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Physical Activity and Mental Wellness among Freshmen Students of the College of Health Sciences in a Higher Education Institution

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ABSTRACT

Purpose: This study aimed to determine the level of physical activity and mental wellness among freshmen students of the College of Health Sciences in a higher education institution in Cebu City, Philippines. It also examined the differences in physical activity when respondents were grouped according to sex and course, as well as the relationships between age and physical activity and between physical activity and mental wellness.

Method: A quantitative, descriptive-correlational research design was employed. Data were gathered from 91 freshmen students enrolled in the Bachelor of Science in Nursing and Bachelor of Science in Pharmacy programs during the second semester of School Year 2025–2026. A structured questionnaire incorporating the Baecke Questionnaire for Habitual Physical Activity and an adapted Eight Dimensions of Wellness assessment was utilized. Frequency, percentage, mean, and standard deviation were used to describe the data. Independent-samples t-test and correlation analyses were employed to determine differences and relationships among the study variables, using a 0.05 level of significance.

Results: The findings revealed that respondents demonstrated a moderately active overall physical activity level, with a mean score of 2.89. Work activity obtained the highest mean of 3.25, interpreted as an active lifestyle, while sports and leisure activities were both moderately active. Respondents also demonstrated a high level of mental wellness across the eight dimensions. Significant differences were found in sports activity ($p = 0.002$) and overall physical activity ($p = 0.007$) when grouped according to sex, with male respondents obtaining higher mean scores. However, no significant differences were observed when respondents were grouped according to course. Furthermore, age was not significantly related to physical activity, and no significant relationship was established between overall physical activity and mental wellness ($r = 0.08$, $p = 0.480$).

Conclusion: The findings indicate that freshmen students generally demonstrate high mental wellness despite having only a moderately active physical activity level. Although physical activity varies according to sex, it does not significantly differ by academic program. Moreover, the results do not establish a significant relationship between physical activity and mental wellness. These findings highlight the importance of developing accessible and inclusive physical activity initiatives that encourage regular participation in sports, exercise, and leisure activities while supporting the holistic wellness of freshmen students.

Keywords: Physical activity, mental wellness, freshmen students, higher education

INTRODUCTION

Physical activity is an important component of health promotion and overall well-being. It encompasses bodily movements performed through daily activities, sports participation, and leisure-time exercise. Beyond its contribution to physical health, regular engagement in physical activity may support emotional regulation,

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stress management, social interaction, and cognitive functioning. These benefits are particularly relevant to college students, whose academic responsibilities and changing lifestyles may influence their health behaviors and overall wellness. Maintaining an active lifestyle during the transition to higher education may therefore help students establish healthy routines while adjusting to the demands of college life.

Mental wellness is likewise an essential aspect of students' holistic development. It is a multidimensional concept that extends beyond the absence of mental health difficulties and includes several aspects of human functioning, particularly emotional, physical, social, intellectual, spiritual, occupational, environmental, and financial wellness. Engagement in habitual physical activity, including work-related movement, sports, and leisure-time exercise, may contribute to these dimensions by supporting energy levels, mood, social relationships, and cognitive functioning. Promoting physical activity and mental wellness among students is consequently relevant to creating a learning environment that supports healthy, productive, and resilient learners.

In the Philippine context, concerns regarding physical inactivity and student wellness have also been raised. Studies involving Filipino college students have reported limited participation in physical activity associated with academic pressures, sedentary study habits, and prolonged use of electronic devices (Dazo & Mendoza, 2022). These lifestyle patterns may contribute to stress, fatigue, and reduced wellness. The Department of Health (2021) has likewise identified mental health concerns among Filipino youth, highlighting the importance of understanding factors that may influence students' health and wellness, particularly during significant academic transitions.

The transition from secondary education to college represents an important period of adjustment for freshmen students. During their first year, students encounter new academic responsibilities, social environments, time-management demands, and changes in daily routines. These adjustments may influence their participation in physical activities, including sports and leisure-time exercise, as well as their ability to maintain different dimensions of wellness. Such circumstances may be particularly relevant to students enrolled in health-related programs, where rigorous coursework, laboratory activities, and professional preparation add to the demands of college life.

Despite the growing recognition of student wellness, limited local research has examined the relationship between habitual physical activity and multidimensional mental wellness among freshmen enrolled in health-related programs. Existing studies commonly address physical health outcomes or examine broader student populations, leaving a gap in understanding the wellness experiences of freshmen in health sciences within local higher education institutions. This gap highlights the need to examine physical activity not only as a health-related behavior but also in relation to the multiple dimensions of students' wellness.

In response to this gap, the present study examined physical activity and mental wellness among freshmen students of the College of Health Sciences at a higher education institution in Cebu City, Philippines. Specifically, it assessed habitual physical activity in terms of work, sports, and leisure-time activities and mental wellness across the emotional, physical, social, intellectual, spiritual, occupational, environmental, and financial dimensions. It also examined differences in physical activity according to sex and academic course, as well as the relationships between age and physical activity and between physical activity and mental wellness. The findings were intended to provide an evidence-based basis for proposing a physical activity program that may support active lifestyles and holistic wellness among freshmen students.

METHOD

Participants

Data were obtained from 91 freshmen students enrolled in the College of Health Sciences at the University of Southern Philippines Foundation (USPF), Cebu City, Philippines, during the second semester of School Year 2025–2026. The participants were enrolled in either the Bachelor of Science in Nursing or Bachelor of Science in Pharmacy program. The study employed complete enumeration, in which all eligible freshmen

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students were invited to participate. Participation was voluntary, and only students who agreed to participate and provided informed consent were included in the study. Respondents were informed of the purpose of the research and assured that their responses would remain confidential and would be used solely for academic and research purposes. No names or identifying personal information were required in the questionnaire.

Population

The study covered the entire population of 121 freshmen students enrolled in the College of Health Sciences during the second semester of School Year 2025–2026. This population consisted of 88 students from the Bachelor of Science in Nursing program and 33 students from the Bachelor of Science in Pharmacy program. Complete enumeration was employed, allowing all eligible students to be invited to participate. Of the 121 students invited, 91 participated in the study and provided responses for analysis.

Measurement

The study utilized a structured survey questionnaire composed of three parts to gather data on the respondents' demographic characteristics, habitual physical activity, and mental wellness. The questionnaire was administered through an online platform accessed using a QR code. Before the main data collection, the research instrument was reviewed by the research adviser, and necessary revisions were incorporated to ensure its clarity, comprehensibility, and alignment with the objectives of the study.

The first part of the questionnaire consisted of researcher-developed items that gathered the respondents' demographic profiles in terms of age, sex, and academic course. The second part measured habitual physical activity using the Baecke Questionnaire for Habitual Physical Activity developed by Baecke, Burema, and Frijters (1982). The instrument assessed physical activity across three domains: Work Activity Index, Sport Activity Index, and Leisure Activity Index. The work activity domain covered routine movements associated with daily responsibilities, such as studying, standing, walking, and lifting. The sports activity domain assessed participation in sports and exercise, including frequency and duration, while the leisure-time activity domain covered physical activities undertaken during free time, such as walking, cycling, and recreational activities. The prescribed scoring formulas were used to compute the three activity indices and determine the respondents' overall physical activity level. Scores ranged from 1 to 5, with higher scores indicating greater habitual physical activity.

The third part assessed mental wellness using an adapted Eight Dimensions of Wellness Assessment Tool. It measured wellness across eight dimensions: emotional, spiritual, physical, social, financial, occupational, intellectual, and environmental wellness. Each dimension consisted of 10 statements describing behaviors, attitudes, and experiences related to personal wellness. Respondents rated each statement using a four-point Likert scale: 1 – Never or Rarely, 2 – Sometimes, 3 – Most of the Time, and 4 – Always. Each dimension had a maximum score of 40, with higher scores indicating a higher level of wellness. The computed mean scores were interpreted using the following ranges: 1.00–1.75 (Low Wellness), 1.76–2.50 (Moderate Wellness), 2.51–3.25 (High Wellness), and 3.26–4.00 (Very High Wellness).

Analysis

The quantitative data were organized, tabulated, and analyzed using appropriate descriptive and inferential statistical procedures. Frequency and percentage were used to describe the respondents' demographic profiles in terms of age, sex, and course. Mean and standard deviation were employed to determine the levels of habitual physical activity and mental wellness. The Work Activity Index, Sport Activity Index, and Leisure Activity Index were computed using the prescribed Baecke questionnaire formulas, while the overall physical activity score was obtained by averaging the three indices.

Pearson's Product–Moment Correlation Coefficient (Pearson's r) was used to determine the relationship between respondents' age and habitual physical activity. Spearman's Rank-Order Correlation Coefficient (Spearman's rho) was employed to examine the relationship between habitual physical activity and multidimensional mental wellness. Furthermore, the independent-samples t-test was used to determine

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whether significant differences existed in physical activity levels when respondents were grouped according to sex and academic course. All inferential statistical tests were evaluated at a 0.05 level of significance.

RESULTS

Demographic Profile of the Respondents

The demographic profile refers to the respondents' age, sex, and academic course. These characteristics provide a description of the freshmen students who participated in the study.

Table 1 presents the demographic profile of the respondents in terms of age, sex, and academic course.

Profile	Category	Frequency	Percentage
Age	18–19 years	51	56
	20 years and above	40	44
Sex	Male	18	19.8
	Female	73	80.2
Academic course	BS Nursing	62	68.1
	BS Pharmacy	29	31.9
Total		91	100

Note. Percentages may not total exactly 100.0 due to rounding.

Table 1 shows that 51 respondents (56.0%) were 18–19 years old, while 40 (44.0%) were 20 years old and above. In terms of sex, the majority were female, comprising 73 respondents (80.2%), whereas 18 (19.8%) were male. With regard to academic course, 62 respondents (68.1%) were enrolled in the Bachelor of Science in Nursing program, while 29 (31.9%) were enrolled in the Bachelor of Science in Pharmacy program. These findings indicate that the respondents were predominantly female students aged 18–19 years and enrolled in the BS Nursing program.

Level of Physical Activity

Physical activity in this study refers to the respondents' habitual activities across three domains: work-related activity, sports activity, and leisure-time activity. These domains describe the extent of physical movement and exercise incorporated into the students' daily routines.

Table 2 presents the mean scores of the respondents' physical activity in terms of work, sports, leisure, and overall physical activity.

Physical activity domain	Mean score	Category	Interpretation
Work Activity Index	3.25	High	Active Lifestyle
Sport Activity Index	2.5	Moderate	Moderately Active
Leisure Activity Index	2.91	Moderate	Moderately Active
Overall Physical Activity	2.89	Moderate	Moderately Active

Note. ≤1.00 = Sedentary Lifestyle; 1.01–2.00 = Low Physical Activity; 2.01–3.00 = Moderately Active; 3.01–4.00 = Active Lifestyle; 4.01–5.00 = Highly Active Lifestyle.

Table 2 reveals that the respondents obtained an overall physical activity mean score of 2.89, interpreted as moderately active. Among the three domains, work activity obtained the highest mean score of 3.25, interpreted as an active lifestyle. This was followed by leisure activity, which obtained a mean score of 2.91,

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and sports activity, with a mean score of 2.50; both were interpreted as moderately active. The results indicate that respondents' physical activity was more evident in their work-related or routine activities than in sports and leisure activities. This suggests that although students engage in physical movement as part of their daily responsibilities, participation in structured sports and recreational activities may be less frequent.

Mental Wellness of the Respondents

Mental wellness refers to the respondents' perceived well-being across eight interconnected dimensions: emotional, spiritual, physical, social, financial, occupational, intellectual, and environmental wellness. These dimensions provide a broad description of students' wellness in different aspects of their lives.

Table 3 presents the mean scores of the respondents' mental wellness across the eight dimensions and the overall factor average.

Dimension	Weighted mean	Categorical response	Interpretation
Emotional	2.85	Most of the Time	High Wellness
Spiritual	3.01	Most of the Time	High Wellness
Physical	2.74	Most of the Time	High Wellness
Social	2.97	Most of the Time	High Wellness
Financial	2.76	Most of the Time	High Wellness
Occupational	2.85	Most of the Time	High Wellness
Intellectual	3.01	Most of the Time	High Wellness
Environmental	3	Most of the Time	High Wellness
Overall factor average	2.9	Most of the Time	High Wellness

Note. 1.00–1.75 = Low Wellness; 1.76–2.50 = Moderate Wellness; 2.51–3.25 = High Wellness; 3.26–4.00 = Very High Wellness.

Table 3 shows that all eight dimensions of mental wellness were interpreted as high wellness, with an overall factor average of 2.90 and a categorical response of "Most of the Time." Spiritual and intellectual wellness obtained the highest mean scores of 3.01, followed by environmental wellness (M = 3.00) and social wellness (M = 2.97). Emotional and occupational wellness both obtained a mean of 2.85, while financial wellness recorded a mean of 2.76. Physical wellness obtained the lowest mean score of 2.74; however, it remained within the high wellness category. These results indicate that respondents generally reported positive wellness across the eight dimensions.

Differences in Physical Activity According to Sex

This section examines whether the physical activity levels of male and female respondents differ across work, sports, leisure, and overall physical activity.

Table 4 presents the comparison of physical activity mean scores according to sex.

Physical activity	Male (n=18) M (SD)	Female (n=73) M (SD)	t	p
Work	3.31 (0.396)	3.23 (0.440)	0.71	0.479
Sports	2.94 (0.925)	2.39 (0.562)	3.23	0.002*
Leisure	3.04 (0.479)	2.88 (0.550)	1.14	0.256
Overall	3.10 (0.403)	2.83 (0.351)	2.78	0.007*

*Note. *p < 0.05. M = mean; SD = standard deviation.*

Table 4 reveals that male respondents obtained higher mean scores than female respondents across all physical activity domains. However, the differences in work activity (t = 0.71, p = 0.479) and leisure activity (t = 1.14,

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p = 0.256) were not statistically significant. Significant differences were found in sports activity (t = 3.23, p = 0.002) and overall physical activity (t = 2.78, p = 0.007). In both measures, male respondents obtained higher mean scores than female respondents. These findings indicate that sex-related differences in this group were evident in sports participation and overall physical activity, but not in work-related and leisure-time activity.

Differences in Physical Activity According to Academic Course

This section determines whether the physical activity levels of respondents enrolled in BS Nursing and BS Pharmacy differ across the three activity domains and overall physical activity.

Table 5 presents the comparison of physical activity mean scores according to academic course.

Physical activity	BS Nursing (n=62) M (SD)	BS Pharmacy (n=29) M (SD)	t	p
Work	3.26 (0.339)	3.23 (0.587)	0.35	0.728
Sports	2.48 (0.647)	2.53 (0.758)	−0.28	0.777
Leisure	2.92 (0.563)	2.90 (0.489)	0.18	0.852
Overall	2.89 (0.368)	2.88 (0.396)	0.05	0.960

Note. M = mean; SD = standard deviation. Significance level = 0.05.

Table 5 shows that the mean scores of BS Nursing and BS Pharmacy respondents were closely comparable across all physical activity domains. The differences were not statistically significant in work activity (t = 0.35, p = 0.728), sports activity (t = −0.28, p = 0.777), leisure activity (t = 0.18, p = 0.852), or overall physical activity (t = 0.05, p = 0.960). Since all p-values exceeded the 0.05 level of significance, the results indicate that physical activity did not significantly differ according to academic course.

Relationship Between Age and Physical Activity

This section examines the association between respondents' age and their physical activity across work, sports, leisure, and overall activity.

Table 6 presents the correlation between age and the different domains of physical activity.

Physical activity domain	Correlation coefficient (r)	p-value	Result
Work activity	−0.12	0.271	Not significant
Sports activity	0.01	0.952	Not significant
Leisure activity	0.02	0.841	Not significant
Overall physical activity	−0.03	0.766	Not significant

Note. Significance level = 0.05.

Table 6 indicates that age was not significantly related to work activity (r = −0.12, p = 0.271), sports activity (r = 0.01, p = 0.952), leisure activity (r = 0.02, p = 0.841), or overall physical activity (r = −0.03, p = 0.766). All p-values were greater than 0.05, indicating that the observed correlations were not statistically significant. Thus, the findings do not establish a significant association between respondents' age and their habitual physical activity.

Relationship Between Physical Activity and Mental Wellness

This section examines the relationship between respondents' physical activity and mental wellness across the eight dimensions, as well as the overall mental wellness score.

Table 7 presents the relationship between overall physical activity and each dimension of mental wellness, including the overall wellness score.

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Mental wellness dimension	Correlation coefficient (r)	p-value	Result
Emotional	0.02	0.844	Not significant
Spiritual	0.01	0.898	Not significant
Physical	0.1	0.356	Not significant
Social	0.04	0.733	Not significant
Financial	0.06	0.557	Not significant
Occupational	0.05	0.615	Not significant
Intellectual	−0.03	0.793	Not significant
Environmental	0.1	0.339	Not significant
Overall mental wellness	0.08	0.48	Not significant

Note. Significance level = 0.05.

Table 7 shows that overall physical activity was not significantly related to any of the eight dimensions of mental wellness. The correlation coefficients for emotional (r = 0.02, p = 0.844), spiritual (r = 0.01, p = 0.898), physical (r = 0.10, p = 0.356), social (r = 0.04, p = 0.733), financial (r = 0.06, p = 0.557), occupational (r = 0.05, p = 0.615), intellectual (r = −0.03, p = 0.793), and environmental wellness (r = 0.10, p = 0.339) were all statistically nonsignificant. Similarly, the relationship between overall physical activity and overall mental wellness was weak and not statistically significant (r = 0.08, p = 0.480). These findings indicate that, in this sample, higher physical activity scores were not significantly associated with higher mental wellness scores.

Proposed Physical Activity and Wellness Promotion Program

Based on the findings of the study, a Physical Activity and Wellness Promotion Program was proposed to encourage regular participation in physical activities and strengthen wellness practices among freshmen students of the College of Health Sciences. The program was developed in response to the students' moderately active overall physical activity level, particularly their comparatively limited participation in sports and leisure activities, while sustaining their generally high level of mental wellness.

Table 8 presents the proposed Physical Activity and Wellness Promotion Program designed to encourage regular physical activity and promote holistic wellness among freshmen students.

Key Areas	Proposed Activities	Persons Responsible	Time Frame	Success Indicators
Physical Activity Awareness and Education	Conduct orientation seminars on the importance of physical activity and wellness; distribute educational materials on healthy lifestyle practices; and conduct wellness awareness campaigns through posters and announcements.	Researchers, Physical Education Instructor, and Student Council	First and second weeks of implementation; awareness campaign throughout the program	At least 80% of freshmen attend and actively participate in the orientation; educational materials are distributed; and wellness campaign materials are visible within the university.
Student Physical Activity Engagement	Organize weekly group exercise sessions, such as aerobics, walking, and stretching; conduct intramural sports activities for freshmen; and	Researchers, Physical Education Instructor, University Sports	Weekly for one month; intramural activities during the third week; recreational	At least 70% of participating students regularly attend group exercise sessions; increased participation in sports and recreational activities; and

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	encourage recreational activities such as jogging and cycling.	Coordinator, and Student Leaders	activities throughout the program	greater engagement in physical activities outside academic responsibilities.
Wellness Monitoring and Support	Conduct periodic mental wellness assessments; facilitate stress management and mental wellness seminars; provide counseling and psychological support services; and evaluate the effectiveness of the program.	Researchers, Guidance Counselor, and Mental Health Advocate	Monthly assessments; seminars during the second month; support services throughout the program; evaluation at the end of implementation	Completion of wellness assessment forms; active student participation in seminars; increased utilization of counseling and support services; and submission of an evaluation report documenting student feedback and participation.

The proposed program provides an organized approach to promoting physical activity and supporting students' holistic wellness within the university. Through awareness activities, structured exercise opportunities, sports and recreational participation, and wellness support services, the program seeks to encourage healthier lifestyle practices among freshmen students. Its implementation and effectiveness, however, remain subject to institutional approval, available resources, and subsequent evaluation.

DISCUSSION

The findings of the study revealed that freshmen students generally engage in physical activities through their daily academic routines and responsibilities. However, their participation in sports and leisure activities was comparatively less consistent. This suggests that although students remain physically active through routine movements and everyday tasks, they may have limited opportunities or time to engage in structured exercise and recreational activities. The demands of college life, including academic requirements, laboratory activities, and personal responsibilities, may influence their ability to maintain regular physical activity outside their daily routines. This highlights the importance of encouraging students to participate in sports, exercise, and recreational activities as part of their lifestyle rather than relying solely on movements associated with academic and routine tasks.

The study also revealed that respondents generally demonstrated positive mental wellness across the different dimensions. This indicates that students were able to maintain their emotional, spiritual, physical, social, financial, occupational, intellectual, and environmental well-being while adjusting to the demands of college life. Spiritual and intellectual wellness appeared to be areas of relative strength, suggesting the possible importance of personal beliefs, academic engagement, and meaningful learning experiences in supporting students' overall wellness. On the other hand, physical wellness emerged as an area that may require greater attention. This implies that maintaining positive mental wellness does not necessarily mean that all aspects of wellness are equally developed. Students may benefit from initiatives that promote physical self-care, healthy routines, stress management, social interaction, and balanced academic and personal activities. These findings emphasize the importance of addressing wellness through a holistic approach that considers the different aspects of students' lives.

Furthermore, the findings indicated that male and female respondents differed in their participation in sports and overall physical activity, while their engagement in work-related and leisure activities was generally comparable. This suggests that differences in physical activity between male and female students may be more evident in sports participation. Such differences may be associated with personal interests, opportunities for participation, social expectations, or other factors influencing engagement in physical activities. However, these possible explanations were not directly investigated in the present study. Meanwhile, students enrolled in the BS Nursing and BS Pharmacy programs demonstrated generally similar physical activity patterns. This implies that differences in academic specialization do not necessarily translate into differences in students'

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habitual physical activity. Both groups experience the demands of college education and may encounter similar challenges in balancing academic responsibilities with physical activities and personal wellness.

Moreover, the findings revealed that age was not significantly associated with students' physical activity. This suggests that differences in age among the freshmen respondents did not correspond to meaningful differences in their engagement in work, sports, and leisure activities. Similarly, physical activity was not significantly associated with the different dimensions of mental wellness. This finding suggests that students' wellness cannot be understood through physical activity alone. Other factors, including family relationships, peer support, spiritual practices, academic experiences, personal coping strategies, and the university environment, may also contribute to their overall wellness. Although physical activity remains an important component of a healthy lifestyle, its relationship with mental wellness may vary depending on individual circumstances and

other supporting factors. Therefore, promoting student wellness requires more than encouraging exercise and sports participation. It also involves strengthening student support services, creating opportunities for social engagement, providing accessible wellness activities, and fostering an environment that supports students' physical, emotional, social, and psychological needs. Overall, the findings emphasize the importance of integrating physical activity and holistic wellness initiatives into the college environment. The relatively limited engagement in sports and leisure activities suggests a need for accessible and inclusive opportunities that encourage students to become more physically active. At the same time, the generally positive level of mental wellness provides an opportunity for the institution to strengthen existing practices that support students' well-being. The proposed physical activity program may therefore serve as a practical institutional initiative to encourage regular physical movement, promote healthy lifestyle practices, and support the different dimensions of wellness among freshmen students.

CONCLUSION

The findings of the study, which examined physical activity and mental wellness among freshmen students of the College of Health Sciences, revealed that respondents generally demonstrated a moderately active lifestyle and a high level of mental wellness. It may be concluded that although students maintain physical activity through their daily routines, greater encouragement and opportunities are needed to promote participation in sports and leisure-time activities. The findings also suggest that mental wellness is multidimensional and cannot be adequately supported through physical activity alone, as other personal, social, academic, and environmental factors may contribute to students' overall well-being. The absence of a significant relationship between physical activity and mental wellness further highlights the importance of adopting a holistic approach to student wellness. Therefore, the institution is encouraged to implement the proposed physical activity program to promote regular exercise, sports participation, and recreational activities among freshmen students. It is also recommended that the program be evaluated to determine its effectiveness in improving students' physical activity and supporting their overall wellness. Finally, continuous monitoring and improvement of the program are suggested to ensure that its activities remain responsive to students' needs and contribute to a healthier and more supportive college environment.

Ethical Consideration

Ethical Approval and Informed Consent

The study was conducted in accordance with ethical principles for research involving human participants. Participation was voluntary, and informed consent was obtained from the respondents before data collection. The participants were informed of the purpose and procedures of the study, their right to withdraw at any time without penalty, and the confidentiality of their responses. No personally identifying information was included in the data analysis or presentation of findings.

Conflict of Interest

The authors declare no conflict of interest in the conduct of this study, analysis of the data, or preparation of the manuscript.

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Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available to protect the confidentiality and privacy of the study participants.

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