

MOTIVATIONAL LEVELS AND FACTORS INFLUENCING SOPHOMORE UNDERGRADUATES' PHYSICAL EXERCISE ENGAGEMENT DURING ACADEMIC BREAK

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ABSTRACT: This paper examines the motivational levels and factors influencing sophomore undergraduates' physical exercise engagement during academic breaks at the University of the Visayas-Main Campus for the 2024-2025 school year. Using a quantitative correlational research method, data were collected through surveys administered to second-year students across various departments, including Education, Maritime, Criminal Justice, Engineering, Allied Health, and Business Administration. The analysis employed frequency counts, percentages, means, standard deviations, and multiple linear regression. The results revealed a predominance of female respondents aged 18-20, with nearly half falling within a healthy body mass index. Both intrinsic and extrinsic motivations were found to be highly influenced. Students exhibited high motivation levels, particularly in identified regulation, integrated regulation, social motivation, competence motivation, and health motivation. Overall, students showed a high level of engagement in physical exercise. The study identified a significant relationship between demographic factors, specifically sex and exercise engagement. Both intrinsic and extrinsic motivations significantly influenced this engagement. Furthermore, the motivational factors were predictive of exercise engagement levels, with p-values indicating strong significance for identified regulation, integrated regulation, social motivation, competence motivation, and health motivation. This study highlights the complex interplay of predictors affecting exercise engagement and underscores the need for further investigation into additional motivational variables, providing a foundation for future research and interventions aimed at enhancing physical activity among students.

Keywords: *motivational levels, motivational factors, physical exercise engagement, academic breaks*

INTRODUCTION

Physical exercise engagement improves the overall well-being of an individual. Unfortunately, the data from the World Health Organization (WHO, 2024) revealed that just twenty percent (20%) of adolescents and sixty-nine percent (69%) of adults engage in physical activity (PA) at the recommended level. Jayasinghe et al. (2021) explained that inactive lifestyles have long been an epidemic worldwide, creating a number of medical issues that lower a person's quality of life. As a result, governments around the world are mandated to strictly implement physical education (PE) at all institutions, particularly those in higher education. However, despite undergraduate students' exposure to physical activity (PA) during the school year, many students are struggling to maintain their healthy lifestyle and PA levels (PALs) during academic breaks, since there's no assurance that they will keep engaging in physical activity during vacation breaks, such as summer breaks.

Academic breaks, such as summer vacation, allow students to unwind and indulge in healthful activities such as physical exercise. On the contrary, Norwegian undergraduate students continue to have lower levels of participation in PA (Grasdalsmoen et al., 2019). Moreover, American Indian, Asian/Pacific Islander, and Latino youths spend a lot of time on screens throughout the summer, resulting in low PALs (Sallis et al., 2019). Likewise, other college students spend at least 9 hours a day sedentary, resulting in low exercise involvement (Romero-Blanco et al. (2020). Indeed, during academic breaks the university students are significantly less inclined to engage in bodily exercises. This indicates a lack of motivation to engage in physical activity such as exercise, leading to an inactive lifestyle.

The decline in motivation to sustain regular physical activity and exercise during academic breaks can be attributed to several factors. Higher levels of self-determination motivation are often associated with increased physical activity, while barriers such as fatigue and excessive screen time can significantly impede engagement (Divyasree et al., 2021). These challenges, including health issues and lack of motivation, play a crucial role in contributing to physical inactivity during vacation periods. The relationship between physical inactivity and reduced motivation highlights the need for strategies that enhance motivation and encourage students to maintain their activity levels.

Meanwhile, on January 2023 in the Philippines it was reported that 50.65% of Filipinos aged 18 and above experience a mix of unhealthy and healthy periods (C. Balita, 2023), while an additional piece of data shows that 41% of adults are not physically active (WHO, 2023). Students were tempted by unhealthy hobbies, celebrations, and other activities that quickly took over a healthy lifestyle (Tamanal & Kim, 2020). Many students struggle to achieve a balance between relaxing and engaging in leisure activities while maintaining healthy behaviors. Academic breaks can drive students to choose short-term happiness over long-term well-being. Understanding the circumstance is crucial for designing successful strategies that help students in making wise

choices during breaks. Although the vacation is a beneficial break, this additionally gives a great chance for Filipinos to maintain their overall wellness, particularly given the sedentary nature of some school-related activities (Cagas et al., 2022).

In the two years teaching experience of the researcher in delivering the PATHFIT 2 in a university, which emphasizes exercise-based training, the course is scheduled in the second semester prior to summer break. This raises questions with regard to whether first-year undergraduates are still motivated to apply their course learning beyond the semester or outside the classroom. Since, based on the experience of the researcher many students tend to be less energetic during the beginning of the academic term due to their tendency to have complaints whenever they are required to perform physically demanding activities and students get exhausted easily.

Despite the benefits of the exercise during each academic break, studies investigating the motivating factors influencing sophomore college students' participation in exercise during breaks are insufficient. Existing research focuses mostly on factors influencing exercise activity throughout the academic year, ignoring the various difficulties and chances during academic breaks. In other words, lack of research on students' exercise engagement during academic breaks, preventing them an avenue to preserve or improve their level of fitness. This gap leads to the limitation on in-depth understanding of the several factors and motivational levels that encourage and hinder engagement in physical exercise among sophomore college students during the vacation period.

This study aims to address the gap by investigating the motivational levels and factors of sophomore undergraduate students that influence their engagement in physical exercise during academic breaks. Also, to provide insights for successful interventions and policies to promote physical activity and well-being among college students. Thus, the researcher would like to conduct this study to establish evidence, facts, and proposed exercise enhancement program on sophomore undergraduates' level of motivation and exercise during academic break.

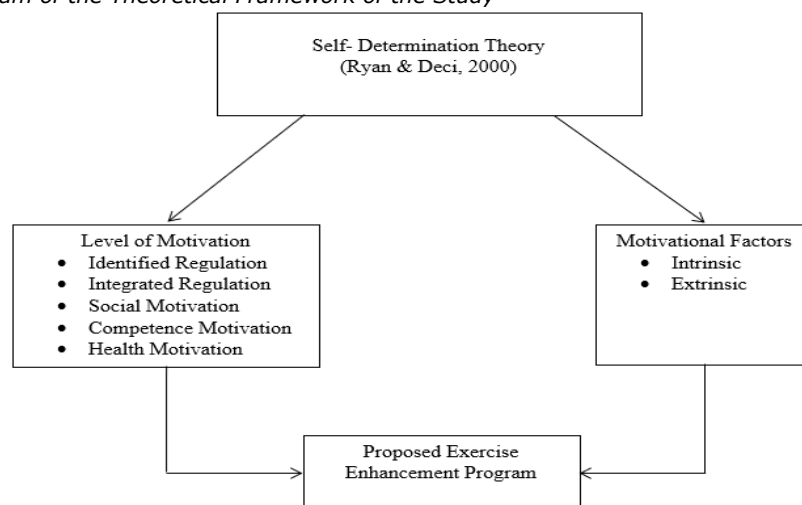
A proposed fitness enhancement program aims at addressing the gap by motivating sophomore students and encouraging an active lifestyle. This will help teachers, administrators, and the institution to facilitate the needs of the students and their wellness through advocating such fitness programs. The program would include personalized fitness plans, organized group exercise sessions, and engaging activities with an emphasis on motivation. The initiatives, will increase sophomores' levels of physical activity and fortify their intrinsic motivation to live active lives, thus contributing to counteracting the sedentary habits that often result from school breaks.

By fostering a supportive community, this initiative seeks to improve students' general health, help them stay active throughout their time on vacation, and help them form long-lasting healthy habits. Moreover, to raise motivation and engagement levels to help students return to university with greater wellness.

Theoretical Framework of the Study

This study is anchored on Self-Determination Theory (SDT), developed by the psychologists Edward Deci and Richard Ryan. Teixeira et al. (2020) asserts that SDT has proven to be an effective method for identifying behavioral patterns during exercise. In layman's terms, it is a study of human motivation and personality, and it has been used in number of studies to investigate human motivation and personality, focusing on understanding what drives individuals to engage in physical activity. There are six types of motivation in SDT and are as follows: intrinsic motivation, integrated regulation, identified regulation, introjected regulation, external regulation and amotivation (Deci & Ryan, 2000).

Figure 1
Schematic Diagram of the Theoretical Framework of the Study



Self-Determination Theory (SDT). It is a well-known theory used to investigate motivation and its influence on behavior, relevant to physical exercise engagement among sophomore undergraduates. This highlights just how motivation shapes human behavior and progress. It asserts that humans have three psychological requirements such as autonomy, competence, and relatedness (Manninen et al., 2022). When these needs are fulfilled, people become more driven and achieve success in their life. And this suggests that people would willingly become more productive and make progress in different areas, including career, education, and personal wellness, if they were highly driven. Intrinsic motivation, defined as doing something without any obvious external rewards, and is considered the strongest, most autonomous form of motivation. On the other hand, defines the external motivations as a set of behaviors that are integrated, recognized, introduced, and regulated to achieve external outcomes (Van den Broeck et al., 2021). In contrast, the last type of motivation is amotivation. It is described as a lack of motivation or desire to act (Stults-Kolehmainen et al., 2020). This theory will help in discussing the parameters of the study by providing salient points to further understand the constructs.

Motivational Factors. Identifying motivating factors for exercise engagement can help build effective strategies for sophomore students. This parameter identifies respondents based on the key motivators that influence their exercise habits during academic breaks. It explores intrinsic motivation, extrinsic motivation, and amotivation to identify the prevalence and impact of different motivational factors among students. This helps develop interventions that address specific motivational needs.

Intrinsic Motivation. It is defined as being engaged in activities purely for personal gratification and having a genuine interest in what they do. This classifies several intrinsic motivators, such as personal fulfillment, a desire for challenge, and self-improvement. It also identifies three key factors that influence motivation: autonomy, competence, and relatedness. Autonomy refers to the need for self-driving or in other words the need to do things independently and make one's own choices. During academic breaks, students frequently experience changes in their routines, it may increase their autonomy that motivate them to indulge in bodily activities that align with their interests. Creating an atmosphere which encourages autonomy driven choices can increase motivation for individuals to maintain an active lifestyle outside of the classroom. Additionally, competence talks about a sense of skillfulness When individuals believe that they are able and skilled in performing physical tasks, individuals appear a greater likelihood to sustain a healthful routine, perceiving exercise as a beneficial endeavor rather than as an obligation. Lastly, relatedness which discusses the desire for relationship building. People are more inclined in fitness when they feel that their closest companions and loved ones are supporting them, which leads to regular physical activities in an atmosphere of comfort. In addition to boosting satisfaction, the sense of belongingness promotes a long-term attitude on improving one's health that extends beyond the academic year. Recognizing these intrinsic motivators allows fitness programs to be developed for students' motivation, promoting healthier lifestyle choices during academic breaks.

Extrinsic Motivation. This is the desire to participate in an activity based on external rewards rather than the intrinsic appeal of doing something. These includes social recognition, peer encouragement, tangible rewards, and educational benefits. Rewarding students for being active throughout semester vacations could significantly raise the enthusiasm of learners to continue enjoying a physically active way of life. Social recognition builds a positive environment where learners feel trustworthy and motivated to engage in physical activities together, as well as social recognition builds a sense of belonging among learners. Wellness activities provide students with valuable insights into the power of optimal health, leading to improved holistic health and learning outcomes. In the case of sophomore students during academic breaks, this can assist the researcher in understanding how external influences impact motivation and activity levels. By evaluating these motivating factors, the researcher can discover how and why students are more or less likely to stick to their exercise routines during academic breaks when the typical structure of classes is absent.

Motivational Levels. Investigating sophomore undergraduates' motivation levels uncovers details regarding their exercise practices and the level of commitment of their engagement during academic breaks. This table discusses the respondent's motivational levels in terms of Identified Regulation, Integrated Regulation, Social Motivation, Competence Motivation, and Health Motivation based on their reported participation in physical exercise during academic breaks. It depicts the distribution of students across these categories and indicates elements that impact each degree of motivation. Understanding these motivational levels helps in proposing interventions that can cater to different levels of motivation among undergraduates.

Identified Regulation. This refers to people who prioritize exercise for their health and fitness goals. Students are committed to regular physical activity during vacation as they understand the importance of exercise for their overall health. People who are driven in this way may take control of their fitness journey and receive long-term benefits from their efforts. They experience self-autonomy, which pushes them to include physical activity into their daily routine.

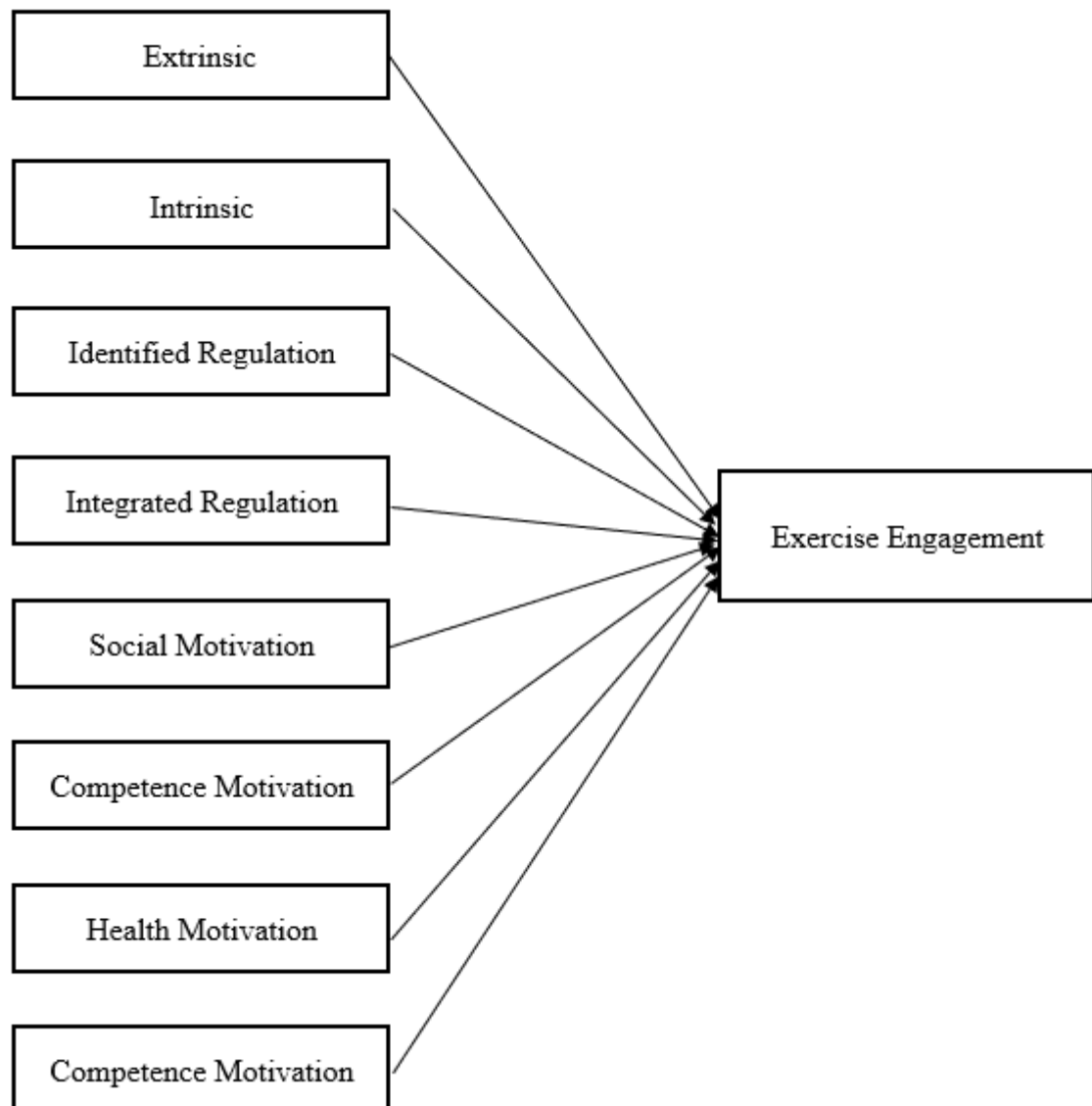
Integrated Regulation. This arises when sophomores associate their exercise habits with their aspirations for what they want to be. They may regard an active lifestyle as a necessary component of their positive self-image. It encourages a strong commitment to exercise during academic breaks since it is not just a decision but also an acceptance of one's identity. This helps as it combines intrinsic motivation with a high level of personal relevance, allowing people to continue participating in physical activities for the long term.

Social Motivation. This demonstrates the influence of peers on physical activity behaviors. Sophomore students are typically driven to participate in physical activities due to their desire for a sense of belonging. It is centered on interaction, encouraging students to keep active during breaks to feel fulfilled and interact with others. As a result, people who work-out in groups are more likely to enjoy the experience and adhere to their habits.

Competence Motivation. This stresses an inner drive to improve skills in one's physical abilities. Sophomore students exercise during academic breaks to enhance their skills, either in athletic activities or overall fitness. This motivation starts from a desire to face challenges and make improvements in their physical ability. The sense of achievement and accomplishment reinforces their commitment since they are intrinsically inclined to pursue goals that foster a sense of competence. Lastly, such rewards not only encourage physical exercise, but they also increase self-esteem and confidence.

Health Motivation. With the pressures of their educational tasks, several sophomore undergraduates use the academic break to focus on their personal well-being. Understanding how exercise affects both physical and mental health encourages people to use fitness as a kind of self-care. This motivation grows particularly strong when students recognize the negative effects of sedentary behavior and the benefits of healthy lifestyle choices. As a result, health motivation motivates students to exercise on a regular basis, including physical activity into their daily routines as an important and vital part of their life during academic breaks.

Figure 2
Schema of the Path Diagram



Proposed Exercise Enhancement Program. The proposed exercise enhancement program serves as the anticipated outcome of the study, aiming to address identified motivational factors and enhance exercise engagement among sophomore undergraduates during academic breaks. This table highlights objectives of the suggested exercise enrichment program based on the study's findings. The program is personalized to sophomore undergraduates' motivational profiles and preferences, with the goal of promoting long-term exercise habits and general wellness during academic breaks.

Review of Related Literature and Studies

In today's increasingly technological society, it is easy to shift to a lifestyle that involves little physical activity. Individuals spend several hours glued to gadgets and frequently eat unhealthy foods (Kang, 2020). On the other hand, one's body did not come into existence to be inactive (Williams & Gibson, 2018). It depends on daily fitness activities, as it is necessary to maintain the overall wellness of a person. Being physically active is essential for the wellness of students. Beyond just improving physical fitness, it also improves mental health, overall quality of life, and academic success. Students who engage in regular physical activity can maximize their health and happiness and realize their full potential (Zhang & Chen, 2019). Therefore, it is essential to encourage and assist students in embracing physical exercise into their daily lives.

Exercising regularly can improve students' well-being and their academic achievement; however, their motivation to exercise can be affected by several factors (Firth et al., 2016). Motivation significantly impacts student engagement in exercising. According to Meyer, Grob, & Gerber (2021), intrinsic motivation, which arises from satisfaction and happiness is crucial for sustained physical exercise. On the other hand, while extrinsic motivation such as prizes or avoiding bad outcomes may offer short-term motivation, it frequently falls short of maintaining regular exercise routines (Cherubini, 2020). Students' motivation is also negatively affected by social factors. However, with Peer and family encouragement it strengthens one's sense of motivation (Scales et al., 2020). Also, Sierra-Díaz et al. (2019) states that students can be motivated to engage in fitness activities to meet social standards and to fit in with their peers. Furthermore, environment-related factors, such as limited resources and not having enough area, can impact students' willingness to exercise (Al-Hazzaa, 2018).

Determining the link between the demographic information and exercise motivation is extremely important. Molanorouzi, Khoo, and Morris (2015) found that age and gender influence the exercise motivation. In fact, research has proven that older adults are less likely than children and adolescents to be motivated to exercise (Izquierdo et al., 2021). Furthermore, Sáez et al., (2021) found that men also typically show higher levels of motivation than women. According to Fatt, Fardouly, & Rapee (2019), males are more motivated to exercise for looks than for health. Women, on the other hand, indicate that their primary motive for exercising is weight loss or maintenance (Hoare, 2017).

According to Sides & Cuevas (2020), self-efficacy and goal setting are two psychological aspects that have a significant influence on motivation. Self-efficacy is an essential concept in motivation that influences how a person makes decisions, commits to doing things, is determined, and achieves goals (Schunk & DiBenedetto, 2021). According to Bailey (2019), goal-setting is a strategy meant for guiding people in the process of recognizing and altering particular practices; nevertheless, it can at times fail to result in improved behavior because selecting the suitable objective may appear difficult. Cornelius, Fedewa, and Toland (2020) suggest that students with higher self-efficacy are more likely to engage in and maintain physical activities. Meanwhile, Bailey (2019) asserts that students' enthusiasm and commitment to physical fitness are enhanced when they have clear goals to achieve.

Interventions and actions centered around motivational factors have had fruitful outcomes. Personalized coaching and feedback have been proven shown to boost inner drive and exercise consistency (Ntoumanis et al., 2017). According to Mackenzie, Son, and Eitel (2018), creating well-organized physical activity initiatives during scholastic breaks which include community fitness sessions and outdoor activities, can increase motivation to live a healthy lifestyle. In addition, the structured days hypothesis suggests that summertime can cause unhealthy health changes, potentially widening health disparities between low and middle-class households, necessitating public health experts to provide structured activities (Weaver et al., 2019).

By understanding factors affecting sophomore college students' motivation during semestral breaks allows researchers and legislators to develop personalized programs for physical exercise and long-term well-being. The existing research stresses the necessity of conducting further investigations to determine the motivational level along with other factors influencing sophomore college students' engagement in exercise during scholastic break period. This will allow the researcher to create interventions with the objective of enhancing the well-being of the students.

METHODOLOGY

This section provides an in-depth overview of the research methodology, detailing the study's design, the characteristics of the participants and research environment, the instruments employed, the data collection procedures, the approaches used for data analysis, and the ethical considerations adhered to throughout the study.

Design

This study utilized a descriptive-correlational method to gather data and to comprehensively investigate the relationship between the motivational levels and factors influencing sophomore undergraduates' physical exercise engagement during academic break. The descriptive survey design for quantitative approach attempted to establish the demographic profile, motivational factors, and motivational level of students and to discover how these may be related in the physical exercise engagement during academic break. In this study design, it provided an insight into the predictive value of motivational levels and factors on physical exercise engagement.

Participants and Environment

The research study took place at the University of the Visayas – Main Campus located at Dionisio Jakosalem Street, Barangay Pari-an, Cebu City. University of the Visayas – Main Campus, a private non-sectarian institution, is the first university in Cebu founded in 1919 and the first one to achieve university status.

The participants of this study were the 2nd year university students of the University of the Visayas – Main Campus who have taken Physical Activities Towards Health and Fitness: Exercise-Based Training from previous academic year from different college departments namely College of Education (COED), College of Maritime Education (COME), College of Criminal Justice (COCJ), College of Engineering Technology and Architecture (CETA), College of Allied Health and Sciences (CAHS), and College of Business Administration (CBA).

Sample Size and Sampling Technique. A quota sample of 120 students were considered as the participants of the study with equal allocation of 20 students per college. To effectively gather the students, simple random sampling was used provided that they were qualified as participants based on the criteria set for the study (see table 1).

Table 1
Distribution of the respondents by College Department

College Departments	No. of Respondents	Percentage
College of education (COED)	20	16.67%
College of Maritime Education (COME)	20	16.67%
College of Engineering Technology and Architecture (CETA)	20	16.67%
College of Allied Health and Sciences (CAHS)	20	16.67%
College of Business Administration (CBA)	20	16.67%
College of Arts and Sciences (CAS)	20	16.67%
Total	120	100%

Inclusion Criteria. The participants were selected based on the following criteria: 1) they belong to either of the six college departments, regardless of age, gender, and Body Mass Index (BMI); 2) they are currently enrolled in the second semester for the academic year 2024 – 2025; 3) they are second year level who were previously enrolled in Physical Activities Towards Health and Fitness: Exercise-Based Training; 4) they were willing to participate in the study; and 5) they have signed the informed consent.

Exclusion Criteria. There was only one college department who was included to this study which was the College of Criminal Justice Education (COCJE).

Instruments

The main instrument used in this study were the adapted and revised standardized questionnaire for motivational levels and factors influencing sophomore undergraduates' physical exercise engagement during academic break from Markland's (2020) Exercise Motivations Inventory – 2 (EMI-2), Deci & Ryan's (2004) Exercise Self-Regulation Questionnaire (SRQ-E), and Molanorouzi et.al (2014) Physical Activity and Leisure Motivation Scale (PALMS). As for the level of exercise engagement, it was derived from the study of Gabriele Wulf, Heidi Freitas, & Richard Tandy in 2014. Each student will be evaluated based on the following scale:

Table 2
Instrument Parameter Scale

Scale	Response	Ranges of Mean	Interpretation
5	Strongly Agree	4.21 – 5.00	Highly Motivational
4	Agree	3.41 – 4.20	Motivational
3	Neutral	2.61 – 3.40	Moderately Motivational
2	Disagree	1.81 – 2.60	Slightly Motivational
1	Strongly Disagree	1.00 – 1.80	Not Motivational

Since the questionnaire was adopted and revised, it was subjected to validity and reliability testing. The face and content validity testing were completed using Good and Scates validation instrument by three juries with doctoral degree. The result garnered a total score of 4.78 which was interpreted as "excellent." As for the reliability testing, it was conducted using Cronbach's alpha formula and gained a score of 0.90 and 0.91 for the motivational factors in which the internal consistency was interpreted as "excellent", a score of 0.91, 0.90, 0.91, 0.90, and 0.91 for the level of motivation to exercise in which the internal consistency was interpreted as "excellent", and a score of 0.90 for the level of exercise engagement in which the internal consistency was interpreted as "excellent". Therefore, the instruments used were valid and reliable for the conduct of the study.

The demographic profile is a fill-in questionnaire to solicit the data on college program and year-level. In order to get the evaluation of the motivational level and factors of the second-year students based on the sub-variables, the researcher administered a checklist questionnaire with indicators to the same students.

Data Gathering Procedures

This part contains discussion of the data procedures for pre-data gathering, actual gathering, and post-data gathering.

Pre-Data Gathering. In preparation for data collection, the researcher followed a series of systematic procedures. Initially, addressed the comments and suggestions provided by the panelists during the design hearing. Following this feedback, the researcher seeks ethical approval from the Research Ethics Committee (REC). After all necessary approvals was obtained, the REC reviewed the ethical considerations of the study before granting a Notice to Proceed (NTP). With the NTP in hand, the researcher submitted a formal letter to the College Deans of the University of the Visayas for approval.

Actual Data Gathering. On the day of data collection, the researcher explained the purpose and mechanics of the survey to ensure that respondents understood the process. Subsequently, and then administered the survey questionnaire to each participant. Data on motivational level and factors of the second-year students was collected through a standardized questionnaire. The survey questionnaire was transposed and encoded into a Google Form, as it provides easy access to the respondents. Then, a Google Form link was sent to the respondents upon their approval. This only took five (5) minutes to answer, and their responses was automatically retrieved into a Google Drive, where data was stored in a password-protected electronic format. Data gathering was administered during students' free time for a span of three weeks.

Post Data Gathering. After data collection, the gathered information was compiled, tallied, tabulated, and statistically analyzed. The data was encoded on a secured computer system protected by a password, ensuring that only authorized personnel had access. The data will be disposed of following the publication of the study in an accredited journal or after one year.

Data Analysis

The data was analyzed through statistical tools, specifically the IBM SPSS (Statistical Package for Social Sciences). For the demographic profile, descriptive statistics will be used, specifically the frequency count and percentage. As for the motivational level and factors influencing sophomore undergraduates' physical exercise engagement, descriptive statistics will be used, specifically the mean and standard deviation. Since this research is more exploratory and to predict the relationship among the variables, particularly the motivational level and motivational factors, multiple linear regression was used. After the processing, interpretation, and analysis of data, the exercise enhancement program was created.

Ethical Considerations

The study was conducted according to the guidelines of the Declaration of Helsinki. It has been approved following the protocol of the Research and Ethics Committee of the University of the Visayas with Reference No. 2025-0137 dated April 22, 2025. The research involved university students participating voluntarily in an online survey. Before completion of the questionnaires, an accompanying cover letter explained the confidentiality and purpose of the study, the potential objectives, and the voluntary participation. No financial incentives were provided for participating in the study. The authors declare no conflict of interest.

RESULTS AND DISCUSSIONS

This section contains the presentation, analysis, and interpretation of the data on the relationship between motivational levels and factors influencing sophomore undergraduates' physical exercise engagement during academic break at the University of the Visayas – Main Campus.

Demographic Profile

This refers to the information of the respondents used in the study. The table below shows the demographic profile of the respondents in terms of their sex, age, and body mass index (BMI).

Table 3

Demographic Profile of the Respondents

Body Mass Index (BMI)											
Female		<18.5		18.5-24.9		25.0-29.9		30.0-34.9		Total	
Age	f	%	f	%	f	%	f	%	f	%	
18-20	4	3.33	30	25.00	4	3.33	0	0.00	38	31.67	
21-23	1	0.83	17	14.17	1	0.83	2	1.67	21	17.50	
24 and above	0	0.00	8	6.67	3	2.50	2	1.67	13	10.83	
Total	5	4.16	55	45.84	8	6.66	2	3.34	70	58.33%	
Male		<18.5		18.5-24.9		25.0-29.9		30.0-34.9		Total	
Age	f	%	f	%	f	%	f	%	f	%	
18-20	0	0.00	27	22.50	1	0.83	2	1.67	30	25.00	
21-23	1	0.83	14	11.67	3	2.50	2	1.67	20	16.67	
24 and above	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	

Total 1 0.83 41 34.17 4 3.33 4 3.33 50 41.67%

n= 120

The table shows that among the respondents, the female demographic got the highest percentage of 58.33% compared to the male demographic (41.67%). Among female respondents, the highest percentage (45.84%) falls within the normal BMI range of 18.5-24.9 with the majority of respondents aged 18 – 20 (31.67%). In contrast, the lowest representation is in the obese category (30.0 – 34.9), with only 3.34% of female respondents.

For male respondents, the highest percentage (34.17%) also falls within the normal BMI range (18.5-24.9), with the majority (22.50%) aged 18-20. Conversely, there are no male respondents in the underweight category which represents the lowest percentage for this group.

The data reveals that most of the respondents maintain a healthy weight which may positively influence their motivation to engage in physical exercise. Kurata et al. (2023) suggest that those individuals who feel confident in their health and fitness levels—aligned with the study's findings on self-efficacy—are likely to be more motivated to partake in regular physical activity. Furthermore, recognizing how social influences can encourage behavior adaptation also indicates that maintaining a healthy weight may foster an environment where exercise becomes a desirable and attainable goal.

However, the minimal presence of underweight students still poses a threat to their exercise engagement. The study of Manasan et al. (2023) explain the challenges faced by underweight students in terms of both motivation and barriers to exercise. Their study illustrates that while these students may have valid reasons to exercise, their limited engagement could severely impact their overall health and well-being. Given the barriers identified, they emphasized that it is crucial to focus on creating supportive environments that encourage regular physical activity among underweight students to help mitigate these risks.

Motivational Factors to Exercise in Terms of Intrinsic

This refers to the information on the internal desires that propel students to pursue fitness by engaging in physical exercise. The table below shows the weighted mean percentage and standard deviation with verbal interpretation.

Table 4

Intrinsic Motivational Factors to Exercise

S/N	Indicators	WM	SD	Verbal Description
1	Enjoyment of the activity	4.48	0.58	Highly Motivational
2	Sense of accomplishment	4.50	0.57	Highly Motivational
3	Improvement of mood	4.54	0.56	Highly Motivational
4	Personal health and well-being	4.60	0.56	Highly Motivational
5	Challenge and self-improvement	4.61	0.55	Highly Motivational
Total		4.55	0.31	Highly Motivational

Legend: 4.21-5.00-Highly Motivation; 3.41-4.20-Motivational; 2.61-3.40-Moderately Motivational; 1.81-2.60-Slightly Motivational; 1.00-1.80-Not Motivational

The table shows the intrinsic motivational factors to exercise with five indicators. It shows that these motivational factors are "highly motivational" to students with an aggregated weighted mean average of 4.55 and plays a vital role in their exercise engagement. Among the indicators, "Challenge and self-improvement" has the highest weighted mean (WM) of 4.61 interpreted as "Highly Motivational" which indicates a strong motivation for students to engage in physical activity primarily for the purpose of personal growth and overcoming challenges. Conversely, the lowest indicator among those measured is "Enjoyment of the activity," with a weighted mean (WM) of 4.48. While still categorized as "Highly Motivational," this mean score is slightly lower than the other indicators. The data emphasize that intrinsic motivation, or the inner drive that fuels and maintains students' efforts, is essential for their participation in physical activities. (Bandhu et al., 2024). This motivation, as highlighted above, is the desire to enhance their skills and push their limits which is a vital factor in promoting consistent engagement in physical activities or any other sports activities (Barkoukis et al., 2024; Zhu et al., 2024).

Research suggests that perceived competence or the drive to overcome challenges influences an individual's initial motivation to participate in an activity as well as their continued motivation to exert effort throughout it (Harter, 1982). Furthermore, studies have indicated that the varying levels of these perceived competence among students are directly linked to their behavior in physical education (PE) environments (Vallerand and Reid, 1984).

These findings indicate that intrinsic motivation, particularly in overcoming challenges for their personal growth, is crucial in maintaining physical exercise engagement of the students.

Motivational Factors to Exercise in Terms of Extrinsic

This refers to the information on the external influences that encourage students to pursue fitness by engaging in physical exercise. The table below shows the weighted mean percentage and standard deviation with verbal interpretation.

Table 5

Extrinsic Motivational Factors to Exercise

S/N	Indicators	WM	SD	Verbal Description
1	achieving a specific fitness goal (e.g., weight loss, muscle gain, toning, bulking)	4.34	0.74	Highly Motivational
2	improving physical appearance	4.45	0.68	Highly Motivational
3	encouragement from friends or family	4.43	0.69	Highly Motivational
4	participation in exercise programs or classes	4.49	0.66	Highly Motivational
5	performance in sports or physical activities	4.38	0.70	Highly Motivational
Total		4.42	0.49	Highly Motivational

Legend: 4.21-5.00-Highly Motivation; 3.41-4.20-Motivational; 2.61-3.40-Moderately Motivational; 1.81-2.60-Slightly Motivational; 1.00-1.80-Not Motivational

The table shows the extrinsic motivational factors to exercise with five indicators regarded as "highly motivational" with a total weighted mean of 4.42. Among the indicators, "Participation in exercise programs or classes" has the highest weighted mean (WM) of 4.49 which indicates a strong motivation for students to engage in physical activity through structured environments. Conversely, the lowest indicator measured is "Achieving a specific fitness goal (e.g., weight loss, muscle gain, toning, bulking)," with a weighted mean (WM) of 4.34.

The data highlights the crucial role of extrinsic motivation in the exercise engagement of the students. A report from the study of Geller et al. (2018) reveals that students who have a high extrinsic motivation maintained physical exercise activity compared to those who are less motivated. Additionally, students are significantly encouraged to exercise when they are part of organized programs which can provide social support and guidance. Arevalo and Brown (2019) highlighted in their study that students prefer participating in group-oriented physical activities. Their findings indicated that participants value and engage in exercise more when they attend organized activities in groups. This collective participation has also improved their overall attendance at these organized exercise sessions.

The implies that the indicators both in intrinsic and extrinsic on participation in exercise programs in this study underscores the value of creating supportive and engaging environments, particularly in organizing by pair or by group physical activities, to promote exercise engagement among students.

Level of Motivation to Exercise in Terms of Identified Regulation

This refers to the information on the factors that students personally value and accept as their reasons for engaging in physical exercise. The table below shows the weighted mean percentage and standard deviation with verbal interpretation.

Table 6

Level of motivation to exercise in terms of identified regulation

S/N	Indicators	WM	SD	Verbal Description
1	To get better at an activity in class	4.49	0.66	Highly Motivational
2	To better cope with stress during academic break	4.43	0.68	Highly Motivational
3	To improve existing skills	4.33	0.65	Highly Motivational
4	To be physically fit even during academic break	4.31	0.63	Highly Motivational
5	Because I find exercising satisfying as it completes my day	4.45	0.62	Highly Motivational
Total		4.40	0.49	Highly Motivational

Legend: 4.21-5.00-Highly Motivation; 3.41-4.20-Motivational; 2.61-3.40-Moderately Motivational; 1.81-2.60-Slightly Motivational; 1.00-1.80-Not Motivational

The table shows the level of motivation to exercise in terms of identified regulation with five indicators regarded as "Highly Motivational" based on the aggregated weighted mean of 4.40. Among the indicators, "To get better at an activity in class" has the highest weighted mean (WM) of 4.49 which highlights a strong motivation for students to engage in physical activity to enhance their performance in academic-related activities. Conversely, the lowest indicator is "To be physically fit even during academic break," with a weighted mean (WM) of 4.31.

The data reveals that Identified regulation motivation to exercise pushes students to engage in physical activity because they understand the benefits associated with that behavior (Sicilia et al., 2018). Deci and Ryan (2000) noted that identified regulation plays a crucial role in sustaining engagement in physical exercise as it emphasizes the development of habits that lead to meaningful outcomes valued by students. For example, if students aim to improve their performance in a class activity, they may be more inclined to engage in physical exercise knowing it can help them achieve that goal. Additionally, the data suggests that that students prioritize improving their skills as a key reason for exercising during breaks. Students often engage in physical activities not just for fitness but also to enhance their academic performance and manage stress. A review by Kohl and Cook (2013) revealed that increasing physical activity and fitness may enhance academic performance, and

allocating time in the school day for recess, physical education, and classroom-based physical activities can further support academic success.

The emphasis on skill enhancement in this study underscores the need for programs that integrate exercise with academic objectives, and which promotes a holistic approach to student well-being.

Level Of Motivation to Exercise in Terms of Integrated Regulation

This refers to the information on the factors that students have fully integrated into their sense of self that drives them to engage in physical exercise. The table below shows the weighted mean percentage and standard deviation with verbal interpretation.

Table 7

Level of motivation to exercise in terms of integrated regulation

S/N	Indicators	WM	SD	Verbal Description
1	To have a healthy body and calm mind	4.21	0.74	Highly Motivational
2	To prevent health problems and complications	4.32	0.77	Highly Motivational
3	Because it is beneficial for my health and lifestyle	4.33	0.76	Highly Motivational
4	Because I have a strong value for being active and healthy	4.25	0.71	Highly Motivational
5	Because it acts as a stress release especially during break	4.57	0.56	Highly Motivational
Total		4.33	0.50	Highly Motivational

Legend: 4.21-5.00-Highly Motivation; 3.41-4.20-Motivational; 2.61-3.40-Moderately Motivational; 1.81-2.60-Slightly Motivational; 1.00-1.80-Not Motivational

The table shows the level of motivation to exercise in terms of integrated regulation with five indicators regarded as "highly motivational" based on its aggregated weighted mean of 4.33. Among the indicators, "Because it acts as a stress release especially during break" has the highest weighted mean (WM) of 4.57 which presents a strong motivation for students to engage in physical activity as a means to alleviate stress. Conversely, the lowest indicator is "To have a healthy body and calm mind," with a weighted mean (WM) of 4.21.

The data reveals that integrated regulation represents the highest level of internalization of motivation, where exercise becomes integrated into a person's lifestyle and aligns with their sense of self. In this case, the value associated with the behavior aligns with the individual's other values and needs (Sicilia et al., 2018). This suggests that if students find significant value in exercise, say for example for its psychological benefits particularly during stressful periods, they may engage in physical exercise more often. Additionally, the findings explained that the high motivation for exercise as a stress release in this study highlights the importance of promoting physical activity as a vital component of student health and well-being particularly during high-stress academic periods (Mahindru et al., 2023).

This suggests that schools should find ways to incorporate more physical activities into students' daily routines. Whether through additional recess time, engaging physical education classes, or even wellness programs, creating opportunities for students to move and recharge can really help them manage stress and improve their overall mental health (Mahindru et al., 2023). Supporting students in this way not only boosts their physical fitness but also nurtures their emotional resilience during challenging times.

Level of Motivation to Exercise in Terms of Social Motivation

This refers to the information on the social factors that influence students' decisions to engage in physical exercise, which may include peer support, social recognition, and group dynamics. The table below shows the weighted mean percentage and standard deviation with verbal interpretation.

Table 8

Level of Motivation to Exercise in terms of Social Motivation

S/N	Indicators	WM	SD	Verbal Description
1	To spend time with friends during academic break	4.49	0.67	Highly Motivational
2	To compare my abilities with other people	4.38	0.75	Highly Motivational
3	To enjoy the social benefits of exercising like making connections with other people	4.34	0.70	Highly Motivational
4	To make new friends during academic break	4.20	0.68	Highly Motivational
5	To do activity with others during academic break	4.41	0.72	Highly Motivational
Total		4.37	0.40	Highly Motivational

Legend: 4.21-5.00-Highly Motivation; 3.41-4.20-Motivational; 2.61-3.40-Moderately Motivational; 1.81-2.60-Slightly Motivational; 1.00-1.80-Not Motivational

The table shows the level of motivation to exercise in terms of social motivation with five indicators regarded as "highly motivational" based on its aggregated weighted mean of 4.37. Among the indicators, "To spend time with friends during academic break" has the highest weighted mean (WM) of 4.49 which points out that social interaction is a primary motivator for students to engage in physical activities. On the contrary, the lowest indicator measured is "To make new friends during academic break," with a weighted mean (WM) of 4.20.

Although still categorized as "Highly Motivational," this score is lower than the others which means that while making new connections is valuable, it may not be as compelling a reason for students compared to spending time with existing friends and enjoying social interactions.

The data reveals that the opportunity to bond with friends during exercise plays a crucial role in encouraging participation. This is supported with the study of Marcora (2019) which he stated that social support and camaraderie significantly enhance motivation and adherence to exercise programs. He hypothesized that social support from friends or peers help increase feelings of enjoyment in doing activities, thereby potentially boosting exercise engagement.

Related research also agreed with that of Marcora (2019). Stevens et al. (2017) found out in their study that people who participate in "social group" for physical exercise encourages more engagement and give satisfying exercise experiences. The vital importance of social bonds in enhancing exercise participation and enjoyment is crucial (Graupensperger et al., 2019). As evidenced by Marcora (2019) and further supported by Stevens et al. (2017), fostering a sense of camaraderie within exercise settings not only boosts motivation but also encourages long-term adherence to fitness programs.

Level of Motivation to Exercise in Terms of Competence Motivation

This refers to the information on the factors related to students' perceptions of their skills and abilities that drive them to engage in physical exercise. The table below shows the weighted mean percentage and standard deviation with verbal interpretation.

Table 9

Level of Motivation to Exercise in terms of Competence Motivation

S/N	Indicators	WM	SD	Verbal Description
1	Because I enjoy physical competition	4.28	0.66	Highly Motivational
2	To develop personal skills even outside the school	4.42	0.69	Highly Motivational
3	Because I like trying to win in physical activities	4.27	0.68	Highly Motivational
4	To measure myself against personal standards	4.20	0.71	Highly Motivational
5	To keep current skill level	4.24	0.66	Highly Motivational
Total		4.28	0.35	Highly Motivational

Legend: 4.21-5.00-Highly Motivation; 3.41-4.20-Motivational; 2.61-3.40-Moderately Motivational; 1.81-2.60-Slightly Motivational; 1.00-1.80-Not Motivational

The table shows the level of motivation to exercise in terms of competence motivation with five indicators regarded as "highly motivational" based on its aggregated weighted mean of 4.28. Among the indicators, "To develop personal skills even outside the school" has the highest weighted mean (WM) of 4.42 which states that students are strongly motivated by the opportunity to enhance their skills beyond the classroom environment. Nevertheless, the lowest indicator is "To measure myself against personal standards," with a weighted mean (WM) of 4.20. While still classified as "Highly Motivational," this mean score is lower than the others which means that self-assessment may not be as compelling a motivator for students compared to skill development and enjoyment of competition.

The data suggests that personal development is a significant driver for students participating in physical activities. This notion is supported with the study of Bandhu et al. (2024) on how motivation, particularly in developing personal skills, affects physical exercise engagement. They explained that the pursuit of skill development and mastery can significantly enhance motivation and engagement in physical activities. The high motivation for developing personal skills in this study highlights the importance of creating opportunities for skill enhancement in physical education programs to foster greater student involvement and satisfaction. Also, Ryan and Deci (2020) emphasized the importance of motivation for those individuals, particularly the students. They explained that if students are self-driven or in this case, eager to pursue personal skills development, it may lead to enjoyment of the activity, higher satisfaction, and increased participation in physical activities.

Thus, creating personal development through skill enhancement is crucial for boosting student motivation and engagement in physical activities. As evidenced in the studies above, it can be concluded that prioritizing opportunities for skill acquisition in physical education programs can significantly increase student satisfaction and participation.

Level of Motivation to Exercise in Terms of Health Motivation

This refers to the information on the factors related to students' perceptions of their skills and abilities that drive them to engage in physical exercise. The table below shows the weighted mean percentage and standard deviation with verbal interpretation.

Table 10

Level of Motivation to Exercise in terms of Health Motivation

S/N	Indicators	WM	SD	Verbal Description
1	To lose weight during academic break	4.18	0.67	Highly Motivational
2	To avoid heart disease	4.37	0.69	Highly Motivational
3	To help recover from an illness/injury	4.24	0.67	Highly Motivational
4	To help prevent an illness that runs in my family	4.39	0.68	Highly Motivational

5	To stay slim	4.37	0.69	Highly Motivational
Total		4.31	0.41	Highly Motivational

Legend: 4.21-5.00-Highly Motivation; 3.41-4.20-Motivational; 2.61-3.40-Moderately Motivational; 1.81-2.60-Slightly Motivational; 1.00-1.80-Not Motivational

The table shows the level of motivation to exercise in terms of health motivation with five indicators regarded as "highly motivational" based on its aggregated weighted mean of 4.31. Among the indicators, "To help prevent an illness that runs in my family" has the highest weighted mean (WM) of 4.39 which emphasized a strong motivation for students to engage in physical activity as a preventive measure for hereditary health issues. On the other hand, the lowest indicator is "To lose weight during academic break," with a weighted mean (WM) of 4.18. While still classified as "Highly Motivational," this mean score is lower than the others which means that weight loss may not be as compelling a reason for students compared to preventing illness and maintaining overall health.

The data reveals that awareness of family health history significantly Influences students' exercise behaviors. The awareness of family health history and their exercise engagement leads to exercise awareness for the youth (Sicilia et al., 2020). Essiet et al. (2017) in their findings found that living with family members who are active in exercise because of their health could increase the engagement of individuals in physical exercise. This is due to the fact that the influence of these family members is evident at home. Another study by Miller et al. (2019) explained the importance of family engagement in physical exercise. They stated that "personal and social environmental factors," primarily family support through their engagement in exercise, could potentially lead to higher engagement of their family members to physical exercise.

The relationship between family awareness of health history and engagement In physical exercise is crucial for promoting healthy behaviors among youth. Awareness of one's family health history significantly impacts exercise behaviors, with studies showing that living with active family members can encourage individual engagement in physical activity (Sicilia et al., 2020; Essiet et al., 2017). Family awareness of health history directly influences youth engagement in physical exercise which suggests that active family involvement can enhance exercise habits. Families that prioritize these aspects create a supportive environment that encourages healthier lifestyles.

Level of Exercise Engagement

This refers to the information on the factors that influence students' active participation in physical exercise which include their motivation, commitment, and enjoyment of the activities. The table below shows the weighted mean percentage and standard deviation with verbal interpretation.

Table 11
Level of Exercise Engagement

S/N	Indicators	WM	SD	Verbal Description
1	I engage in physical exercise regularly during academic breaks.	4.18	0.67	Highly Motivational
2	I find time to exercise even during busy academic breaks.	4.37	0.69	Highly Motivational
3	I enjoy participating in physical activities during academic breaks.	4.24	0.67	Highly Motivational
4	I believe that physical exercise is important for my overall well-being during academic breaks.	4.39	0.68	Highly Motivational
5	I feel motivated to maintain my exercise routine during academic breaks.	4.37	0.69	Highly Motivational
Total		4.31	0.41	Highly Motivational

Legend: 4.21-5.00-Highly Motivation; 3.41-4.20-Motivational; 2.61-3.40-Moderately Motivational; 1.81-2.60-Slightly Motivational; 1.00-1.80-Not Motivational

The table shows the level of exercise engagement with five indicators regarded as "highly motivational" based on its aggregated weighted mean of 4.31. Among the indicators, "I believe that physical exercise is important for my overall well-being during academic breaks" has the highest weighted mean (WM) of 4.39 which indicates a strong belief in the significance of exercise for health and wellness. On the contrary, the lowest indicator is "I engage in physical exercise regularly during academic breaks," with a weighted mean (WM) of 4.18. While still classified as "Highly Motivational," this mean score is lower than the others which means that, despite recognizing the importance of exercise, students may face challenges in maintaining a consistent routine during busy periods.

The data suggests that students recognize the benefits of physical activity as integral to their overall well-being. Research indicates that recognizing the importance of physical activity can significantly influence engagement levels. This recognition is increasingly backed by evidence showing that engaging in physical activity has direct positive effects on mental health, improving individuals' outlook and emotional states. Acknowledging the value of physical activity can significantly enhance students' levels of engagement, encouraging them to prioritize their health and wellness (Dai and Menhas, 2020; Duncan et al., 2020). Aside from that, numerous studies have found that exercise leads to numerous advantageous effects on mental well-being, such as increased

subjective well-being, lower stress levels, and improved cognitive function. Participation in sports and physical activities not only offers psychological benefits, including better mood and resilience but also provides social and physical health advantages. Starting these activities early and sustaining an active lifestyle can result in lasting benefits for both physical and mental health (Dai and Menhas, 2020; Duncan et al., 2020; Sang et al., 2021; Wei and Liu, 2023).

The emphasis on the Importance of exercise In this study highlights the need for supportive environments and strategies that encourage students to prioritize physical activity even amidst academic demands.

Significant Relationship Between the Demographic Profile and the Level of Exercise Engagement

This refers to the information on whether there is a significant relationship or not between the demographic profile such as sex, age, and body mass index and the level of exercise engagement. The table below shows the statistical treatment, specifically the predictive value of the outcome variable and the predictors.

Table 12

Significant Relationship Between the Demographic Profile and the Level of Exercise Engagement

Predictor	Estimate	SE	95% Confidence Interval		t	p-value	VIF	T
			Lower	Upper				
Intercept	3.76395	0.557	2.6604	4.8675	6.7553	<.001		
Sex	-0.37748	0.179	-0.7320	-0.0230	-2.1091	0.003	1.03	.973
Age	-0.00888	0.130	-0.2660	0.2482	-0.0684	0.946	1.03	.972
BMI	0.21454	0.149	-0.0797	0.5087	1.4444	0.151	1.00	.999

a. Dependent Variable: Level of Exercise Engagement

b. Significant at $p < 0.005$; Not Significant at $p > 0.05$

c. decision: reject and accept hypothesis.

The table sheds light on the test on significant relationship between the predictors which is the demographic profile such as sex, age, and body mass index and the outcome variable which is the level of exercise engagement using multiple linear regression test. Among the predictors analyzed, only the demographic variable of sex had a p-value below 0.05, specifically 0.003. In contrast, age ($p = 0.946$) and BMI ($p = 0.151$) both yielded p-values greater than 0.05. This shows that there is a significant relationship between the demographic profile, particularly the sex variable, and the level of exercise engagement, thereby rejecting null hypothesis. However, there is no significant relationship between the age and BMI demographic profile and the level of exercise engagement, resulting in the acceptance of null hypothesis.

The finding implies that male and female students may have differing perspectives and behaviors regarding their levels of exercise engagement. Specifically, the significant relationship between sex and exercise engagement suggests that gender influences how students prioritize and participate in physical activity. Research indicates that factors affecting exercise participation often differ by gender. For instance, competition is frequently a motivator for boys, while it can hinder girls' participation in sports. Additionally, muscle gain is a common motivator for boys' exercise, but it can serve as a barrier for girls. Boys tend to engage more in team-based sports, whereas girls often prefer individual sports (Flintoff and Scraton, 2001; Casey et al., 2016).

A study by Pauline (2013) explored the differences in physical exercise participation between male and female students. The research highlighted that each student's motivation varies based on the context. For example, male students demonstrated greater motivation in areas such as challenges, social recognition, and competition during physical activities, whereas female students showed heightened motivation for stress management and flexibility. This indicates a disparity in motivation levels linked to gender and its impact on exercise engagement.

In contrast, the lack of significant relationships between age and BMI indicates that these demographic factors do not play a crucial role in shaping exercise habits. However, Suryadinata et al. (2020) argued that age and BMI are influential in physical activity engagement. Research explained that while physical activity levels remain stable during middle age, they tend to decrease in older adults. Age-related changes, which include biological, psychological, and social factors, often lead to issues such as chronic diseases, cognitive decline, poor social interaction, and obesity due to sedentary lifestyles (Takagi et al., 2015; Varma et al., 2017). Research has also shown that a high Body Mass Index (BMI) and low levels of physical activity are linked to a higher risk of cardiac failure. Pandey et al. (2017) noted that increasing leisure-time activities and reducing BMI can enhance circulation and improve cardiovascular health. Typically, individuals with a higher BMI are less active, leading to weight gain and an energy imbalance. This reinforces the argument that age and BMI are important considerations when examining physical activity habits.

In summary, this research highlights the notable differences in exercise engagement between male and female students which emphasizes that gender significantly shapes their motivations and participation in physical activities. It suggests that while factors such as age and BMI have less influence on exercise habits, understanding these dynamics is crucial for promoting effective physical activity strategies. Lastly,

acknowledging these varied motivations can guide the development of tailored interventions that encourage greater participation in exercise among all genders.

Significant Relationship Between the Motivational Factors and the Level of Exercise Engagement

This refers to the information on whether there is a significant relationship or not between the motivational factors such as the intrinsic and extrinsic motivation and the level of exercise engagement. The table below shows the statistical treatment, specifically the predictive value of the outcome variable and the predictors.

Table 13

Significant Relationship Between the Motivational Factors and the Level of Exercise Engagement

Predictor	Estimate	SE	95% Confidence Interval		t	p-value	VIF	T
			Lower	Upper				
Intercept	0.799	0.6960	0.5798	2.177	1.15	0.254		
Intrinsic Motivation	0.448	0.1340	0.1823	0.713	3.34	0.001	1.00	.999
Extrinsic Motivation	0.286	0.0959	0.0959	0.476	2.98	0.004	1.00	.999

a. Dependent Variable: Level of Exercise Engagement

b. Significant at $p < 0.005$

c. decision: reject hypothesis

The table sheds light on the test on significant relationship between the predictors (intrinsic and extrinsic motivation) and the outcome variable which is the level of exercise engagement using multiple linear regression test. Among the predictors analyzed, all of the predictors yielded p – values below 0.05, specifically for intrinsic motivation (0.001) and extrinsic motivation (0.004). This shows that there is a significant relationship between the motivational factors, for both intrinsic and extrinsic motivation, and the level of exercise engagement, thereby rejecting null hypothesis.

The findings suggest that both intrinsic and extrinsic motivations play a significant role in influencing students' levels of exercise engagement. This indicates that students who are motivated by inner desires, such as the desire to improve their health and appearance (intrinsic motivation), as well as external factors, like encouragement from family and friends (extrinsic motivation), are more likely to participate in physical activities (Abdullah et al., 2021). For example, Abdullah et al. (2021) found that students were more inclined to exercise due to their personal goals related to health and aesthetics, as well as the external support they received from loved ones.

Additionally, Hatch et al. (n.d.) elaborated on the concepts of intrinsic and extrinsic motivation and their effects on individuals' behavior. They noted that people often engage in physical activities due to intrinsic factors, like enjoyment and satisfaction, while extrinsic motivations may include support from peers, family, or even tangible rewards. Moreover, several studies emphasize the critical role of both intrinsic and extrinsic motivation in fostering and sustaining exercise engagement. They explained in detail that intrinsic motivation as deriving from enjoyment and personal fulfillment, while extrinsic motivation is often linked to external rewards or social pressures (Morina et al., 2021; Wulf & Lewthwaite, 2016; Larson & Rusk, 2011).

In conclusion, both intrinsic and extrinsic motivations are essential drivers of exercise engagement among students. Understanding these motivational factors can help promote more active lifestyles and improve overall well-being of the students.

Significant Relationship Between the Level of Motivation to Exercise and the Level of Exercise Engagement

This refers to the information on whether there is a significant relationship or not between the level of motivation to exercise such as identified regulation, integrated regulation, social motivation, competence motivation, and health motivation and the level of exercise engagement. The table below shows the statistical treatment, specifically the predictive value of the outcome variable and the predictors.

Table 14

Significant Relationship Between the Level of Motivation to Exercise and the Level of Exercise Engagement

Predictor	Estimate	SE	95% Confidence Interval		t	p-value	VIF	T
			Lower	Upper				
Intercept	6.243	1.330	3.609	8.877	4.70	<.001		
Identified Regulation	0.465	0.139	0.189	0.741	3.34	0.001	1.04	.966
Integrated Regulation	-0.592	0.145	-0.878	-0.305	-4.09	<.001	1.03	.971
Social Motivation	0.414	0.132	0.152	0.675	3.14	0.002	1.06	.942
Competence Motivation	-0.573	0.180	-0.929	-0.218	-3.19	0.002	1.01	.994
Health Motivation	-0.380	0.132	-0.642	-0.119	-2.88	0.005	1.01	.988

a. Dependent Variable: Level of Exercise Engagement

b. Significant at $p < 0.005$

c. decision: reject hypothesis

The table sheds light on the test on significant relationship between the level of motivation as predictors (identified regulation, integrated regulation, social motivation, competence motivation, and health motivation) and the outcome variable which is the level of exercise engagement using multiple linear regression test. Among the predictors analyzed, all of the predictors yielded p – values below 0.05, specifically for identified regulation (0.001), integrated regulation (<.001), social motivation (0.002), competence motivation (0.002), and health motivation (0.005). This shows that there is a significant relationship between the level of motivation to exercise and the level of exercise engagement, thereby rejecting null hypothesis.

The findings imply that different types of motivation significantly impact exercise engagement levels among students. This suggests that students who resonate with the value of exercise and integrate it into their identities are likely to engage more actively in physical activity (Rhodes et al., 2016; Strachan et al., 2015). Some research supported this idea, and they further explained that individuals who create exercise identity is intricately linked to the frequency, intensity, and duration of physical activity (Rhodes et al., 2019; Strachan et al., 2015).

In simple terms, individuals who perceive themselves as active exercisers are more likely to participate regularly in physical activities compared to those who do not identify as such. This finding reinforces the earlier conclusion that several types of motivation can significantly influence students' engagement levels in exercise. Specifically, students who value exercise and integrate it into their self-concept are likely to be more active in their physical pursuits (Rhodes et al., 2016; Strachan et al., 2015). This connection highlights the importance of fostering an exercise identity to enhance overall engagement in physical activity among students. Additionally, some research agreed with the findings from previous authors mentioned because they believed that individuals, like students, with a strong "physical exercise identity" or those who resonate the value of physical exercise and integrate it to their identity had a higher chance of engaging in physical exercise like playing sports than those individuals who have a weak physical exercise identity or those who don't value exercise or any other physical activities (Erdvik et al., 2014; Lamont-Mills & Christensen, 2006).

Overall, these findings give emphasis on the crucial role of motivation in shaping exercise behaviors which led to the rejection of the null hypothesis. This implies that effective interventions should focus on enhancing positive motivational factors while addressing any barriers related to competence and health perceptions to promote higher levels of exercise engagement among students.

CONCLUSION AND RECOMMENDATIONS

This section outlines the conclusions and recommendations drawn from the findings of the study on the motivational levels and factors affecting sophomore undergraduates' participation in physical exercise during academic breaks at the University of the Visayas – Main Campus.

Conclusions

Based on the findings of the study, it can be concluded that students were all motivated both internally and externally and those motivations fueled them to engage in physical exercise, as the motivational factors were all highly motivational to them. Additionally, for the level of motivation, it was revealed that the indicators were all highly motivational which signified a positive impact on students' exercise engagement. It can be concluded that the level of motivation of students is relevant to their level of engagement in physical exercise which posed a long – term beneficial effect. Their level of exercise engagement was also highly motivational which could mean that students are engaged in physical exercise in and out of the school or even during academic breaks.

It was also observed that sex influences the level of exercise engagement among students. This suggests that male students may be more actively engaged in or participate more frequently in exercise compared to female students, or vice versa. However, age and body mass index (BMI) were not significant predictors of exercise engagement. This indicates that engagement levels are independent of age and BMI; regardless of their age or BMI, students were equally likely to participate in exercise.

Despite of this, the motivational factors posed a predictive value indicating its significant relationship with the exercise engagement. This means that intrinsic and extrinsic motivation are likely valid to forecast

exercise engagement. Lastly, the level of motivation to exercise has shown a predictive value towards level of exercise engagement. This means that the indicators in the level of motivation factors significantly predict the level of exercise engagement and can prompt further investigation and more predictions for future use.

Recommendations

Based on the findings of this study, it is recommended that:

Development of Educational Practices. Students should be encouraged to find intrinsic motivators for physical activity, such as personal health goals or enjoyment, alongside external motivators like rewards or social support. Engaging in diverse physical activities can help sustain motivation and foster long-term exercise habits. Additionally, students could benefit from accessible resources that promote skill-building and social engagement which can reinforce their commitment to physical exercise both within and outside school settings. Teachers should integrate motivational strategies into physical education to nurture both intrinsic and extrinsic factors that encourage student participation. Creating a classroom environment that emphasizes skill development, peer support, and recognition can enhance students' engagement levels. Continuous professional development on motivational techniques and innovative teaching methods can further empower teachers to sustain student motivation and participation in physical activities.

Deans and school administrators should prioritize the development of a comprehensive physical activity program that addresses motivational aspects and fosters a supportive environment. Implementing policies that promote group, and social activities can boost student engagement and motivation. Monitoring and evaluating the effectiveness of these programs over time, while exploring technological tools for promotion, can inform future strategies and ensure sustained participation in physical activity. The institution should advocate for holistic health and wellness initiatives that integrate motivational frameworks into its curriculum and extracurricular offerings. Investment in facilities, programs, and technology that facilitate enjoyable and social physical activities can positively influence student motivation and engagement. Longitudinal studies on the impact of these initiatives could provide deep understanding for refining and expanding health promotion efforts within the educational community.

Further Research. Future researchers should focus on exploring the long-term effects of various motivational strategies on students' sustained engagement in physical activity. Investigating the role of emerging technologies, such as fitness apps and online community platforms, can provide insight into innovative ways to promote physical exercise. Additionally, further studies could examine specific interventions tailored for overweight students or other demographics that were not significantly linked to exercise engagement in this study. Expanding research to diverse cultural and educational contexts will also help generalize findings and develop more effective and inclusive motivational approaches.

OUTPUT OF THE STUDY

Proposed Exercise Enhancement Plan

Rationale

The Exercise Enhancement Plan formulates a strategy to increase drive and foster involvement regularly in exercise by tackling elements that are mental and bodily. Since motivation determines long-term exercise adherence, the program sets goals, gives feedback, also progressively challenges people so they achieve purpose. The program aligns such activities with the interests of participants plus fitness levels, and this then fosters intrinsic motivation. As a result, physical activity becomes more enjoyable as well as meaningful. A helpful and active atmosphere is the focus of this plan. The plan does also promote accountability in addition to social connection. Motivation is sustained because group activities, partner workouts, and community support are integrated for building belonging and encouragement. Positive reinforcement and progress monitoring regularly help people stay committed, while structured variety in workouts prevents boredom and keeps participants mentally stimulated.

Furthermore, the Exercise Enhancement Program Plan integrates behavioral techniques such as reward schemes, habit monitoring, and self-evaluation to assist people surmount typical obstacles toward physical exertion. Educators stress both the mental as well as the physical benefits of exercise. This fortifies understanding among participants regarding its enduring worth. Fundamentally, the regimen is structured not only to improve fitness, but to foster an enduring favorable sentiment regarding exercise, and this enables people to pursue salubrious and more energetic existences.

Objectives

To increase student engagement in physical exercises by addressing motivation, skill development, and fostering social connections during the academic break. This program aims to:

1. Enhance both intrinsic and extrinsic motivation through supportive and interactive environments.
2. Promote skill development in different physical exercises tailored to students' needs.
3. Create a sense of community through group-based physical exercises activities, particularly for overweight students.
4. Foster long-term healthy habits and well-being through consistent, fun, and supportive exercises.

PLAN OF IMPLEMENTATION

1. Pre-Implementation Plan

Objective: Lay the groundwork by aligning goals, securing resources, and recruiting participants.

Key Activities:

- Identify student needs and form a team of facilitators.
- Secure venues, equipment, and plan the budget.
- Prepare materials (handouts, slides, fitness plans).
- Promote the program through posters, social media, and info sessions.
- Conduct pre-registration surveys to assess fitness levels.
- Finalize participant list and gather relevant health/fitness information.

Timeline: 1–3 weeks before program start

2. During Implementation Plan

Objective: Identify student needs and form a team of facilitators.

Key Activities:

- Secure venues, equipment, and plan the budget.
- Prepare materials (handouts, slides, fitness plans).
- Promote the program through posters, social media, and info sessions.
- Conduct pre-registration surveys to assess fitness levels.
- Finalize participant list and gather relevant health/fitness information.

Timeline: Weeks 1–7

3. Post-Implementation Plan

Objective: Evaluate outcomes, celebrate achievements, and promote long-term engagement.

Key Activities:

- Host a final workshop, group celebration, and award ceremony.
- Distribute surveys to gather feedback and assess impact.
- Provide resources and plan follow-ups to encourage sustained fitness habits.

Timeline: Week 8 + 1–2 months follow-up

SCHEME OF IMPLEMENTATION

Week	Objective	Activity	Frequency	Budget	Learning Outcome
1	1. Introduce the concepts of intrinsic and extrinsic motivation, goal setting, and the benefits of physical activity.	• Interactive workshop: *Presentations * Handouts *Discussions on motivation and goal-setting strategies.	1 session	• ₱4,000 *materials *facilitator fee)	Participants must have:
	2. Start with basic group exercises focusing on skill development and low-impact aerobics.	• Physical Exercise: *Warm-up *Aerobics *Basic bodyweight exercises (e.g., squats, lunges, push-ups, planks).	2 sessions	• ₱2,000 *Facilitator fee	LO1: grasped foundational concepts of intrinsic and extrinsic motivation, goal setting, LO2: recognized the benefits of regular physical activity through interactive discussions and basic exercise routines.
2	1. Discuss personal motivation stories and teach how to stay motivated and committed to physical activity.	• Group discussions: *Case studies *Create personal action plans for fitness goals.	1 session	• ₱3,000 *materials *facilitator fee	Participants must have:
	2. Incorporate more dynamic exercises targeting cardiovascular health and muscle building.	• Circuit training: * Cardio, strength-building *Flexibility (e.g., jumping jacks, burpees, step-ups, stretching).	2 sessions	• ₱4,000 *facilitator fee	LO1: shared personal motivation stories, identify strategies to maintain motivation. LO2: demonstrated increased cardiovascular endurance and muscular strength through circuit training.

3	1. Focus on overcoming obstacles to motivation and staying on track with fitness goals.	Group discussions: *problem-solving activities *Introducing methods to track progress.	1 session	• P4,000 *materials *facilitator fee	Participants must have: LO1: identified common obstacles to motivation, develop problem-solving skills to overcome them.
	2. Focus on strengthening core and upper body muscles for improved posture and endurance.	Strength training exercises: *Push-ups *planks *dumbbell exercises *resistance band training	2 sessions	P2,000 *facilitator fee	LO2: perform core and upper body exercises that enhance posture and endurance, while reflecting on their progress and staying motivated with creative group challenges.
4	1. Provide a checkpoint for students to assess their progress towards goals. Discuss how to keep motivation high.	Self-reflection activities: *Progress sharing *Group feedback.	1 session	• P4,000 *materials *facilitator fee	Participants must have: LO1: Evaluated their progress towards fitness goals, develop advanced movement skills to enhance agility and coordination.
	2. Introduce more complex movements to improve agility and coordination.	Activity: *Agility ladder drills *Bodyweight exercises *Group stretching *Balance exercises.	2 sessions	P2,000 *facilitator fee	LO2: Engaged in creative group challenges that reinforce social interaction and motivation.
	3. Incorporate more creative group challenges to continue social interaction.	Team-building exercises: *tug-of-war *competition *relay races.	1 session	P1,000 *prizes *Trophies	

REFERENCES

- Abdullah, M. F., Pilus, A. M., Razak, M. R. A., Bakar, A. Y. A., & Nazarudin, M. N. (2021). The intrinsic and extrinsic motivation towards physical activity among Malaysian technical university (Utem) students. *International Journal of Human Movement and Sports Sciences*, 9(2), 375-382.
- Al-Hazzaa, H. M. (2018). Physical inactivity in Saudi Arabia revisited: Systematic review of inactivity prevalence and perceived barriers to active living. *International Journal of Health Sciences*, 12(6), 50.
- Arevalo, M., & Brown, L. D. (2019). Using a reasoned action approach to identify ' determinants of organized exercise among Hispanics: A mixed-methods study. *BMC Public Health*, 19, 1-10. <https://doi.org/10.1186/s12889-019-6700-5>
- Bailey, R. R. (2019). Goal setting and action planning for health behavior change. *American Journal of Lifestyle Medicine*, 13(6), 615-618.

- Bandhu, D., Mohan, M. M., Nittala, N. A. P., Jadhav, P., Bhadauria, A., & Saxena, K. (2024). Theories of motivation: A comprehensive analysis of human behavior drivers. *Acta Psychologica*, 244, 104177. <https://doi.org/10.1016/j.actpsy.2024.104177>
- Barkoukis, V., Gråstén, A., Huhtiniemi, M., & Jaakkola, T. (2024). Developmental relations of achievement goals and affect in physical education. *Psychology of Sport and Exercise*, 75, 102700. <https://doi.org/10.1016/j.psychsport.2024.102700>
- Bell, E., & Bryman, A. (2007). The ethics of management research: Exploratory content analysis. *British Journal of Management*, 18(1), 63-77.
- C. Balita. (2023, May 8). Philippines: Perceptions of Health and Fitness 2023. *Statista*. <https://www.statista.com/statistics/1381546/philippines-perceptions-of-health>.
- Cagas, J. Y., Mallari, M. F. T., Torre, B. A., Kang, M. G. D., Palad, Y. Y., Guisihan, R. M., & Capio, C. M. (2022). Results from the Philippines' 2022 report card on physical activity for children and adolescents. *Journal of Exercise Science & Fitness*, 20(4), 382-390.
- Casey, M., Mooney, A., Smyth, J., & Payne, W. (2016). Power, regulation and physically active identities: The experiences of rural and regional living adolescent girls. *Gender and Education*, 28, 108-127. <https://doi.org/10.1080/09540253.2015.1093098>
- Choosing to exercise more: Small choices increase exercise engagement. (2014). *Psychology of Sport and Exercise*, 15(3), 268-271.
- Cherubini, M., Villalobos-Zuñiga, G., Boldi, M. O., & Bonazzi, R. (2020). The unexpected downside of paying or sending messages to people to make them walk: Comparing tangible rewards and motivational messages to improve physical activity. *ACM Transactions on Computer-Human Interaction (TOCHI)*, 27(2), 1-44.
- Cornelius, C., Fedewa, A., & Toland, M. (2020). A classroom-based physical activity intervention for adolescents: Is there an effect on self-efficacy, physical activity, and on-task behavior? *Health Psychology Report*, 8(4), 408-427.
- Dai, J., & Menhas, R. (2020). Sustainable development goals, sports and physical activity: The localization of health-related sustainable development goals through sports in China: A narrative review. *Risk Management and Healthcare Policy*, 13, 1419-1430. <https://doi.org/10.2147/RMHP.S257844>
- Deci, E. L., & Ryan, R. M. (1985). Intrinsic motivation and self-determination in human behavior. *Plenum Press*.
- Deci, E. L., & Ryan, R. (2000). Self-Determination Theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78. <https://doi.org/10.1037/110003-066X.55.1.68>
- Deci, E. L., & Ryan, R. (2004). Exercise self-regulation questionnaires. Self-Determination Theory: An Approach to Human Motivation and Personality—The Self-Regulation Questionnaires. https://selfdeterminationtheory.org/wp-content/uploads/2022/02/SRQ-E_Complete.pdf
- Divyasree, P., Kumar, G., Subitha, L., & Ramesh, R. (2021). Level, motivation and barriers to participate in physical activity among late adolescents in Puducherry. *International Journal of Adolescent Medicine and Health*, 33(2), 20180133. <https://doi.org/10.1515/ijamh-2018-0133>
- Duncan, G. E., Avery, A. R., Seto, E., & Tsang, S. (2020). Perceived change in physical activity levels and mental health during COVID-19: Findings among adult twin pairs. *PLoS ONE*, 15, e0237695. <https://doi.org/10.1371/journal.pone.0237695>
- Essiet, I. A., Baharom, A., Shahar, H. K., & Uzochukwu, B. (2017). Application of the socio-ecological model to predict physical activity behaviour among Nigerian university students. *Pan African Medical Journal*, 26, 110. <https://doi.org/10.11604/pamj.2017.26.110.10409>
- Fatt, S. J., Fardouly, J., & Rapee, R. M. (2019). #malefitspo: Links between viewings fitspiration posts, muscular-ideal internalisation, appearance comparisons, body satisfaction, and exercise motivation in men. *New Media & Society*, 21(6), 1311-1325.
- Firth, J., Rosenbaum, S., Stubbs, B., Górczynski, P., Yung, A. R., & Vancampfort, D. (2016). Motivating factors and barriers towards exercise in severe mental illness: A systematic review and meta-analysis. *Psychological Medicine*, 46(14), 2869-2881. <https://doi.org/10.1017/S0033291716001954>

- Geller, K., Renneke, K., Custer, S., & Tigue, G. (2018). Intrinsic and extrinsic motives support adults' regular physical activity maintenance. *Sports Medicine International Open*, 2(03), E62-E66.
- Graupensperger, S., Gottschall, J. S., Benson, A. J., Eys, M., Hastings, B., & Evans, M. B. (2019). Perceptions of groupness during fitness classes positively predict recalled perceptions of exertion, enjoyment, and affective valence: An intensive longitudinal investigation. *Sport, Exercise, and Performance Psychology*, 8(3), 290–304. <https://doi.org/10.1037/spy0000133>
- Grasdalsmoen, M., Eriksen, H. R., Lønning, K. J., & Sivertsen, B. (2019). Physical exercise and body mass index in young adults: A national survey of Norwegian university students. *BMC Public Health*, 19, 1–9. <https://doi.org/10.1186/s12889-019-6917-z>
- Harter, S. (1982). The perceived competence scale for children. *Child Development*, 53(1), 87–97. <https://doi.org/10.2307/1129640>
- Hatch, S., Thomsen, D., & Waldron, J. J. (n.d.). Association for Applied Sport Psychology. Retrieved from <https://appliedsportpsych.org/resources/resources-for-coaches/extrinsic-rewards-and-motivation/>
- Hoare, E., Stavreski, B., Jennings, G. L., & Kingwell, B. A. (2017). Exploring motivation and barriers to physical activity among active and inactive Australian adults. *Sports*, 5(3), 47. <https://doi.org/10.3390/sports5030047>
- Izquierdo, M., Merchant, R. A., Morley, J. E., Anker, S. D., Aprahamian, I., Arai, H., & Singh, M. F. (2021). International exercise recommendations in older adults (ICFSR): Expert consensus guidelines. *The Journal of Nutrition, Health & Aging*, 25(7), 824–853. <https://doi.org/10.1007/s12603-021-1662-0>
- Jayasinghe, S., Byrne, N. M., Patterson, K. A., Ahuja, K. D., & Hills, A. P. (2021). The current global state of movement and physical activity: The health and economic costs of the inactive phenotype. *Progress in Cardiovascular Diseases*, 64, 9–16. <https://doi.org/10.1016/j.pcad.2020.08.002>
- Kang, S. (2020). The tech solution: Creating healthy habits for kids growing up in a digital world. Penguin.
- Lamont-Mills, A., & Christensen, S. A. (2006). Athletic identity and its relationship to sport participation levels. *Journal of Science and Medicine in Sport*, 9(5), 472–478. <https://doi.org/10.1016/j.jsams.2006.04.004>
- Larson, R. W., & Rusk, N. (2011). Intrinsic motivation and positive development. In *Advances in Child Development and Behavior* (Vol. 41, pp. 89–130). Academic Press. <https://doi.org/10.1016/B978-0-12-386100-5.00004-4>
- Mackenzie, S. H., Son, J. S., & Eitel, K. (2018). Using outdoor adventure to enhance intrinsic motivation and engagement in science and physical activity: An exploratory study. *Journal of Outdoor Recreation and Tourism*, 21, 76–86. <https://doi.org/10.1016/j.jort.2018.11.001>
- Mahindru, A., Patil, P., & Agrawal, V. (2023). Role of physical activity on mental health and well-being: A review. *Cureus*, 15(1). <https://doi.org/10.7759/cureus.33061>
- Markland, D., & Psychol, C. (2020). The Exercise Motivations Inventory. https://www.researchgate.net/publication/237334309_The_Exercise_Motivations_Inventory
- Manninen, M., Dishman, R., Hwang, Y., Magrum, E., Deng, Y., & Yli-Piipari, S. (2022). Self-determination theory-based instructional interventions and motivational regulations in organized physical activity: A systematic review and multivariate meta-analysis. *Psychology of Sport and Exercise*, 62, 102248. <https://doi.org/10.1016/j.psychsport.2022.102248>
- Meyer, S., Grob, A., & Gerber, M. (2021). No fun, no gain: The stress-buffering effect of physical activity on life satisfaction depends on adolescents' intrinsic motivation. *Psychology of Sport and Exercise*, 56, 102004. <https://doi.org/10.1016/j.psychsport.2021.102004>
- Molanorouzi, K., Khoo, S., & Morris, T. (2015). Motives for adult participation in physical activity: Type of activity, age, and gender. *BMC Public Health*, 15, 1–12. <https://doi.org/10.1186/s12889-015-1398-y>
- Molanorouzi, K., Khoo, S., & Morris, T. (2014). Validating the Physical Activity and Leisure Motivation Scale (PALMS). *BMC Public Health*, 14, 909. <https://doi.org/10.1186/1471-2458-14-909>
- Morina, B., Miftari, F., & Badau, D. (2021). Fitness level differences between students in Kosovo and Montenegro. *Education Sciences*, 11, 140. <https://doi.org/10.3390/educsci11030140>

- Morris, T., & Roychowdhury, D. (2020). Physical activity for health and wellbeing: The role of motives for participation. *Health Psychology Report*, 8(4), 391-407.
- Ntoumanis, N., Quested, E., Reeve, J., & Cheon, S. H. (2017). Need-supportive communication: Implications for motivation in sport, exercise, and physical activity. In M. S. Hagger & N. L. Smith (Eds.), *Persuasion and communication in sport, exercise, and physical activity* (pp. 155-169). Routledge.
- Owusu-Ansah, M., & Moyo, B. (2024). Individual giving in Ghana: A self-determination theory approach to giving. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 1-17. <https://doi.org/10.1007/s11266-023-00687-5>
- Pandey, A., LaMonte, M. A., Klein, L. C., et al. (2017). Relationship between physical activity, body mass index, and risk of heart failure. *Journal of the American College of Cardiology*, 69(10), 1129-1142. <https://doi.org/10.1016/j.jacc.2016.12.034>
- Pauline, J. (2013). Physical activity behaviors, motivation, and self-efficacy among college students. *College Student Journal*, 47(1), 64-74.
- Romero-Blanco, C., Rodríguez-Almagro, J., Onieva-Zafra, M. D., Parra-Fernández, M. L., Prado-Laguna, M. D. C., & Hernández-Martínez, A. (2020). Physical activity and sedentary lifestyle in university students: Changes during confinement due to the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, 17(18), 6567. <https://doi.org/10.3390/ijerph17186567>
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Ryan, E. R., McEwan, D., & Rebar, A. L. (2019). Theories of physical activity behaviour change: A history and synthesis of approaches. *Psychology of Sport and Exercise*, 42, 100-109. <https://doi.org/10.1016/j.psychsport.2018.11.010>
- Sallis, J. F., Conway, T. L., Cain, K. L., Geremia, C., Bonilla, E., & Spoon, C. (2019). Race/ethnic variations in school-year versus summer differences in adolescent physical activity. *Preventive Medicine*, 129, 105795. <https://doi.org/10.1016/j.ypmed.2019.105795>
- Scales, P. C., Van Boekel, M., Pekel, K., Syvertsen, A. K., & Roehlkepartain, E. C. (2020). Effects of developmental relationships with teachers on middle-school students' motivation and performance. *Psychology in the Schools*, 57(4), 646- 677. <https://doi.org/10.1002/pits.22303>
- Schunk, D. H., & DiBenedetto, M. K. (2021). Self-efficacy and human motivation. In *Advances in Motivation Science* (Vol. 8, pp. 153-179). Elsevier.
- Sides, J. D., & Cuevas, J. A. (2020). Effect of goal setting for motivation, self-efficacy, and performance in elementary mathematics. *International Journal of Instruction*, 13(4), 1-16. <https://doi.org/10.29333/iji.2020.1341a>
- Sierra-Díaz, M. J., Gonzalez-Villora, S., Pastor-Vicedo, J. C., & López-Sánchez, G. F. (2019). Can we motivate students to practice physical activities and sports through models-based practice? A systematic review and meta-analysis of psychosocial factors related to physical education. *Frontiers in Psychology*, 10, 2115. <https://doi.org/10.3389/fpsyg.2019.02115>
- Sáez, I., Solabarrieta, J., & Rubio, I. (2021, March 14). Motivation for physical activity in university students and its relation with gender, amount of activities, and sport satisfaction. *Sustainability*, 13(6), 3183. <https://doi.org/10.3390/su13063183>
- Stevens, M., Rees, T., Coffee, P., Steffens, N. K., Haslam, S. A., & Polman, R. (2017). A social identity approach to understanding and promoting physical activity. *Sports Medicine*, 47(10), 1911-1918. <https://doi.org/10.1007/s40279-017-0720-4>
- Tamanal, J. M., & Kim, C. H. (2020). Promoting healthy lifestyle in high school students: Determination of the lifestyle status through the healthy lifestyle screen (HLS) assessment. *Journal of Lifestyle Medicine*, 10(1), 30-38. <https://doi.org/10.22730/jlm.2020.10.1.30>
- Teixeira, P. J., Marques, M. M., Silva, M. N., Brunet, J., Duda, J. L., Haerens, L., & Hagger, M. S. (2020). A classification of motivation and behavior change techniques used in self-determination theory-based interventions in health contexts. *Motivation Science*, 6(4), 438-452. <https://doi.org/10.1037/mot0000157>

- Van den Broeck, A., Howard, J. L., Van Vaerenbergh, Y., Leroy, H., & Gagné, M. (2021). Beyond intrinsic and extrinsic motivation: A meta-analysis on self-determination theory's multidimensional conceptualization of work motivation. *Organizational Psychology Review*, 11(3), 240-273. <https://doi.org/10.1177/2041386620959235>
- Weaver, R. G., Beets, M. W., Brazendale, K., & Brusseau, T. A. (2019). Summer weight gain and fitness loss: Causes and potential solutions. *American Journal of Lifestyle Medicine*, 13(2), 116-128. <https://doi.org/10.1177/1559827617690600>
- Williams, O., & Gibson, K. (2018). Exercise as a poisoned elixir: Inactivity, Inequality and intervention. *Qualitative Research in Sport, Exercise and Health*, 10(4), 412-428. <https://doi.org/10.1080/2159676X.2018.1423905>
- World Health Organization. (2023). Healthy mobility and public recreational spaces: Boosting physical activity in the Philippines to prevent NCDs and mental health conditions. *Knowledge Action Portal on NCDs*. https://knowledge-action-portal.com/en/news_and_events/country-stories/8128
- World Health Organization. (2024). Physical activity. *World Health Organization*. <https://www.who.int/news-room/fact-sheets/detail/physical-activity>
- Wulf, G., Freitas, H. E., & Tandy, R. D. (2014). Choosing to exercise more: Small choices increase exercise engagement. *Psychology of Sport and Exercise*, 15(3), 268-271. <https://doi.org/10.1016/j.psychsport.2013.10.002>
- Wulf, G., & Lewthwaite, R. (2016). Optimizing performance through intrinsic motivation and attention for learning: The OPTIMAL theory of motor learning. *Psychonomic Bulletin & Review*, 23, 1382-1414. <https://doi.org/10.3758/s13423-015-0940-1>
- Zhang, Z., & Chen, W. (2019). A systematic review of the relationship between physical activity and happiness. *Journal of Happiness Studies*, 20(4), 1305-1322. <https://doi.org/10.1007/s10902-018-9982-0>
- Zhu, S., Sinha, D., Kirk, M., Michalopoulou, M., Hajizadeh, A., Wren, G., et al. (2024). Effectiveness of behavioral interventions with motivational interviewing on physical activity outcomes in adults: Systematic review and meta-analysis. *BMJ*, 386, e78713. <https://doi.org/10.1136/bmj-2023-078713>