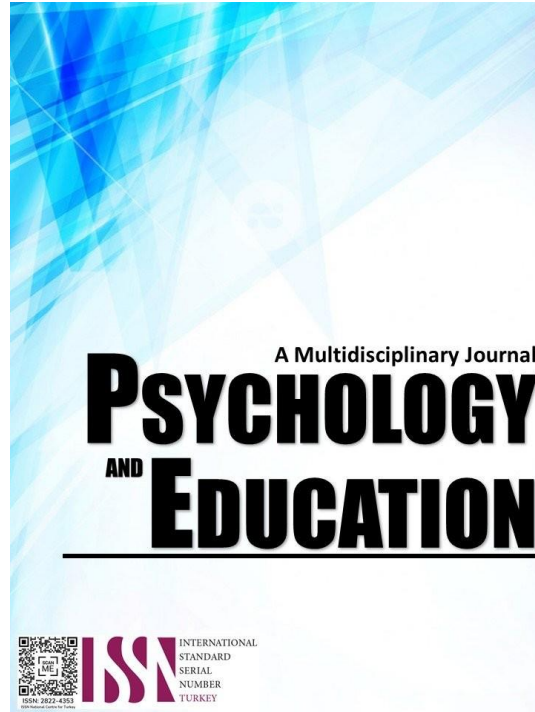


PERCEIVED PHYSICAL LITERACY AND EXERCISE ADHERENCE OF COLLEGE STUDENTS: BASIS FOR AN INTERVENTION PLAN



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Perceived Physical Literacy and Exercise Adherence of College Students: Basis for an Intervention Plan

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Abstract

This study examines the perceived physical literacy and exercise adherence of college students enrolled in PATHFIT 1 and 3 classes during their first and second years in the Bachelor of Physical Education program. The study aimed to explore exercise adherence using quantitative research design. Quota sampling techniques were employed to select the respondents. The data used in this study were collected using questionnaires that were adapted and validated. The statistical tools employed in this investigation included the mean, standard deviation, Pearson's correlation, and multiple regression analysis. In this respect, results revealed that the perceived level of physical literacy of the respondents is high it means that this literacy is often manifested. The level of exercise adherence of the respondents is generally high it indicating that exercise adherence is often evident. While the perceived physical literacy significantly influence are significant predictors of exercise adherence among college students. The intervention plan activity proposed continuous activity plan as an intervention to enhance physical literacy, which has been shown to significantly improve exercise adherence among college students.

Keywords: *perceived physical literacy, exercise adherence, Philippines*

Introduction

Exercise adherence refers to a person's dedication to constantly engaging in an exercise regimen (Lauban, 2016). Moreover, mentions that this may be a formal program or an attempt to be physically active. Whether a person goes to the gym regularly or stays at home, executing movements and sweating out consistently are the terms of exercise adherence. Adolescents find exercise boring and repetitive and their lack of confidence in exercising also discourages them from participating in exercise (Sallis, 2016).

According to recent global estimates, a significant issue is the high prevalence of a disease that affects 1.4 billion adults worldwide, resulting in 27.5 percent of the adult population not meeting the suggested physical activity levels essential for enhancing and safeguarding their health. 3.2 million fatalities annually are attributed to physical inactivity, according to current estimates. Approximately 64 percent of the population over the age of 16 in the United Kingdom engages in physical activity. Nevertheless, only 15 percent of the UK population participates in structured exercise on a regular basis. Additionally, 50 percent of individuals who initiate an exercise regimen discontinue it within the initial six months (Matt, 2023).

In the Philippines, over 40 percent of Filipinos lack sufficient physical activity, according to recent research on worldwide trends in this domain. According to Guthold et al. (2018) report that for 50 percent of Filipino women and 30 percent of Filipino males, it is recommended to refrain from participating in adequate levels of physical activity.

Perceived physical literacy refers to someone self-evaluation of physical competence (Jaunig, 2023), which includes their understanding of the value of exercise, physical competence, knowledge of physical literacy in exercise adherence, motivational aspects, self-confidence, and physical activity behavior. Exercise adherence is the consistency with which individuals stick to a planned exercise routine over time, which is essential for long-term health benefits like improved cardiovascular function and mental well-being (Dishman et al., 2013). However, maintaining high adherence can be difficult due to barriers like lack of time, motivation, or confidence (Rhodes & de Bruijn, 2013). Factors influencing adherence include motivation, social support, and enjoyment. Self-determination theory highlights that intrinsic motivation—stemming from enjoyment and satisfaction—is a key predictor of adherence, and programs that foster motivation and self-efficacy are generally more successful (Deci & Ryan, 2000; Teixeira et al., 2012).

In general, Physical literacy promotes confidence, competence, and enjoyment in physical activities, encouraging consistent participation and long-term exercise adherence. It encompasses skills, behaviors, and attitudes that enable individuals to engage in various activities with confidence. Those with high physical literacy are more likely to stick with regular exercise because they possess the skills and motivation needed to enjoy diverse activities, reducing participation barriers and enhancing enjoyment (Edwards et al., 2017; Whitehead, 2010).

There are many studies on the participation of students in exercise adherence in college. Several studies were conducted to evaluate Low compliance with physical exercise guidelines among college students (Buckworth et al., 2012; Li et al., 2023). The relationship between perceived physical literacy and exercise adherence: A pathway to lifelong physical activity (Edwards et al., 2017).

However, there exists a limitation in the in the availability of studies primarily investigating exercise adherence of college students in terms of demographic profile such as sex, as well as in terms of self-expression and communication with others, knowledge and comprehension, and self-esteem and self-confidence, the level of perceived physical literacy among college students in PATHFIT 1 & 3 at public higher education institutions specifically in region 12 Philippines. In order to fill the existing study void, the researcher aims

to gain essential knowledge regarding the improvement of successful methods to encourage college students to stick to exercise interventions.

The findings of this research could be used in the capacity of research guide and instrument to help students overcome the difficulties they encountered in the reasoning adherence exercise following the pandemic. In particular, the findings could be used as a tool to raise awareness about the need of exercising across time, taking into account everyone's experiences in their lifestyles, from young children to teenagers.

The outcomes of this research can be communicated to both private and public educational institutions to support interventions in order to effectively implement them. For students who are having difficulty meeting the instructional standards for engaging in physical activity aimed at health and fitness, as established by physical education instructors across various institutions, particularly those in higher education with a significant student population in multiple colleges. This study aims to assist students who lack interest in engaging in physical activities, recognizing the substantial influence such activities have on their academic performance and overall achievement.

The researcher's primary objective is to secure publication in local, national, or international research publications. This provides the researcher with a great chance to expand the scope of the investigation, which is highly advantageous in raising the threshold for physical education, as Sincerity requires. Consequently, the investigator is motivated to further investigate this subject.

Research Questions

The research sought to analyze the relationship between perceived physical literacy and exercise adherence among college students in Region XII. Specifically, the study aimed to answer the following questions:

1. What is the level of perceived physical literacy of the respondents in terms of:
 - 1.1. sense of self and self-confidence;
 - 1.2. self-expression and communication with others; and
 - 1.3. knowledge and understanding?
2. What is the level of exercise adherence of the respondents in terms:
 - 2.1. adherence behavior; and
 - 2.2. adherence and non-adherence behavior?
3. Do perceived physical literacy factors significantly influence the exercise adherence of college students?
4. Based on the result, what intervention plan can be crafted?

Methodology

Research Design

The research used a quantitative design for this investigation. According to Creswell (2017), quantitative research uses instruments with set questions and answers to gather quantitative information from a significant number of participants in an effort to explain how one variable impacts another. The researcher sought to determine whether one or more factors may have an influence on another variable by elucidating a significant one among them. Descriptive comparative design is a study methodology that entails analyzing the experiences and activities of designers across many domains and disciplines. Blackwell et al. (2009).

Comparative studies that are typically carried out with a large sample size in the social sciences for analyzing masses (Karasar et al., 2000). When examining data and anything quantifiable methodically to investigate phenomena and their relationships, quantitative research methods are employed. They are utilized to comprehend, anticipate, and control a phenomenon by offering solutions to questions regarding the links among measurable variables. (Leedy et al., 1993; Gallardo et al., 2021). Comparative study design also comparing and contrasting two or more samples of single persons on one or more variables, frequently at the same time Patidar (2013).

Respondents

To establish a comprehensive study protocol, the target population was defined, and a list of inclusion criteria was created. Individuals interested in participating in the research had to fulfill the specified criteria for inclusion (Hornberger & Rangu, 2020). The criteria for inclusion typically included demographic and geographic factors, as well as variables (Patino & Ferreira, 2018).

For the selection of the respondents, quota sampling techniques were used. According to Simkus (2023), this is a form of non-probability sampling wherein the researcher selected subjects based on particular characteristics, ensuring they represented those characteristics in a way that was proportional to their prevalence in the population.

The respondents to this survey were a total of 150 first- and second-year college students from a designated higher education institution in Region XII, Philippines. A total of 25 first-year students and 25 second-year students were selected from the institutions of Cotabato State University, the University of Southern Mindanao, and Sultan Kudarat State University. All of them were allowed to participate as long as they were registered for the 2024–2025 academic year. After identifying prospective subjects, the next step was to ascertain the sample size to be involved in the study. Considering this concept, the rule of thumb was applied, which states that the ratio of

sample size to the number of parameters in a Pearson correlation coefficients model should be above 100 respondents (Brysbart, 2019). In light of this, more respondents were included overall in the survey.

After deciding on the sample size for the study, the next step was to determine the sampling design that would be used. The researcher conducted the study using stratified random sampling. This sampling strategy, according to Nguyen et al. (2021), involved segmenting a population into smaller groups called strata based on similar characteristics. The initial population of first- and second-year college students was obtained for this research by the researcher.

Instrument

To collect the data, this research adapted a survey questionnaire since, according to the statement of Borgobello et al. (2019), using a survey questionnaire in research allowed the researcher to gather extensive data from a substantial population and make predictions out of such information with statistical support. For this reason, the study adapted a survey questionnaire to collect the data. There were 34 items in total across two sections of the survey questionnaire. Education specialists validated the survey questions. Validators' feedback and recommendations were thereafter taken into account upon the finalization of the survey instrument.

The first part of the questionnaire measured perceived physical literacy, based on the research conducted by Sum et al. (2016) titled Construction and Validation of a Perceived Physical Literacy Instrument for Physical Education Teachers, consisting of 18 item questions. The reliability of the survey questionnaire, as indicated by Cronbach's alpha, fell between 0.73 and 0.76. The development of the survey questionnaire items was enhanced by concepts derived from the examined literature. The survey questionnaire utilized a 5-point Likert scale to rate the statements, from 5 (very high) to 1 (very low).

The second survey questionnaire evaluated the adherence/non-adherence and was adapted from the study of N.A. Newman-Beinart (2017), comprising a total of 16 items. The Kaiser-Meyer-Olkin value of the survey questionnaire met the recommended minimum individual value for several of the adherence/non-adherence items, with the value being 0.600. The design of the survey questionnaire items was enhanced by concepts derived from the examined literature. The statements in the survey questionnaire were rated using a 5-point Likert scale response option, ranging from very high to very low.

For validity, the researcher wrote and sent a letter to validators asking them to check the survey questionnaire for accuracy. When the survey questionnaire was finished, the comments and suggestions from the validators were taken into account. Moreover, for reliability, a test was conducted at Cotabato State University, particularly for 40 randomly selected third- and fourth-year students, and its analysis was performed by the designated statistician.

Procedure

This research adhered to established methodologies to collect the necessary data. Consent to undertake the study was first obtained from the Dean of the UIC Graduate School. Researchers obtained ethical approval from the UIC Research Ethics Committee (UIC-REC) before sending their article and review forms. After receiving ethical approval, the study tools were checked by experts before being sent out to respondents. Approval was secured from the deans or administrative officers of the school.

The researcher initially corresponded via letter with the office of the president and the office of the department dean of physical education to ascertain the proper number of respondents to be included in three universities in Region 12: Cotabato State University, Sultan Kudarat State University, and the University of Southern Mindanao. Since instructors adhered to the Commission on Higher Education's (CHED) mandate, enforced by the Commission and regulating the schools, students had access to the same course offerings.

Personal data processing details and communications were made clear and easy to understand. Respondents were informed that their participation in the study would remain confidential. Before distributing the questionnaires, the researcher ensured that the informed consent form was reviewed with the respondents and that their signatures were obtained. Additionally, the researcher identified any first-year students who were younger than 18 years old and ensured that both the students and one of their parents signed the form. Once all respondents were identified, test questionnaires were distributed to the first- and second-year students participating in the study. The researchers carefully read and explained the directives to the respondents, provided examples, and described the coding of answer questionnaires, guiding them in selecting their responses from the legend ranging from 5 (strongly agree) to 1 (strongly disagree).

After administering the tests and collecting all relevant data, the researcher retrieved the tools so that the data could be tallied and analyzed.

Ethical Considerations

The researcher followed the appropriate ethical standards and considerations throughout the investigation. The Ethics Review Committee at the University of the Immaculate Conception (UIC REC) carefully and thoroughly reviewed the paper.

Social Value: Exercise adherence created opportunities for students to bond with classmates, form workout groups, and engage in fitness-related social activities. This fostered a sense of community and enhanced social connections. Exercise adherence in the aspect of lifestyle norms promoted a culture where physical activity was valued. This emphasis on health and well-being influenced students'

lifestyle choices and encouraged healthier habits among peers. Furthermore, the research on the United States Sustainable Development Goal No. 3, the principle of Good Health and Well-Being, dedicated to ensuring healthy lifestyles and advancing well-being for all ages, had a connection to exercise adherence.

Informed Consent. This study used an informed consent form to obtain consent from college students, specifically those taking the PATHFIT 1&3 subject in several courses. First, the researcher wrote a letter sent to the office of the president and college dean in various state universities and colleges' campuses, notifying them of the objective of the study and the potential prospective respondents in different colleges taking the PATHFIT 1&3 subject. After that, the informed consent was sent to the prospective study participants.

A consent form was obtained from the respondents, who were minor participants in the research. A letter was composed to obtain an assent form, indicating the individual's readiness to engage in the research. Nonetheless, assent alone was insufficient; informed consent had to also be obtained from the subject's parents or guardians. This was achieved by attaching their signature to a letter that accompanied the assent form. Informed consent indicated the intention to carry out the study in a manner that ensured participants comprehended the objectives of the research. Furthermore, the researcher notified participants that before distributing the questionnaires, an orientation would be held to outline the objectives and significance of the study's findings. This information was kept confidential to safeguard the privacy, dignity, well-being, and autonomy of all study participants. The survey questionnaires were expected to take around 25 minutes for the respondents to complete. Participation by the respondent was entirely voluntary; declining to participate would not incur any penalties or loss of benefits. Participants had the right to revoke their consent at any moment and discontinue their involvement without incurring any penalties. Participation in this research study did not indicate the waiver of any legal demands, freedoms, or remedies. Additionally, participants were entitled to inquire about the study.

Vulnerability of Research Participants. Without a doubt, because the respondents were freshmen and second-year students, they were extremely vulnerable. To overcome this vulnerability, respondents could refuse to participate without consequence. Additionally, participants might not have aligned with the conventional understanding of 'vulnerable'; however, they could have found themselves in a dependent relationship that might have led to feelings of coercion or pressure regarding their involvement. Therefore, it was essential to take extra precautions to guarantee that their involvement was truly voluntary.

The researcher conducting the study prioritized participant welfare throughout the research process and informed them of the limitations of privacy when obtaining consent, as well as determined whether the questionnaire would be distributed. Therefore, they had the exclusive right to either approve or deny a request to take part in the study.

Risks, Benefits and Safety. Since the data collection was conducted through direct contact, safety procedures were strictly adhered to. Throughout the data collection phase, participants had the opportunity to answer the survey questions when it was most convenient for them. Ensuring the safety and well-being of all participants was a primary concern for the researcher during the study. Additionally, steps were taken to ensure that the physical environment surrounding the participants was both safe and conducive to a positive experience. To support this, the cooperation of the participating schools was sought to provide a room that fostered effective engagement, equipped with suitable lighting, adequate ventilation, and sufficient space for participants during the survey. These measures helped minimize risks, ensuring that respondents could complete the survey questionnaire in settings that were both safe and comfortable for them. Moreover, the individual communicated to the participants that they would gain valuable insights from the study's findings, allowing them to evaluate their personality traits, school environment, and positive social behaviors.

Privacy and Confidentiality of Information The study ensured that the information provided by respondents remained confidential and was not disclosed to any external parties. To adhere to the Data Privacy Act of 2012 (Republic Act 10173), there was strict adherence to the right to privacy. The responses provided by participants were treated with utmost seriousness, and measures were implemented to ensure their privacy was safeguarded. Participation was worry-free for them. All information collected for this study that could identify respondents remained private, except when it was essential to ensure their rights or well-being. Provided participants consented to this section of the written agreement, their participation in the study remained private and was not disclosed to individuals outside the research context. The individual also designated the files containing their information in a way that was understandable only to them. When the findings were disseminated or discussed at academic conferences, no identifying information that could lead to participants' identification was utilized.

Justice. This study was solely my responsibility; no other individuals or organizations were obligated to assist with the costs incurred throughout the research process. The suitability of the respondents was of significant importance. Given that the study's respondents were college students from specific institutions, the researcher supplied any required materials for the in-person components of the survey. The research was conducted in a fair and equitable manner. The researcher ensured that all participants selected for the study were treated with fairness and equality. Furthermore, participation in the study was limited to students who had met the inclusion criteria and provided their consent.

Transparency. The research participants received information regarding the nature of the study through informed consent. The aims of the study were disclosed regarding the results of the information-sharing survey. The research methodologies were transparently communicated to potential volunteers. Moreover, researchers were required to reveal study results, and participants had the opportunity to re-consent. They communicated any newly gathered details and provided the chance to obtain a summary of the results at no charge.

Furthermore, should respondents have had any questions or sought additional information pertaining to the research, they were invited to reach out to or arrange a meeting with the researcher.

Adequacy of Facilities. The researcher was assured of the suitability of the facilities where he conducted his research. The library provided an internet portal, enabling customers to search for news articles on designated online news platforms. Moreover, the library had journals, theses, and dissertations that assisted in the study process. This was attainable due to the practical support offered by the researcher's educational institution to students. The platform offered opportunities for peer evaluation with a cadre of specialists.

Community Involvement. Physical education or physical activity for health and fitness instructors at the specified state universities and colleges in Region 12 was highly essential in the selection of respondents by facilitating communication with them. The ultimate objective of this study was to enhance community engagement, particularly in fitness activities. After concluding, the findings were shared with the participating schools as part of the research. The data were presented, highlighting their importance in addressing the school dropout crisis, especially regarding participation in physical activity. This promoted higher educational aspirations, increased motivation, and self-determination among students who engaged in physical exercise. It facilitated the fulfillment of the requirements for at-risk physical education students. The academic community and students united to engage in learning, collaboration, support, enhancement, co-creation, and contribution to the study's outcomes.

Results and Discussion

This section addressed the presentation, analysis, and interpretation of data in accordance with the order of the specific questions.

Level of Perceived Physical Literacy of the Respondents

Table 1 on the following page indicates as a whole level of perceived physical literacy among college students is 3.97. The description indicates a high level, suggesting that perceived literacy among college students is oftentimes manifested. Furthermore, the whole standard deviation is .23, showing that the participants' ratings are bunched together around the mean. This implies that students who demonstrate strong physical literacy tend to show confidence in their ability to engage in a wide array of physical activities, whether in sports, recreational activities, or daily routines

Table 1. *Level of Perceived Physical Literacy Among College Students*

	Mean	SD	Description
Sense of Self and Self-confidence			
1. being physically fit, in accordance with their age	4.08	.79	High
2. possessing self-management skills for fitness.	3.78	.74	High
3. possessing self-evaluation skills for health	3.75	.71	High
Category Mean	3.87	.63	High
Self-expression and Communication with Others			
1. having strong social skills.	3.73	.76	High
2. being confident in wild/natural survival	3.79	.84	High
3. being capable in handling problems and difficulties	3.79	.79	High
Category Mean	3.77	.58	High
Knowledge and Understanding			
1. having a positive attitude and interest in sports.	4.05	.94	High
2. appreciating themselves or others doing sports.	4.23	.84	Very High
3. being aware of the benefits of sports related to health	4.50	.67	Very High
Category Mean	4.26	.70	Very High
Overall Mean	3.97	.51	High

The results align with the 2014 conclusions of the International Physical Literacy Association (IPLA), which define physical literacy as the essential physical competence, knowledge, motivation, confidence, and understanding necessary for appreciating and assuming responsibility for continuous involvement in physical activities. Moreover, these findings are consistent with those of Sum et al. (2018),

Sense of self and self-confidence. The category mean is 3.87, described as high, with mean scores ranging from 3.75 to 4.08. The item possessing self-evaluation skills for health has a mean rating of 3.75, marked as high, while the item being physically fit in accordance with their age has a mean rating of 4.08.

This indicates that possessing self-evaluation skills for health and physical fitness allows students to confidently apply physical activity, assess their own abilities, set realistic goals, and track progress according to their age and capabilities. In terms of sense of self and self-confidence, these skills help students develop a positive self-image by understanding their strengths and areas for improvement, which boosts their confidence to engage in age-appropriate physical activities.

It means that students are able to critically assess their personal fitness levels, identify strengths and weaknesses, and make adjustments based on feedback. This outcome aligns with the findings of Shearer et al. (2021), which states that an individual's self-concept encompasses their self-perception, which includes their sense of self-worth, self-esteem, and self-image. It collaborate with study of (Fox et al.,2000). Self-assessment skills help individuals gauge their fitness progress, boosting self-confidence and encouraging

sustained engagement in physical activities

Self-expression and Communication with Others. It discloses that its categorical mean is 3.77, characterized as elevated, with average ratings of the elements ranging from 3.73 to 3.79. The item having strong social skills represents an average rating of 3.73, described as high, while the items being confident in wild/natural survival and being capable of handling problems and difficulties both show an equal mean rating of 3.79.

This indicates the ability to effectively communicate, collaborate, and build relationships within social and physical environments. This aligns with the study of Côté et al. (2017), which recognizes social competence as a factor that enhances engagement and adherence in physical activities. High social competence improves self-confidence and supports resilience, especially in group-based physical activities.

The item confident in wild/natural survival indicates the capacity to solve problems under challenging natural conditions, fostering resilience and confidence in facing environmental obstacles. This is in line with the study of Kellert et al. (2018), which highlights that resilience is crucial in wild settings where unpredictable factors require quick problem-solving. Engaging in survival training or outdoor education improves resilience, enabling individuals to face natural challenges confidently.

The item being capable of handling problems and difficulties also indicates the ability to analyze situations, think critically, and identify effective solutions when faced with challenges. This aligns with the study of D'Zurilla et al. (2015), which emphasizes that problem-solving skills are essential for dealing with challenges effectively, as they allow individuals to approach difficulties systematically and find solutions.

Knowledge and Understanding. It has achieved an impressive category mean rating of 4.26, with mean ratings ranging from 4.05 to 4.50. The item reflecting a positive attitude and interest in sports has a mean rating of 4.05, classified as high. The item "appreciating themselves or others doing sports" shows a mean rating of 4.23, interpreted as very high, while the item "being aware of the benefits of sports related to health" has a mean rating of 4.50, also interpreted as very high.

The level of perceived physical literacy of students in terms of knowledge and understanding, supports the development of physical competence through enhanced knowledge, skills, and understanding. It promotes comprehension of the social, emotional, and cognitive effects of physical activities, aligning with the research by Jordan et al. (2018).

The positive attitude and interest in sports indicate enthusiasm and motivation toward sports and physical activities, reflecting a strong interest in participation. This finding is consistent with the study by Ntoumanis et al. (2018), which highlights that a positive attitude toward sports is crucial for sustaining participation and enjoyment, particularly among students. Studies confirm that interest in sports is positively linked to ongoing engagement and overall physical well-being.

Appreciating themselves or others doing sports suggests a sense of valuing oneself and others in athletic settings and fostering a supportive, inclusive sports environment. This aligns with the study by Smith et al. (2016), which shows that appreciation for oneself and peers in sports enhances social cohesion and self-esteem, promoting continued involvement. Recognition and encouragement in sports contribute to positive self-perception and community.

Finally, being aware of the benefits of sports related to health reflects knowledge of the positive impacts of sports on physical health, including fitness, mental well-being, and chronic disease prevention. This finding aligns with the study by Ryan & Deci (2017), which found that health awareness is a significant motivator for sports participation. Individuals who understand the health benefits of sports are more likely to engage in regular physical activity, as health awareness encourages proactive behaviors toward fitness and wellness.

The Level of Exercise Adherence of the respondents

Table 2 presents the levels of the two factors considered to measure the exercise adherence of college students: adherence behavior and reasons for adherence/non-adherence behavior. The table shows an overall average of 3.54, interpreted as high, indicating that exercise adherence among college students is often evident. Furthermore, the overall standard deviation is 0.44, suggesting that the ratings given by respondents are closely grouped around the mean.

This indicates that students' adherence behavior involves consistency in attending exercise sessions and following a regular exercise routine. This finding aligns with the study by Teixeira et al. (2012), which shows that adherence behavior is strongly influenced by routines and self-regulation strategies that promote consistency in physical activity. Studies further demonstrate that structured exercise programs and goal-setting contribute positively to adherence among college students.

The reasons for adherence/non-adherence behavior reflect that students are motivated by factors such as personal enjoyment, health goals, and perceived barriers that impact regular exercise engagement. This aligns with the study by Rhodes et al. (2013), which found that reasons for adherence, including intrinsic motivation and health awareness, support long-term commitment to exercise, while common barriers include time constraints and lack of motivation.

Adherence Behavior. The average rating of the various items falls between 3.43 and 3.69, with an overall category mean of 3.56, which is considered high. The item doing exercise as recommended by their healthcare professional indicates a mean rating of 3.43 described

as high, while the item fitting their exercises into their regular routine shows a mean rating of 3.69.

Table 2. The Level of Exercise Adherence of College Students

	Mean	SD	Description
Adherence Behavior			
1. doing their exercises as often as recommended	3.59	.85	High
2. getting around to doing their exercises	3.56	.82	High
3. doing some, but not all, of their exercises	3.54	.77	High
4. doing exercise as recommended by their healthcare professional	3.43	.92	High
5. fitting their exercises into their regular routine	3.69	.83	High
6. remembering to do their exercises	3.58	.91	High
Category Mean	3.56	.60	High
Reasons for Adherence or Nonadherence Behavior			
1. adjusting the way they do their exercises to suit themselves	3.83	.83	High
2. being prevented by other commitments from doing their exercises	3.51	.86	High
3. feeling confident about doing their exercises.	3.89	.91	High
4. having time to do their exercises.	2.58	.95	Moderate
5. being sure how to do their exercises	2.30	.87	Low
6. doing their exercises when they are tired	3.47	1.05	High
7. doing their exercises because they enjoy them	4.06	.85	High
8. having been encouraged by their family and friends to do their exercises	3.41	1.17	High
9. having stopped in doing their exercises when their pain is worse.	3.59	1.10	High
10. doing their exercises to reduce their health problem.	4.09	.80	High
11. doing continually their exercises when their pain is better	3.89	.91	High
Category Mean	3.51	.43	High
Overall Mean	3.54	.44	High

It means that students doing exercise as recommended by their healthcare professional are in compliance with exercise guidance provided by healthcare professionals, indicating recognition of its health importance. This aligns with the study of Sallis et al. (2015), which states that following healthcare advice is a positive predictor of exercise adherence, especially when students understand the health benefits. Studies show that individuals who receive tailored exercise recommendations are more likely to adhere to routines for health maintenance.

"Fitting their exercises into their regular routine" indicates the ability to incorporate exercise into daily life, reflecting a commitment to maintaining physical activity as a regular habit. This aligns with the study by Reed et al. (2020), which highlights that routine integration is a key factor in sustaining exercise adherence. Research indicates that individuals who fit exercise into their daily schedules are more likely to continue long-term physical activity, fostering a stable exercise habit.

Reasons for Adherence/Nonadherence Behavior. It has garnered a high mean rating of 3.51, with ratings varying from 2.30 to 4.09. The item being not sure how to do my exercises has a mean rating of 2.30, which is categorized as low. Meanwhile, the item related to doing their exercises to reduce their health problems demonstrates a mean rating of 4.09, which is categorized as high. This indicates that students' adherence to exercise is strongly influenced by health benefits, with relatively few reporting uncertainty in how to perform exercises, thus supporting higher engagement in physical activity.

The item being not sure how to do my exercises indicates that most college students feel relatively confident in their knowledge of exercise techniques. This lower level of uncertainty aligns with research indicating that familiarity with exercise routines can improve adherence, as confidence in technique reduces anxiety and boosts motivation (Dishman et al., 2013).

The item doing their exercises to reduce their health problems indicate that many students view exercise as a valuable tool for managing or preventing health issues, which serves as a significant motivational factor. This aligns with the study by Rhodes et al. (2017), which found that health-driven motivations are powerful incentives for sustained exercise. Individuals are more likely to commit to regular physical activity when they recognize its benefits for improving or maintaining their health.

Significance of the Influence of Perceived Physical Literacy on Exercise Adherence

The multiple regression analysis produced the following findings. Individually, the sense of self and self-confidence show a p-value of 0.000, which is below the 0.05 significance level (two-tailed), along with a positive standardized beta value of 0.39. Research indicates that a strong sense of self and self-confidence are critical factors influencing commitment to exercise. For each unit increase in the value of sense of self and self-confidence, exercise adherence among college students increases by 0.39.

Additionally, self-expression and communication with others, when assessed individually, demonstrate a positive standardized beta value of 0.24 and a p-value of 0.001, which is below the 0.05 significance level (two-tailed).

This implies that self-expression and communication with others are significant predictors of exercise adherence levels. Specifically, for each unit increase in self-expression and communication with others, there is a corresponding increase of 0.24 in exercise adherence.

Table 3. *Significance of the Influence of Physical Literacy on Exercise Adherence*

<i>Singular Influence of the Perceived Physical Literacy Factors</i>	<i>Exercise Adherence</i>			
	<i>Standardized Coefficients</i>	<i>t</i>	<i>p-value</i>	<i>Remarks</i>
Sense of Self and Self-confidence	.39	4.91	.000	Significant
Self-expression and Communication with Others	.24	3.51	.001	Significant
Knowledge and Understanding	.23	3.00	.003	Significant
Combined Influence				
R	.70			
R ²	.49			
F	45.76			
p	.00			Significant

Based on these results, the sense of self and self-confidence exert the greatest influence ($\beta = 0.39$) on exercise adherence. In a similar manner, knowledge and understanding reveal a positive standardized beta value of 0.23 and a p-value of 0.003, also less than the 0.05 significance level (two-tailed). This indicates that knowledge and understanding are key predictors of exercise adherence among college students, leading to an increase of 0.23 in exercise adherence levels for each unit increase in knowledge and understanding.

Moreover, the cumulative effect of the perceived physical literacy factors on exercise adherence is significant ($F = 45.76$, $p < 0.05$). In this study, the model accounts for 49 percent of the variance in exercise adherence, as evidenced by an R^2 value of 0.49 based on the perceived literacy factors. This suggests that factors not included in the study explain the remaining 51 percent of the variance in exercise adherence.

The first factor influencing exercise adherence is the study on Sports Emotional Intelligence by Vallerand et al. (2016). Emotional intelligence in sports contexts has been shown to enhance exercise adherence by enabling individuals to better navigate the emotional challenges associated with physical activity. Higher emotional intelligence fosters resilience and helps manage stress during exercise, contributing to long-term commitment.

The second factor is Self-Efficacy, as explored in the study by Miller et al. (2019). Self-efficacy, or the belief in one's ability to succeed in specific tasks, is another critical factor. Studies have demonstrated that individuals with higher self-efficacy are more likely to persist with exercise routines because they believe in their ability to overcome challenges.

The cumulative effect of these factors, explaining 49 percent of the variance in exercise adherence ($R^2 = 0.49$), further supports Self-Determination Theory by illustrating the interplay between competence, autonomy, and relatedness in fostering sustained exercise commitment. Thus, the study's findings confirm that meeting basic psychological needs is crucial for motivating college students toward sustained exercise adherence.

Physical Literacy Intervention plan

Table 4. *Physical Literacy Intervention Plan*

<i>Objective</i>	<i>Intervention Activities</i>	<i>Implementation Steps</i>	<i>Exercise Adherence Support Program/Time Frame</i>	<i>Resources Needed</i>
Objective 1: Strengthen adherence to exercise routines through ongoing support and monitoring	1. Implement a goal-setting program where students set and track fitness goals.	1. Use fitness tracking apps where students can log activities and track progress.	Week 1-2: Orientation and goal setting Week 3-5: exercise Routine Implementation & Weekly Check-Ins	- Fitness tracking apps - Trained group leaders - Printed or digital goal-tracking materials
	2. Establish an accountability group system for peer support.	2. Create small accountability groups led by volunteer leaders for regular check-ins.	Week 6-8: Time Management and overcoming Barriers Workshops Week 9-11: Peer Motivation% Mid-Semester Reflections	
Objective 2: Address common barriers to exercise adherence, such as lack of time and support	1. Create a flexible exercise schedule with short "fit breaks" for busy students.	1. Collaborate with academic advisors to integrate "fit breaks" into students' routines.	Week 12-14: Group Fitness Challenges & Social support	- Space for sessions - Fitness experts or coaches - Scheduling software or tools
	2. Offer sessions on time management and overcoming common exercise barriers.	2. Conduct quarterly seminars on managing time for fitness with expert speakers.	Week 15-16: Final Reflection & future Commitment	- Printed materials on time management strategies

Based on the finding, an intervention is proposed as a potential solution, given the significant findings related to physical literacy outcomes. The proposed intervention is a continuous activity plan that can be structured to effectively promote physical literacy and improve adherence to exercise, ultimately supporting students' overall health and well-being. Improving students' Self-assurance, awareness, and comprehension of physical activity often leads to notable increases in exercise adherence among college students. This

finding aligns with the research conducted by Liu et al. (2024), indicating that improvements physical literacy can enhance informed health decision-making and foster long-term participation in physical activities.

This result aligns with the definition provided by the International Physical Literacy Association (IPLA, 2014), which describes physical literacy as the essential components of physical competence, knowledge, motivation, confidence, and understanding necessary for valuing and taking responsibility for ongoing engagement in physical activities. Additionally, it is consistent with the findings of Sum et al. (2018), which indicate that an individual's long-term health significantly relies on the improvement of physical literacy.

In conclusion, the findings of this research reinforce the theoretical framework established in this study, particularly the Self-Determination Theory, which highlights an individual's capacity for decision-making and self-governance, as articulated by Cherry et al. (2022) within an organismic dialectical framework. Ryan and Deci (2000) elucidate the influence of self-determination on motivation, asserting that persons are more motivated to act when they perceive their actions will affect the outcome. Likewise, the findings of this research confirm the relevance of these theories in understanding the factors of exercise adherence among college students.

Conclusions

The conclusions of this study are drawn from the findings discussed above.

The perceived level of physical literacy of the respondents is high, it means that this literacy is often manifested. This implies that students who demonstrate strong physical literacy tend to show confidence in their ability to engage in a wide array of physical activities, whether in sports, recreational activities, or daily routines.

In summary, the findings indicate a strong sense of self, self-confidence, social competence, and knowledge among students, fostering their engagement in physical activities. High self-evaluation skills and physical fitness contribute to students' ability to assess their fitness, set goals, and track progress, supporting a positive self-image and confidence. Socially, effective communication, problem-solving skills, and resilience are essential in handling challenges, enhancing social interaction and group participation. Additionally, a positive attitude toward sports and understanding its benefits reinforce motivation and sustained engagement in physical activity. Overall, these elements support students' comprehensive physical literacy, aligning with prior studies and underscoring the importance of self-perception, social skills, and health awareness for ongoing participation and personal growth in physical activities.

In conclusion, the findings indicate that exercise adherence among college students is generally high, with consistent participation in exercise routines. Students recognize the health benefits of exercise and effectively integrate it into their daily lives. Motivations, particularly health improvement, play a key role in sustaining adherence, while confidence in exercise techniques further supports engagement. These results align with previous studies on the importance of routines, health recommendations, and self-assurance in promoting exercise adherence.

In conclusion, the multiple regression analysis revealed that a sense of self and self-confidence, self-expression and communication, and knowledge and understanding are significant predictors of exercise adherence among college students, with self-confidence having the greatest impact. These factors explained 49 percent of the variance in exercise adherence, supporting the principles of Self-Determination Theory. Additionally, emotional intelligence and self-efficacy play key roles in helping students manage stress and overcome obstacles, further enhancing exercise adherence.

In conclusion, based on the objectives this intervention plan aims to strengthen adherence to exercise routines by implementing ongoing support and monitoring, addressing common barriers like Implement a goal-setting program where students set and track fitness goals, Establish an accountability group system for peer support, Create a flexible exercise schedule with short fit breaks for busy students and Offer sessions on time management and overcoming common exercise barriers.

The students can feel more motivated and equipped to sustain their exercise routines. Additionally, recognizing and mitigating common barriers allows for tailored solutions that fit into students lives, enhancing long-term adherence. This dual approach fosters a supportive environment that not only encourages initial engagement but also promotes consistency, ultimately helping students build a lasting commitment to their health and fitness goals.

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