many countries are not fully understood. Health programs do not include underweight as a component since it is still an issue that is often disregarded. As a result, the optimum Physical Education (PA) levels and frequency as well as the best types of training have not yet been established for underweight children and adolescents (Kantanista et al., 2013).

Physical activity benefits both physical and mental health (Callow et al. 2020). Conducting physical activity is a key pitch in maintaining a good body and enhances holistic health (Rawat et al., 2020). Exercise, physical activity, and working out have all been shown to be effective treatments for mental health issues like depression, stress, and anxiety (Mattioli et al., 2020). According to Callow et al. (2020), regular exercise is a great approach to improving all aspects of one's health, including physical, emotional, and mental. Further, it is essential to give importance to children's food, environment, health, and hygiene because a healthy diet is a key factor in good child development (Nigatu et al., 2018).

In many cases, underweight students may be left behind due to poor nutrition, health issues, or lack of access to resources that would help them thrive and achieve their academic goals. This condition is often overlooked, but it can have serious health consequences. Undernutrition can have a major impact on cognitive development and academic performance, and students who are consistently undernourished or struggling with health issues related to being underweight may find it harder to keep up with their peers. In addition, this study will discover the motives and barriers of underweight students at a specific state university in Pampanga, Philippines. To guarantee that all students have access to the resources and support they require to achieve academically and maintain good health, support, and resources must be made available.

The prevalence of underweight health among children between the ages of five (5) and sixteen (16) is extremely high. According to statistical findings from the examination of the study's participants, they do not account for the presence of hypertension or high blood pressure, which indicates that many people continue to struggle with this issue and are

unable to engage in a variety of physical activities (Mphekgwana et al., 2019).

Chowdhury et al. (2018) claimed that the recorded rate of underweight in Bangladesh was higher, at 31.67% of children, and 8.81% of those children were severely underweight. This is due to the lack of guidance provided by their parents, who also lack knowledge because they were not given the chance to attend formal schooling. It has been found that having an underweight body or health is greatly impacted by having inadequate knowledge and education.

John and John (2018) asserted that this condition is the most extreme event that can happen in the case of an underweight body. In a rural area of Puducherry where a study was undertaken, it was found in this area that almost all children under the age of five (5) have this severe condition of being underweight and it was also found that the method for this is the parents' lack of education regarding the importance of nutrition in children.

Furthermore, Qirani et al. (2020) added that one of the causes of low weight or underweight in Java Island, Indonesia is the impact on the parents due to the lack of knowledge and education as recorded in the bivariate analysis. According to the analysis, the main source of underweight cases is Low Birth Weight (LBW), Acute Respiratory Infection (ARI), Diarrhea, and frequency of eating milk and dairy products. Based on the recording of statistics, children with underweight conditions reached 20.2%. One of the visible possible programs to prevent this is the promotion of a balanced nutrition program and healthy behavior.

Madiba et al. (2019) confirmed that even in research in the Tshwane district in South Africa, according to the record, there is a high possibility of having pre-maturity or stunting of the child at the age of 24 months due to the lack of education of parents, especially the mother. Because in the study, knowing the proper nurturing and giving the first nutrition that comes from the mother, such as lactation or sucking. Another reason that has been confirmed is that when the child attends preschool, the possible rate of them being underweight will increase because the child will stop breastfeeding.

Yang et al. (2019) affirmed that the study on underweight children in low-income and middle-income countries (LMICs) has been given a stronger analysis with cases recorded in regions abroad in children such as in Sri Lanka 48.8%. On the other hand, in the case of obesity, it was recorded at 0.1% in Vanuatu and its rating went up to 35.0% in Niue. It was discovered that the cases of being underweight are high. This proves that it is not just one or two countries that have this health epidemic; many more are not recorded.

In a study conducted in the Philippines that explored the nutritional status of children aged zero to five (0-5) and five to ten (5-10), it was found that the group of households headed by fisherfolks (HHF) was recorded to have the most cases of underweight among children aged zero to five (0-5) to five to ten (5-10). Numerous nutrition intervention measures have been discovered to be related, including health and nutrition education, medical treatment, sanitation, and hygiene, and many more (Capanzana et al., 2018).

Physical activity is essential among Filipinos not only to promote physical fitness but also to help us manage the demands of our lifestyle. Underweight Filipinos, who are less likely to be active than the average Filipino, should be the focus of strategies to increase physical activity among Filipino students. They are also discriminated against because of their body and are treated as weak, especially when it comes to participating in sports.

Over 108 million people live in the archipelago-style Philippines, with children and teenagers making up over 30% of the population (PSA and ICF, 2018). The frequency of insufficient physical activity (PA) among young Filipinos is frighteningly high, according to surveillance data (Guthold, 2020). According to a 2019 study from the Philippine Food and Nutrition Research Institute (FNRI), 84.6% of Filipino youths between the ages of 10 and 17 do not drink the recommended amounts of PA for health.

Indeed, because of personal matters, Filipinos forget to exercise to be healthy. On the contrary, when people are consistent in doing exercises, it reflects how they care about their health. Physical activity among Filipino citizens

can improve their mental health (Tyson, 2010). The high prevalence of physical inactivity among young Filipinos raises a public health issue that needs to be addressed by local public health officials and stakeholders.

According to Irfan et al. (2019), among students at the University of Gujrat in Pakistan, the percentage of underweight students was substantially higher (27.1%) which indicates that the high number of students in the underweight categories is indeed concerning. The purpose of this study is to look at the prevalence of underweight among university students, as well as to examine food habits and nutritional plans in connection to BMI. On the other hand, 631 female university students from 6 universities in Kyoto, Japan, and 51.7% of underweight female students have a desire for thinness. A logistic regression study revealed that the desire for thinness was positively connected with eating disorders (Mase et al, 2013).

The lifestyle choices made by Thai society expose young people to situations that could be risky for their cardiovascular systems. This study's objective was to identify the prevalence of underweight, overweight, and obesity in a sample of Thai university students as well as the associated factors. 860 undergraduate Mae Fah Luang University students from Thailand, ages 18 to 25, were included in the study. Overall, 21.5% of people were underweight, with more women than men being underweight. Men who lived off campus came from affluent families, slept for fewer hours each night, and women who engaged in little physical exercise and were not trying to lose weight were more likely to be underweight. It is suggested that information on establishing ideal weight be included in health promotion programs considering the significant proportion of underweight people observed in this study and the potentially severe health consequences (Pengpid & Peltzer, 2015).

According to Trilk et al. (2011), it depends on the physical characteristics of individuals to be motivated to do exercise such as weight and obesity levels. The major motives for exercising are identified as weight adjustment and body shaping.

Understanding a person's motivation for working out depends on their fitness objectives. Given the importance of exercise for enhancing health, it is crucial to understand why the Greek population participates in such low levels of exercise and the difficulties involved in sticking to a routine. Exercise motivation is a significant predictor of behavior (Zervou et al., 2017).

People can gain much from physical activity and exercise in terms of their health. It benefits those with good physical appearance, builds internal confidence, and aids in boosting one's immune system, which acts as a defense against diseases. But despite these favorable health effects, some people nonetheless engage in sedentary habits and lack physical activity because of obstacles that limit their inclination to do so.

Since many students are now completing their schoolwork at home, they are less inclined than they were before the outbreak to increase their physical activity levels. Most of the research concentrates on people who seem to be in good health and the general populace, but it is important to learn what drives and obstacles marginalized groups—like underweight students—face. With that remark, this study discovered the motives and barriers of underweight students at a specific state university in Pampanga, Philippines. This could serve as a criterion for PE teachers and administration to prepare fitness programs that can be helpful to the students.

Statement of the Problem

The researchers seek to identify the perceived motives and barriers to exercising among underweight Filipino college students in a state university in Pampanga, Philippines.

Specifically, the following questions will be addressed:

1. How may the listed motives to exercise among the students be described based on the subscales of Mullan et al. (1997)?
2. What are the other motives to exercise not covered in the subscales?
3. How may the listed barriers to exercise among the students be described based on the subscales of Myers and Roth (1997)?

4. What are the other barriers to exercise not covered in the subscales?

Methods

This study followed a post-positivist philosophical worldview. Post-positivists believe in determinism, which holds that causes predict effects or outcomes (Creswell, 2014). Hence, this study utilizes the quantitative-descriptive research approach. According to Babbie (2013), the quantitative descriptive approach involves the use of numerical data to describe a particular phenomenon or population. It is a research method that focuses on collecting and analyzing data quantitatively, such as through surveys or experiments, to provide a statistical description of the data. This approach is useful for providing a detailed and objective summary of a particular phenomenon or population and can be used for a variety of research purposes, including identifying patterns or trends, making comparisons, and generating hypotheses for further research. Specifically, the free-listing methodology will be employed as the strategy of inquiry. According to Stausberg and Engler (2021), this method is known as free-listing (also known as 'list task' or 'free recall listing'). Furthermore, free-listing is a technique that is usually used to elicit information on categories, classes, or cultural domains, but it can also be beneficial for other purposes where knowing the vocabulary people use to comprehend objects, events, and situations in the world. It is a tool for exploring salient data, which is data that is commonly shared or distributed and thought to be significant, either in terms of being different and attention-grabbing or typical. Free-listing is an effective method for investigating the categories and notions of the people you are researching. Therefore, free-listing is a relatively simple process. This method was determined to be suitable for collecting the indicated motives and barriers as seen by respondents since it would also collect factors other than the stated different subscales. This study employed convenience sampling. According to Etikan et al. (2015), convenience sampling (also known as haphazard sampling or accidental sampling) is a type of nonprobability or nonrandom sampling where members of the target population meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a given time, or the willingness to participate is included for the study.

Respondents

Filipino college students taking Physical Activity Towards Health and Fitness 2 or Exercise-Based Fitness Activities intended for All First-Year Students, which is offered in the second semester of every academic year, were among the respondents to the study. The locale is a public university's Institute of Physical Education in the Province of Pampanga. To be eligible to take part in the study, the student must be either male or female and have a body mass index (BMI) of less than 18.5 kg/m^2 (WHO).

Instrument

This study adopted the instrument of Mungcal et al. (2021). A physical education professor, two (2) nurse educators, a language specialist, and a licensed psychometrician comprised the expert validators of the adopted instrument. To further provide the demographic review of the sample, questions regarding the respondents' information about the demographic composition. These included their age, sex, height, weight, and calculated BMI.

Additionally, they were asked: *"Ikaw ba ay kasalukuyang nageehersisyo?"* (Do you currently exercise) to provide broad information about the status of their engagement in exercise. The survey's second section consists of open-ended questions which were content validated by professionals. In this study, the term refers to the type of movement and is described in terms of the associated motives and barriers associated by the underweight participants.

Data Gathering Procedures

The researcher's face-to-face request for permission to conduct surveys of students enrolled in the main campus university who meet the established criteria was granted by the person in charge and unit head of the Institute of Physical Education (IPE). However, respondents were identified by sending a letter to all PE

teachers, allowing the researchers to gather information regarding the BMI of the students. The researchers explained to the respondents the importance of their participation in the study. Respondents were given 5 to 15 minutes to answer the questions honestly.

The open-ended free listing strategy was used in this study. According to Chung & Pennebaker (2008), open-ended-free-listing narratives are used to demonstrate a novel approach to finding recurring themes in written text. Computerized text analytic tools were used to identify the most frequently used adjectives in narratives written by college students.

The researchers explained to the respondents the benefits of participating in the study. Respondents will be able to analyze and understand the purpose of the study in which they will gain knowledge and have a background when it comes to the motives and barriers to exercise among underweight college students.

Data Analysis

The perceived motives and barriers were analyzed by utilizing descriptive statistics. Furthermore, descriptive statistics are used to summarize and describe the characteristics of a dataset, and they help researchers to understand the basic patterns and features of their data. According to Gravetter and Wallnau (2016), descriptive statistics refers to "methods of organizing, summarizing, and presenting data in an informative way" (p. 26). They consist of measures of variability (such as range and standard deviation) as well as measures of central tendency (such as mean, median, and mode).

The researchers independently categorized the information obtained from the open-ended questions of the free-listing approach regarding possible motives and barriers to why people do or do not participate in the exercise. In classifying the responses by individuals, the first and second authors coded them one by one using Mullan et al. 's (1997) EMI-2 subscales for motives, and barriers, Myers and Roth's (1997) subscales were used. However, MAXQDA 2020.4.1 was used for the coding process and inter-coder agreement procedures. The third author settled any discrepancies or conflicts between the first and second authors' codes.

Ethical Consideration

This process of collecting information and survey from the respondents were done in adherence to ethical standards while conducting the research such as anti-discrimination law which tells that everyone should have equal rights, and no one should discriminate against other people on a wide range of grounds.

Each participant provided informed consent before the interview began, allowing them to quickly withdraw participation if they so desired. The researchers explain the study's objectives and rationale for conducting them to each participant. Additionally, we consistently follow safety rules. Participants were told that their identities and responses would be kept private and were asked to answer the questions honestly.

The processes for collecting data from participants were governed by various ethical norms in research, including the Belmont Report (1979) and the Data Privacy Act of 2012. This also considered three Core ethical concepts in human-participant research "respect for others, beneficence, and justice."

Respect for Others

This is the first principle of ethical standards which the respondents should learn to value. Respecting others is a way of accepting who you are and accepting yourself in every way you can. The respondents are aware of being underweight but still, being thin doesn't mean that you're missing a part which can lead to being passed on to society standards. You must just accept and consider every barrier as motivation to do more for yourself and with that, respecting yourself will lead you to multiple stability in mental health and socialization.

The survey focuses on discovering motives and barriers to exercise among underweight Filipino college students. It will show students' motivations for being productive and engaged in participating in exercises or sports. Also, the barriers on how those respondents can't exercise even for a couple of minutes. This survey is a questionnaire method in which every answer to the questions will lead to solutions that may help those students gain weight and confidence.

Discrimination

This is an ethical issue that is being experienced by the respondents because of being underweight. The recommendations might help the researchers to provide solutions regarding this matter.

Beneficence

People are treated ethically when measures are taken to ensure their wellbeing in addition to respecting their decisions and keeping them safe. The idea that directs such treatment is beneficence. In many cases, the word "beneficence" is used to describe deeds of generosity or kindness that go above and beyond the letter of the law. The word "benevolence" is used more frequently and is a requirement in this paper. Two fundamental principles have been established as complementing manifestations of beneficial behaviors in this perspective: (1) avoid harm; and (2) maximize benefits while limiting risks.

Justice

They were chosen after a thorough examination of the inclusion criteria and were not subjected to discrimination based on their race, religion, color, or sexual orientation, among other factors.

Result and Discussion

Motives to Exercise

A sample of college students whose BMIs classify them in the underweight category provided 228 motives in all. With 94% inter-coder agreement between the first and second authors, they were further categorized and coded using the subscales of Mullan et al.'s (1997) Exercise Motivation Inventory (EMI)-2. The third author, a physical education expert, resolved the remaining 6% of disparities.

Out of 228 motives responses, 88.6% fit into one of the Mullan et al. (1997) themes. Since "positive health" comprises slightly more than a quarter of all respondents (24.56%), it can be inferred from Table 1 that this is the most prevalent motive for respondents to exercise. Following this is "strength and endurance" (18.42%), then "ill health avoidance" (20.96%). Next on the list is “appearance” with a percentage distant to the fourth motive (8.77%).

Meanwhile, “weight management” (7.89%), “revitalization” (5.70%), “stress management” (5.26%), “social recognition” (3.51%), “enjoyment” (3.07%) and “challenge” (0.44%) were also identified. However, “competition”, “nimbleness”, “affiliation”, and “health pressures” did not represent any of the listed responses from the respondents.

Table 1. Summary of Motives to Exercise

Theme	Frequency	Percentage	Sample Responses
Positive Health	56	24.56	“To maintain a healthy body”
Strength and Endurance	42	18.42	*“Upang lumakas ang katawan”* (In order to strengthen the body)
Ill- Health Avoidance	25	10.96	“To prevent illness”
Appearance	20	8.77	“Body development”
Weight Management	18	7.89	“To maintain my body”
Revitalization	13	5.70	“I want to be active”
Stress Management	12	5.26	“It also helps me to reduce stress”
Social Recognition	8	3.51	“Use it as a bonding opportunity”
Enjoyment	7	3.07	“It’s my hobby”
Challenge	1	0.44	*“Kailangan ng katawan na mag exercise para magawa ang mga simple task*” (The body needs to exercise to perform simple tasks)
Competition	-	-	-
Nimbleness	-	-	-
Affiliation	-	-	-
Health Pressures	-	-	-
Total	202	88.6	

The top motive for respondents was classified as "positive health" which implies they are either currently or constantly motivated to engage in physical activity because they believe it is vital for sustaining good health. Regular physical activity and exercise enhance physical fitness and assist in lowering the prevalence of several chronic illnesses and physical disabilities (Wicker & Frick, 2017).

However, “strength and endurance” garnered 18.42% as the second-highest motive. This could improve a person's long-term physical growth since endurance exercise builds cardiorespiratory endurance and strength training improves muscular strength. To develop physical strength, endurance exercise is a great choice (Gäbler et al., 2018). The third most popular reason is "ill-health avoidance," which received 10.96% of all student responses. Indeed, exercise has several advantages in our daily life. Many lines of evidence imply that humans evolved to be equipped for relatively small levels of endurance and physical activity into old age. Due to the scarcity of dietary energy, humans were also chosen to avoid excessive effort, and most anatomical and physiological systems were developed to require physical activity inputs to adapt capacity to demand (Lieberman, 2015). Since appearance developed as a prevailing motivating factor, observers observed that physical appearance plays an important part in making first impressions, since it offers other people a sense of how they would interact with them based on their view on physical activity. A person's physical appearance influences how others see them (Naumann et al., 2019).

Some of the respondents mentioned that they are conscious of their weight. Exercise is now widely recognized as vital for long-term weight management and overall wellness. The critical challenge is getting sedentary young to middle-aged folks to engage in more physical exercise. There is a serious lack of research on the psychology of starting and sustaining an exercise program among people who are overweight or underweight. Findings from the general population and other health habits can be used to develop effective exercise promotion approaches (Biddle & Fox, 2012). Furthermore, revitalization is when most people who were more effective kept their energy up while exercising, felt more energized afterward, and engaged in more pleasant activities than those who were less effective (Bezoian et al., 2013).

The data further indicates that "stress management" is one of the prominent reasons provided by respondents which makes up less than a quarter of the overall proportion (5.26%). Exercise may begin to have a positive impact on mental health. To reap the benefits of these favorable changes, exercise must be done on a regular and consistent basis throughout time (Antoniewicz & Brand, 2016). There has been some research on the chronic psychological advantages of exercise, with many of them relating to mood alterations (Choi et al., 2019). It is clear from the results that "social recognition" and "challenge" appeared to be motives for the student-respondents to exercise. According to the responses given by underweight Filipino university students, being acknowledged by someone around you and receiving good comments on what you're doing might boost your self-esteem (Hallmann & Breuer, 2014). On the other hand, having enjoyment while engaging in exercise promotes positive emotions while exercising is one method for improving regular physical activity (Jekauc, 2015).

Other Motives

In addition to the themes provided by the EMI-2, generated motives emerged after examining the responses. From the qualified student responses, a total of 26 out of 228 responses (11.14%) were deemed to be produced motives. However, "personal" was the "other" motive that was mentioned as being the most common (46.15%). Since most of the responses were about being at ease and avoiding body shaming, the "general fitness" rationale received the second-highest frequency (38.46%) as a motive. While "requirement" was mentioned as the third-most frequency (7.69%).

Other generated themes such as “not applicable” and “lifestyle” were some of the items that received fewer categorizations. Out of the 156 responses, (3.85%) identified “materials” and “pandemic” got the least with only one

frequency. However, "materials", "athletic goals", "social "influence", "leisure", and "pandemic" did not represent any of the listed responses from the respondents.

Table 2. Summary of Other Motives to Exercise

Theme	Frequency	Percentage	Sample Responses
Personal	12	46.15	"Improved cognitive function: Exercise has been linked to better memory."
General Fitness	10	38.46	"Exercise has a lot of benefits to our body"
Requirement	2	7.69	"PE subject"
Not Applicable	1	3.85	"N/A"
Lifestyle	1	3.85	"Enhance cognitive function."
Materials	-	-	-
Athletic Goals	-	-	-
Social Influence	-	-	-
Leisure	-	-	-
Pandemic	-	-	-
Total	26	100	

In coding the other motives to exercise, the researchers adapted the generated themes of Mungcal et al. (2021). The student-respondents who are underweight identified "personal" as their motive to exercise ranked as one of the top generated motives to exercise. Some students exercise for personal reasons, such as being underweight or overweight, and these personal difficulties can act as stepping stones for them to acquire or lose weight (Bossink et al., 2017). Another generated motive to exercise among underweight student respondents are "general fitness" and "requirement" which ranked third and fourth most responses. The broad idea of health and healthy lifestyles encompasses not just eating healthful and nutritious meals and being physically active, but also individual mental and emotional or "general fitness". The bodyweight exercise regimen has little effect on body composition metrics without a carefully balanced diet and nutrition supervision. It was, however, an excellent technique for boosting overall physical fitness. It boosts physical capacity and flexibility while also improving muscular strength and endurance (Lipecki & Rutowicz, 2015). Physical exercise is essential for an individual to grow healthier, and they have no option because it is a "requirement" for their subject course as physical education students. As a result, interventions should be implemented for all students to help them achieve a more fit physique (Lonsdale et al., 2013).

The next generated motives are "not applicable" and "lifestyle". Schools have an important role in promoting students' health. Due to teachers' limited resources, short-term treatments that may be immediately implemented in a normal session without much training are necessary. Further implementation findings demonstrated high levels of teacher and student enthusiasm but, on occasion, low levels of exposure (Tolentino et al., 2022). Because of the low time and preparation necessary for teachers to observe results, the suggested approach is ideal as a first step in school health promotion. Some pupils are unsure what they will do or whether they will continue. They practically think twice before exercising, which is why others don't pay attention to it (Schwager et al., 2019). Some students prioritize their fitness habits because they believe it is beneficial to the body. It simply entails deciding to conduct ordinary tasks in such a manner that they become tiny exercise chances (Taraldser et al., 2019).

Barriers to Exercise

A total of 412 responses from the student-respondents were collected from the list of responses and classified as barriers. The results were grouped and categorized according to the subscales of the barrier categories established

by Myers and Roth (1997), with a 92% agreement between the first and second authors. The remaining 8% of disagreements were settled by the expert.

A total of 344 of the 412 responses, or 83.5%, fit one of the Myers and Roth (1997) provided themes. The frequency distribution and percentage of the barriers to exercise are summarized in Table 3 for your convenience. The subtheme "not enough time" as a barrier to exercise is represented by more than a quarter of the total responses (30.10%). Additionally, some of them believe that their inability to exercise is caused by their laziness (17.48%) and that it interferes with their school-related tasks (13.11%). This can imply that they don't prioritize exercising because it would take up a lot of their time. This could mean that they would rather accomplish their requirements and attend their classes first and that they cannot find time to exercise anymore.

Apart from the three frequently identified barriers, some of the other categorized responses include “medical problems” (5.34%), “too tired” (2.67%), “interferes with work” (5.67%), "no convenient places" (2.43%), "too uncoordinated" (2.18%), "interferes with work" and “too fatigued” (1.70%), "too much work" (1.46%), "bad weather" (0.97%), "family obligations", "get hot and sweaty" and "causes sore muscles" (0.73%), "interferes with social life", "family does not encourage", and "don't like to exercise alone" (0.49%), while "too convenient", "too boring", and "take too much discipline" (0.24%). However, "look silly", "friends do not exercise", and "uncomfortable" had no response (0.00%).

Table 3. Summary of Barriers to Exercise

Theme	Frequency	Percentage	Sample Responses
Not Enough Time	124	30.10	*“walang sapat na oras para mag-ehersisyo”* (no enough time to exercise)
Too lazy	72	17.48	“Too lazy to work out.”
Interferes with School	54	13.11	*“Walang time dahil nalalaan sa gawain sa paaralan.”* (There is no time because of school work.)
Medical problem	22	5.34	“I have a disability that restricts me to conduct exercises.”
Too Tired	11	2.67	*“minsan ay hindi na nagagawa dahil pagod na kauwi galing school”* ("sometimes I cannot do it anymore because I am tired after coming home from school)
No Convenient Places	10	2.43	“Lack of access to facilities”
Too Uncoordinated	9	2.18	“One of the reasons is my physical situation as I am not allowed to push myself too much.”
Interferes with Work	7	1.70	“Work commitments, and other responsibilities can make it challenging to find time for exercise.”
Too Fatigued	7	1.70	*“Hindi sanay, agad napapagod”* ("I am not used to it, I immediately get tired)
Too Much Work	6	1.46	“I have a lot of work”
Bad Weather	4	0.97	“Environmental factors: Pollution, bad weather, and unsafe neighborhoods can make it difficult to exercise outdoors.”
Family Obligations	3	0.73	*“madaming ginagawa sa bahay”* (there are a lot of work at home)

Theme	Frequency	Percentage	Sample Responses
Get Hot and Sweaty	3	0.73	"Currently, weather or the very hot weather that we are experiencing right now is also one of the reasons that prevents me from exercising."
Causes Sore Muscles	3	0.73	"Body pain after the exercise/ workout."
Interferes with Social Life	2	0.49	"Lack of social support"
Family does not Encourage	2	0.49	"Not having a supportive network"
Don't Like to Exercise Alone	2	0.49	"Exercise partners can make it harder to maintain an exercise routine."
Too Convenient	1	0.24	"unavailability"
Too Boring	1	0.24	"boredom"
Takes Too Much Discipline	1	0.24	"To be honest, I lack self-discipline in terms of consistency. I think that I should spend my time more on something that interests me."
Look Silly	-	-	-
Friends do not Exercise	-	-	-
Uncomfortable	-	-	-
Total	344	83.5	

Of the responses, the only answer that surpasses 100, indicates that most respondents are unconcerned about their health due to "not enough time". Those with good intentions to exercise reported more benefits to being physically active, as would be expected. According to Godin et al. (2017), sedentary positive intenders regarded exercise as physically hard and had trouble reconciling the time constraints of an exercise program with their weekly activities. Other barriers highlighted by student respondents include "too lazy" and "interferes with school," which came in second and third place, respectively. Both themes appear often, indicating that they have significant effects on the student respondents' general attitude toward exercise. Students who are "too lazy" to exercise might be attributed to their hectic schedules at school, jobs, or other activities that prohibit them from exercising. As a result of burnout, many people suffer experiences of being too lazy. At the end of the day, your body, mind, and spirit are exhausted, making it difficult for you to find the energy and stamina to exercise (Cowan et al., 2013). The following barrier is "interferes with school," which is rated third overall and has a high frequency. Another reason why the respondents do not exercise is that they are university students, who also have a demanding course load and a busy academic schedule. It is reasonable to presume that student-respondents are involved in co-curricular and extracurricular activities that are still relevant to their studies (Ortega et al., 2022). Individuals who have an excessive amount of academic work to do, such as co-curricular and extracurricular activities, have perceived barriers to exercise. While schooling responsibilities and the availability of television, video games, and computers compete with time spent on physical exercise, safety concerns and restricted access to parks and playgrounds prohibit children from obtaining enough daily physical activity (Pham et al., 2017).

On the other hand, "medical problem" is also one of the barriers that hinder the students from engaging in exercise. This is a significant barrier to exercise since it could worsen the condition if a person continues to exercise owing to health issues (Kumar & Lohana, 2022). Furthermore, being "too tired" was also identified as a barrier. Due to the demands of a physically demanding career and a lengthy second shift at home, many of us failed to find the time and energy to exercise (Lenneis & Pfister,

2017). Having "no convenient places" is also part of the students' responses. Outdoor physical activities are more efficient, but because of the COVID-19 epidemic, we are limited to conducting these due to a shortage of space. As a result, we may still engage in these kinds of physical activities by using online platforms (Schwartz et al., 2021). In terms of exercise involvement, several of the students were "too uncoordinated". Students' perspectives on this are negative due to a lack of enthusiasm and passive engagement. This study looked at the components that have a favorable and negative impact on the social experiences of students who were excelling and suffering with exercise (Suomi et al., 2013). The next barrier is "too much work". People have different priorities in life; for others, exercise is their lowest priority, which is why too much work inhibits them. Individuals will prefer to do something that benefits not just themselves but also those around them rather than engage in such activity (Feuerhahn et al., 2014). Exercise is being neglected due to family obligations. As a result, it has an impact on an individual's physical condition (Macniven & Esgin, 2022).

The following two barriers—"get hot and sweaty" and "causes sore muscles"—are tied to one another. Due to the predominance of unpleasant proprioceptive sensations (such as heavy breathing, intense sweating, and sore muscles), negative changes in core emotional valence become pervasive during vigorous-intensity exercise (Ekkekakis et al., 2011). Some students stated that they do not want to exercise because it may "cause sore muscles" to them. Soreness is characterized by a prolonged loss of strength, a limited range of motion, and higher blood creatine kinase levels. These are seen as circumstantial indicators of muscle damage, and a biopsy examination has revealed damage to the contractile components (Miles & Clarkson, 2014). Some of the students are discouraged from exercising by a "family does not encourage", so they do not pursue it and instead do something else that does not assist them in living a healthy lifestyle. Some of the reasons why family members do not encourage students to pursue fitness include that they believe it is a waste of time and that they may do something more useful instead (Gong et al., 2022). Some students get bored when they are doing exercise, and this is one of the reasons why the students are not engaging in exercise. Boredom and being easily bored in general are linked to reduced physical activity. Others may be bored with exercise because they are not at ease. Another reason many students dislike exercising is that they have established unreasonable expectations for themselves and have set themselves up for failure. Furthermore, students prioritize utilizing social media or other activities above exercising (Wolff et al., 2021).

Other Barriers

Other generated responses offer additional themes in addition to those provided by Myers and Roth (1997), and some of these themes have been modified by Mungcal et al. (2021). Leading barriers to doing exercise are "personal" with 30.88%. Moreover, the second-highest student response is "not applicable" because most of them stated that there are "none", "nothing" or "N/A" reasons to prevent them from doing exercise. These were then followed by "lack of motivation" barriers that make up 20.59% of the sum of all codes. Not exercising may also be associated with "resources" (11.76%). However, "food" (7.45%) is also a barrier when it comes to not being engaged in doing exercise. An equal percentage of using "social media" and "online games" by other people was also noted (1.47%). Lastly, "being criticized", "mobile devices", "menstruation", "mood", and "pandemic" have no coded responses.

Table 4. *Summary of the Other Barriers to Exercise*

Theme	Frequency	Percentage	Sample Responses
Personal	21	30.88	"Additionally, I often struggle with inconsistency when it comes to pursuing my goal of physical fitness."
Not Applicable	18	26.47	"Nothing"

Theme	Frequency	Percentage	Sample Responses
Lack of Motivation	14	20.59	"Some individuals may struggle with finding the motivation"
Resources	8	11.76	"The cost associated with gym memberships"
Food	5	7.35	"Food cravings"
Social Media	1	1.47	"cellphone"
Online Games	1	1.47	*"Pag lalaro ng moba"* ("When playing Mobile Legends)
Being Criticized	-	-	-
Mobile Devices	-	-	-
Menstruation	-	-	-
Mood	-	-	-
Pandemic	-	-	-
Total	68	100	

In coding the other barriers to exercise, the researchers adapted the generated themes of Mungcal et al. (2021). For the student-respondents, "personal" was identified as the top generated barrier in exercise. Some students exercise for personal reasons, such as being underweight or overweight, and these personal difficulties can act as stepping stones for them to acquire or lose weight (Bossink et al., 2017). There are no compelling reasons to exercise so "not applicable" is the second highest generated barrier that the students-respondents respond to. Because it can be difficult for them to find the time and enthusiasm to include physical activity in their everyday lives. We may all make a variety of excuses for not exercising. Thus, physical activity hurdles can be addressed in studies targeted at boosting physical activity levels (Delgado & Johansen, 2012).

Other barriers among underweight students were identified in undertaking "lack of motivation". Many children's health has deteriorated because of a lack of reasons to exercise. However, for the benefit of every child's health, verbal incentives should be incorporated into the program. Due to the association between the availability of exercise facilities and accelerometer-measured time spent in moderate to vigorous physical activity and the likelihood of achieving the prescribed levels of physical activity, "resources" are the next barrier that is generated (Erikson et al., 2012). Given that the survey was done with university students in Pampanga, the Philippines' culinary capital, "food" is one of the generated barriers. When a difficult mental job concludes, there is a temporary increase in energy expenditure. This study implies that staying active between mental activity and a meal may be a way to maintain energy intake while increasing energy expenditure to produce a negative energy balance following mental labor. Globally, these results may help people achieve and/or maintain a healthy body weight in an atmosphere where mental work is prevalent (Lemay et al., 2014).

The next generated theme that is considered a barrier by students-respondents is "social media". Some students nowadays are unable to exercise since their time is occupied by social media. Also, instead of exercising, many choose to surf social media and rest. It becomes a hurdle for pupils who are unable to devote time to exercise. Social networking can also encourage bad eating habits. Students are distracted by social media to the point that they can only focus on it and spend the rest of their time on it. They just lay aside exercise to use social media as a hobby (Oser et al., 2019). The last generated barrier is "online games" because students currently choose to play online games to exercise because they believe that playing online games is more pleasurable than exercising. Some students spend the majority of their time playing online games, which means they don't have time to exercise (Kubayi & Surujlal, 2014).

Conclusion

The free listing methodology was discovered to be a relevant and helpful data-gathering instrument for acquiring personalistic reasons

for respondents to take part or not participate in the exercise. As an outcome of the study's findings, the following conclusions were attained:

1. Most of the EMI-2 subscales that mention reasons to exercise are still present today despite the more than ten-year gap between the two surveys. The results largely highlighted health-related and self-satisfying motives as the most important factors.
   1.1. The top five reported motives for underweight students were "positive health", "strength and endurance", "ill health avoidance", "appearance", and "weight management". While "competition", "nimbleness", "affiliation", and "health pressures" did not elicit a response.
   1.2. The top five generated motives highlighted by student responses were "personal", "general fitness", "requirement", "not applicable" and "lifestyle". Whereas "materials", "athletic goals", "social influence", "leisure", and "pandemic" did not receive a response.
2. Notwithstanding issues with global health, the majority of the barriers identified in the subscales from 1997 are still pertinent and glaringly obvious. The context of respondents who were identified as underweight students considerably established other hurdles that appeared.
   2.1. Most respondents do not have enough time and are too lazy to exercise since it may interfere with their school-related tasks. Some of them see medical conditions, also lack of suitable spaces in each of their houses, and being too tired as barriers to exercising.
   2.2. It is worth noting that, within the context of the respondents, a substantial percentage of them see personal reasons as a rising barrier, while others say there are no reasons for them not to exercise. Furthermore, many of them lack motivation, which prevents them from participating in physical activities, such as exercise. While the majority of individuals consider their love of eating as a generated barrier. At last, since the pandemic began, a significant cause for not exercising has been linked to their propensity to surf on social media and play online games instead, limiting, if not eliminating their ability to actively participate since this is a characteristic passive activity.

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