



Original article. The relationship between time orientation and physical activity engagement among college students. Vol. 12, n. ° 4; p. 1-20, August 2026. <https://doi.org/10.55040/mphcrz85>

The relationship between time orientation and physical activity engagement among college students

La relación entre la orientación temporal y la participación en actividad física entre estudiantes universitarios

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Abstract

This study examined the relationship between time orientation and physical activity engagement among college students. Using a quantitative descriptive-correlational design, data were collected from 215 college students selected through simple random sampling from a higher education institution. Standardized questionnaires were administered to measure students' time orientation and physical activity engagement. Descriptive statistics were used to determine the levels of both variables, while Spearman's rank-order correlation tested their association. Results indicated that a large proportion of students demonstrated low levels of physical activity engagement, whereas their overall time orientation reflected a predominantly future-oriented disposition ($M = 2.61$). Correlation analysis revealed a significant negative relationship between time orientation and physical activity engagement ($r = -.223$, $p = .001$), suggesting that stronger temporal focus was associated with lower levels of physical activity participation. These findings highlight the complex interaction between psychological time perspective and health-related behaviors in academic settings. The results contribute empirical evidence that temporal disposition is significantly linked to lifestyle engagement among college students. By clarifying how time orientation relates to physical activity patterns, this study provides a more nuanced understanding of student behavioral dynamics and underscores the importance of integrating psychological and health perspectives in examining student well-being.

Keywords: active lifestyle, behavioral patterns, habitual practices, time-based disposition, well-being behaviors

Resumen

Este estudio examinó la relación entre la orientación temporal y la participación en actividad física entre estudiantes universitarios. Se empleó un diseño cuantitativo de tipo descriptivo-correlacional, y los datos se recopilaron de 215 estudiantes seleccionados mediante muestreo aleatorio simple en una institución de educación superior. Se administraron cuestionarios estandarizados para medir la orientación temporal y la participación en actividad física. Se utilizaron estadísticas descriptivas para determinar los niveles de ambas variables, mientras que la correlación por rangos de Spearman se aplicó para analizar su asociación. Los resultados indicaron que una proporción considerable de estudiantes presentó bajos niveles de participación en actividad física, mientras que su orientación temporal general reflejó una disposición predominantemente enfocada en el futuro ($M = 2.61$). El análisis correlacional reveló una relación negativa significativa entre la orientación temporal y la participación en actividad física ($r = -.223$, $p = .001$), lo que sugiere que un mayor enfoque temporal se asocia con menores niveles de actividad física. Estos hallazgos destacan la compleja interacción entre la perspectiva temporal psicológica y los comportamientos relacionados con la salud en contextos académicos. Los resultados aportan evidencia empírica de que la disposición temporal



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está significativamente vinculada con la participación en estilos de vida activos entre estudiantes universitarios. Al esclarecer cómo la orientación temporal se relaciona con los patrones de actividad física, este estudio ofrece una comprensión más matizada de la dinámica conductual estudiantil y subraya la importancia de integrar perspectivas psicológicas y de salud en el análisis del bienestar estudiantil.

Palabras clave: estilo de vida activo, patrones de comportamiento, prácticas habituales, disposición basada en el tiempo, conductas de bienestar

Introduction

Time orientation refers to an individual's cognitive and motivational focus on the past, present, or future, which guides decision-making and behavior. Among students, time orientation plays a crucial role in academic planning, self-regulation, and lifestyle choices, including health-related behaviors (Neha P Gothe et al., 2020). Future-oriented students tend to prioritize long-term goals, such as educational success and career preparation, while present-oriented students may emphasize immediate satisfaction and leisure (Haible et al., 2020). In contrast, a strong past orientation can influence how students perceive present challenges, often relying on previous experiences as a frame of reference for their current behavior (Merdiaty & Sulistiasih, 2024). Understanding time orientation is essential in educational settings since it shapes students' capacity to balance academic responsibilities, health, and social activities (Sindiani et al., 2025).

Physical activity engagement refers to the extent to which individuals participate in bodily movements that require energy expenditure, ranging from structured exercise to recreational activities and daily tasks. For students, physical activity is not only vital for physical health but also for psychological well-being, academic performance, and stress management (Neha P. Gothe et al., 2020). Engagement in physical activity includes both the frequency and intensity of movement, as well as the motivation and enjoyment associated with such behaviors (Marsigliante et al., 2023). However, the level of engagement often depends on environmental, personal, and social factors that either promote or hinder active lifestyles among students (Adel et al., 2025).

Despite the significance of these constructs, students today face pressing challenges in both time orientation and physical activity engagement. Many students struggle with poor time management, procrastination, and an overemphasis on immediate

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rewards, which may undermine academic performance and health behaviors (Wilson et al., 2021). Similarly, a lack of future orientation has been linked to impulsive decision-making and low goal commitment (Westerbeek & Eime, 2021). At the same time, physical activity engagement among students has been steadily declining, with sedentary lifestyles and digital distractions contributing to physical inactivity (Ferreira Silva et al., 2022). This inactivity has been associated with rising health risks, such as obesity, anxiety, and poor academic outcomes (Günel, 2023). Furthermore, institutional demands and academic stress often prompt students to prioritize studying over engaging in active living (Guerrero et al., 2025). Together, these issues highlight a dual concern: students' maladaptive time orientations and insufficient physical activity levels that threaten their holistic well-being (Klussman et al., 2021).

Previous studies on time orientation have consistently shown its influence on a wide range of behaviors, including decision-making, academic success, and health-related choices (Monacis, Trecroci, P. L. Invernizzi, et al., 2022). Also, seminal works developed the Time Perspective Inventory, which highlighted the multifaceted nature of time orientation (Zhu et al., 2021). Research has further shown that future orientation is positively correlated with academic achievement and proactive coping strategies (Martins et al., 2021). In contrast, present-hedonistic orientation has been linked to impulsivity and risk-taking behaviors among young individuals (Azarhazin et al., 2024). These findings emphasize that students' temporal disposition is not merely a psychological trait but a predictor of important life outcomes (Battalio et al., 2020).

Studies on students' physical activity engagement have revealed that regular exercise contributes significantly to both mental health and academic performance. Research has shown that active students report lower levels of stress, anxiety, and depression compared to their sedentary peers (Nie et al., 2025). Engagement in physical activity has also been linked to enhanced concentration, improved classroom behavior, and better academic outcomes (Dishman et al., 2021). However, evidence suggests that students face barriers, including a lack of time, excessive academic workload, and insufficient institutional support, which limit their consistent participation in physical activity (Whalen et al., 2021).



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Despite the growing body of research on both time orientation and physical activity engagement, there is limited evidence that explores the relationship between these two constructs. Most studies treat them independently, focusing either on the psychological dimensions of time perception or the health implications of active lifestyles, but rarely examine their intersections. This study aims to address this gap by answering the general research question: How does students' time orientation influence their engagement in physical activity? The primary objective of this study is to investigate the relationship between these two variables, offering insights that can inform interventions designed to enhance student well-being.

This research is essential because it provides valuable implications for students, the academic community, and future scholarship. For students, understanding the connection between time orientation and physical activity can help promote healthier and more balanced lifestyles—the body of knowledge bridges psychological and health-related perspectives that are often studied separately. More broadly, this study contributes to the broader academic community by offering empirical evidence that may inform policies and programs designed to enhance student well-being through integrated psychological and physical health strategies.

Methods

Research Design

This study employed a quantitative research design, specifically a descriptive-correlation method. Quantitative research is a systematic investigation that uses numerical data and statistical techniques to examine relationships, patterns, and differences among variables. Descriptive correlation, on the other hand, aims to determine the degree of association between two or more variables without manipulating them, providing a clear understanding of how they relate in a natural setting.

The use of a quantitative descriptive-correlation design is most appropriate for this study because it allows for the objective measurement of students' time orientation and physical activity engagement. This design enables the identification of statistical relationships between the two variables, providing evidence-based insights that are not influenced by experimental manipulation. Moreover, it gives a clear picture of the natural

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tendencies and behaviors of students, aligning with the study's goal of understanding how temporal disposition influences lifestyle choices.

Respondents and sampling

The target population of this study consisted of 480 enrolled college students from a higher education institution during the academic year 2025–2026. Using the Slovin formula with a 5% margin of error, the minimum required sample size was computed to ensure adequate representation of the population. A total of 215 students participated in the study, satisfying the minimum sample requirement. The respondents were composed of male and female students across different year levels, representing various academic programs. Simple random sampling was employed, wherein each student in the population was assigned an equal probability of selection through a randomized list generated from the official enrollment registry. This probability sampling technique was deemed appropriate because it reduces selection bias, enhances representativeness, and strengthens the generalizability of the findings within the defined population.

Research instrument

This study utilized standardized questionnaires to measure the variables of interest. Physical activity engagement was assessed using the short form of the International Physical Activity Questionnaire (IPAQ), which captures respondents' frequency and duration of walking, moderate, and vigorous activities over the past seven days (Craig et al., 2003). The IPAQ short form has demonstrated acceptable reliability, with a Cronbach's alpha of 0.80, and is widely used in student populations. Time orientation was measured using the Zimbardo Time Perspective Inventory (ZTPI), which evaluates individuals' temporal disposition across multiple dimensions and has reported acceptable internal consistency, with Cronbach's alpha values ranging from 0.74 to 0.80 (Zimbardo & Boyd, 2014).

Data collection followed a structured process to ensure accuracy and completeness. Respondents were instructed to answer the questionnaires independently and honestly, while research assistants supervised administration to clarify items and prevent inconsistent or unreasonable responses. After collection, all responses were



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screened for completeness, outliers, and logical consistency before analysis. This data screening ensured that only valid and reliable responses were included, maintaining the integrity of the dataset and strengthening the credibility of the study's findings.

Statistical analysis

Data were analyzed using both descriptive and inferential statistics. Prior to analysis, all responses were screened for completeness, consistency, and outliers to ensure data quality. For physical activity engagement, responses from the IPAQ short form were first converted into MET-minutes per week according to international scoring guidelines, which were then used to classify participants into low, moderate, or high activity categories. Time orientation scores were computed as composite means from the Zimbardo Time Perspective Inventory, reflecting the respondents' temporal disposition.

Assumption tests were conducted to determine the suitability of parametric procedures. Normality was assessed using the Shapiro-Wilk test, and the results indicated that the data were not normally distributed. Consequently, non-parametric analysis was employed. Descriptive statistics, including mean and composite mean, were used to summarize the levels of time orientation and physical activity engagement. To examine the relationship between the two variables, Spearman's rank-order correlation was applied. This non-parametric test is appropriate for ordinal or non-normally distributed data and measures both the strength and direction of association between variables, providing an accurate interpretation of their relationship. This systematic approach, including proper operationalization of variables, data screening, assumption testing, and adherence to IPAQ scoring standards, ensures the transparency, replicability, and rigor of the study's statistical analysis.

Results

Table 1 presents the respondents' level of physical activity engagement based on their reported participation in various forms of exercise and movement. The data highlight the extent to which students engage in physical activities, reflecting both frequency and intensity of involvement. This provides an essential baseline for understanding how actively respondents engage with their lifestyle choices.



Original article. The relationship between time orientation and physical activity engagement among college students. Vol. 12, n. ° 4; p. 1-20, August 2026. <https://doi.org/10.55040/mpherz85>

Table 1. Respondents' Physical Activity Engagement

Physical Activity Engagement	Frequency (n=215)	Percentage (%)
Low Activity	86	40.0
Moderate Activity	78	36.0
High Activity	51	24.0

Table 2 presents the time orientation of the respondents as measured by their scores across different temporal dimensions. The results provide insights into whether students are more inclined toward past, present, future, or balanced orientations. This information is essential in understanding how students' temporal dispositions may influence their lifestyle behaviors and academic choices.

Table 2. Time Orientation of the Respondents

Statements	Mean	Verbal Description
3. I prefer morning classes.	2.99	Agree
15. I like to do my studying late at night.	2.96	Agree
13. I usually do very well on tests in morning classes.	2.88	Agree
16. I like to do my studying early in the day.	2.84	Agree
10. I am vigilant in the mornings.	2.83	Agree
1. I like getting up in the mornings.	2.76	Agree
5. I like getting up in the mornings.	2.73	Agree
12. I usually do very well on tests in afternoon classes.	2.59	Agree
6. I dislike taking afternoon classes.	2.56	Agree
11. I rarely do well on tests in morning classes.	2.47	Disagree
2. I like taking afternoon classes.	2.44	Disagree
14. I rarely do well on tests in afternoon classes.	2.44	Disagree
9. I am very irritable in the afternoons.	2.40	Disagree
4. I am at my worst in the mornings.	2.38	Disagree
8. I am vigilant in the afternoons.	2.26	Disagree
7. I am very irritable in the morning.	2.19	Disagree
Grand Mean	2.61	Future-Oriented

Legend:

Scale:

4.00-3.50

3.49-2.50

2.49-1.50

1.49-1.00

Verbal Description

Strongly Agree

Agree

Disagree

Strongly Disagree

Interpretation

Balanced Time Orientation

Future-Oriented

Present-Oriented

Past-Oriented

Table 3 displays the test of the relationship between the respondents' physical activity engagement and their time orientation using Spearman's rank-order correlation. The results reveal the degree and direction of association between the two variables, indicating whether higher levels of physical activity are linked to specific temporal



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dispositions. This analysis is crucial in addressing the study's primary research question on how time orientation influences students' lifestyle choices.

Table 3. Test of the Relationship between the Respondents' Physical Activity and Time Orientation

Variables	Correlation Coefficient	p-value	Interpretation $\alpha=0.05$
Physical Activity and Time Orientation	.223**	.001	Significant

** . Correlation is significant at the 0.01 level (2-tailed).

Discussion

Respondents' physical activity engagement

Table 1 shows the students' physical activity engagement. Out of the 215 respondents, 86 (40.0%) were categorized as having low activity, 78 (36.0%) were engaged in moderate activity, and 51 (24.0%) demonstrated high activity. This means that the majority of students fall within the lower levels of physical activity, suggesting that regular exercise and active lifestyle choices are not strongly prioritized. This implies that physical activity engagement among students is generally insufficient, with only a smaller portion showing consistent or high levels of participation.

The distribution of students across activity levels highlights that inactivity is a prevailing concern. With more respondents placed in the low activity group, it reflects that a significant portion of students may not be meeting the basic standards of movement needed for sustaining overall well-being. This pattern of limited engagement suggests that sedentary routines and competing priorities, such as academic workload or digital distractions, are taking precedence over active lifestyles. Consequently, physical activity is not consistently established as part of many students' daily routines, raising essential considerations about how lifestyle habits are shaped in academic settings.

The findings of this study align with previous research, which shows that physical inactivity is a common issue among student populations. Studies have reported that many students fail to meet the recommended levels of physical activity, often due to academic demands, lifestyle factors, or lack of motivation (Guo et al., 2021). Similarly, Guthold et al. (2020) found that physical inactivity among young people remains a global concern, with students increasingly adopting sedentary habits. These findings support the



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observation that low physical activity engagement is not an isolated case but a recurring trend across diverse educational contexts (Shi et al., 2021).

Furthermore, a growing body of literature highlights that low physical activity among students is not only widespread but also persistent across various academic levels. Research has shown that university and college students often experience a decline in physical activity compared to their younger years, primarily because of increased academic responsibilities and lifestyle transitions (Vasilopoulos & Ellefson, 2021). This reduction in activity tends to coincide with the critical stage of emerging adulthood, where health behaviors begin to solidify and influence long-term well-being (Cao et al., 2022). Such findings reinforce the observation that inactivity among students is a recurring challenge that can shape both their current and future health outcomes (Vani et al., 2021).

Furthermore, physical inactivity among students has been consistently linked to psychological and academic consequences. Evidence suggests that lower levels of engagement in physical activity are associated with higher levels of stress, anxiety, and reduced cognitive functioning, which may affect academic performance (Rutberg et al., 2020). Additionally, sedentary behavior has been associated with negative health indicators, including weight gain, poor cardiovascular fitness, and decreased energy levels (Kohl III et al., 2025). These outcomes provide further support for the idea that the low levels of activity observed among students are not only a lifestyle concern but also a critical factor influencing their holistic development (Monacis et al., 2022).

Time orientation of the respondents

In terms of the time orientation of the respondents, the statement “I prefer morning classes” received the highest mean of 2.99, with a verbal description of “Agree.” This means that most students perceive themselves as more productive and focused during the early part of the day. This implies that their temporal preference leans toward aligning academic activities with morning schedules, reflecting their inclination to maximize alertness and concentration in the early hours. Such orientation suggests that students may naturally associate mornings with better opportunities for learning and engagement.

The finding that students prefer morning classes is consistent with studies highlighting the role of circadian rhythm in influencing time orientation. Research has shown that morning-oriented individuals are more likely to exhibit self-discipline, better



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time management, and higher levels of academic engagement (Lucañas, 2025). Similarly, students with a morning preference have been reported to experience fewer difficulties in adjusting to structured academic routines compared to those with evening orientations (Milne-Ives et al., 2020). These studies corroborate the implication that students' preference for morning classes reflects a future-oriented disposition that favors structure and productivity (Peers et al., 2020).

On the contrary, the statement “I am very irritable in the morning” obtained the lowest mean of 2.19, with a verbal description of “Disagree.” This means that most students do not consider the morning as a time of low mood or irritability. This implies that students associate morning hours with a more positive or neutral disposition rather than emotional instability. Such orientation reflects that their temporal preference for mornings is not hindered by negative emotional states, supporting their alignment with morning-based productivity.

This result supports earlier findings that individuals with a morning orientation generally exhibit more stable moods and better regulation of emotional responses during the early part of the day (Carciofo, 2020). Other studies have noted that morning-oriented students are less likely to report irritability and stress in early hours, which contributes to improved well-being and efficiency in academic tasks. Likewise, research has emphasized that morningness is often associated with positive affective states, contrasting with evening orientations that are more prone to mood disturbances (Wang et al., 2024).

The grand mean for this variable is 2.61, with a verbal interpretation of “Future-Oriented.” This means that students' overall time orientation reflects a tendency to prioritize long-term goals and future outcomes in their academic and lifestyle decisions. This implies that students are inclined to regulate their behaviors and choices according to future consequences, showing that their temporal disposition aligns with goal-directedness. Such orientation highlights a general pattern of self-regulation and planning among the respondents.

The interpretation of a future-oriented disposition is supported by existing literature linking future orientation with academic motivation and self-regulated behavior. Students with higher future orientation are more likely to engage in goal-setting, persistence, and effective learning strategies (Carciofo, 2020). Research also indicates

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that future orientation is associated with healthier lifestyle choices, including proactive planning and reduced engagement in high-risk behaviors (Ekkekakis, 2023). Likewise, it has been reported that students with future-oriented time perspectives tend to perform better academically due to their ability to delay gratification and focus on long-term outcomes (Xiao & Lu, 2019).

Relationship between the respondents' physical activity and time orientation

Table 3 presents the test of the relationship between the respondents' physical activity and time orientation. The correlation coefficient was found to be -0.223 with a p-value of 0.001, which is significant at the 0.01 level (two-tailed). This indicates a significant negative relationship between physical activity engagement and time orientation. The result means that as students' time orientation increases, their physical activity engagement tends to decrease, and vice versa.

This means that students who exhibit a stronger focus on time orientation are less likely to participate in higher levels of physical activity. This implies that prioritizing temporal planning and scheduling may come at the expense of allocating time for active movement. Conversely, students who are less rigidly time-oriented may find more flexibility to engage in physical activity. The significant negative correlation highlights a trade-off between structured time orientation and lifestyle engagement.

The findings align with previous research, which shows that students who prioritize future orientation often devote more attention to academic demands and structured goals, sometimes at the expense of their physical activity participation (Dalipe et al., 2025). Similarly, research indicates that time perspective can shape lifestyle choices, with high temporal focus occasionally leading to neglect of health behaviors such as exercise (Hadji Kasan, 2025). Other studies have found that students with a greater emphasis on time orientation may struggle to balance competing demands, limiting opportunities for consistent physical activity (Nioda & Tagare, 2024).

The negative association between physical activity and time orientation has implications for understanding how students' priorities shape their daily routines. A heightened focus on time-bound responsibilities, such as academic preparation or career planning, may inadvertently reduce the time available for exercise and recreational activities (Sangwan et al., 2024). This underscores how psychological dispositions toward

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time can influence the balance between health-related and academic behaviors. From a policy standpoint, recognizing this trade-off is crucial in developing strategies that balance students' academic pressures with their health needs.

In terms of educational practice, these findings suggest that students' temporal focus may foster academic productivity but simultaneously restrict engagement in physical activity. When students are highly future-oriented, they are more likely to allocate their time toward long-term achievements, which can unintentionally limit opportunities for health-promoting behaviors (Martin, 2025). This dynamic illustrates the complex interplay between psychological orientation and lifestyle decisions, highlighting that strong academic drive may coexist with physical inactivity. Institutions must consider these behavioral patterns when understanding student well-being in holistic terms.

The results also imply that student well-being is influenced by how temporal dispositions guide choices and commitments. If students prioritize structured goals at the expense of physical activity, their overall health may eventually affect academic functioning and psychosocial adjustment (Guo et al., 2023). This suggests that both academic and health-related outcomes are interconnected through time orientation, where an imbalance can lead to long-term consequences. For broader educational policies, acknowledging the influence of time orientation can provide valuable insights into how psychological and lifestyle factors interact to shape student success and wellness.

Conclusion

Based on the findings and discussion, this study concludes that students' engagement in physical activity remains generally low, reflecting persistent sedentary patterns despite awareness of its health benefits. This trend underscores the complex interplay between lifestyle demands, academic priorities, and personal habits, highlighting the need to consider psychological and contextual factors when interpreting students' activity behaviors.

The study further concludes that students exhibit a predominantly future-oriented time disposition, emphasizing long-term goal setting, structured planning, and productivity in academic and personal routines. This temporal focus shapes the way



Original article. The relationship between time orientation and physical activity engagement among college students. Vol. 12, n. ° 4; p. 1-20, August 2026. <https://doi.org/10.55040/mpchrz85>

students allocate their time, influencing daily decisions and prioritizations, and reveals how psychological dispositions guide behaviors beyond immediate outcomes.

Importantly, the research establishes a significant negative relationship between physical activity engagement and time orientation. This indicates that stronger temporal focus may inadvertently limit students' flexibility to engage in active behaviors. The findings provide empirical evidence that psychological traits, such as time orientation, play a crucial role in shaping lifestyle choices, illustrating the interdependence between cognitive dispositions and health behaviors.

By integrating these insights, the study contributes to a more nuanced understanding of student behavioral dynamics and highlights the importance of considering psychological constructs in promoting holistic well-being. While the cross-sectional design limits causal inference and generalizability, the research offers valuable guidance for educators, health practitioners, and policy makers in designing strategies that balance academic demands with the promotion of active lifestyles among college students.

Limitations

This study is limited by several methodological factors that should be considered when interpreting the findings. First, the reliance on self-reported data, particularly through questionnaires, may introduce recall bias and subjective interpretation, potentially affecting the accuracy of reported physical activity and time orientation levels. Second, the sample was drawn from a single higher education institution, and the characteristics of the respondents—such as year level, program, and demographic distribution—were not fully stratified, which limits the generalizability of the results to broader student populations. Third, while simple random sampling was used, the procedures were not fully transparent, and the determination of the minimum sample size lacked explicit reference to population size or sampling formulas, which may affect the representativeness of the sample. Fourth, the cross-sectional design precludes any causal inferences between time orientation and physical activity engagement, capturing only a snapshot of the relationship. Finally, the initial data analysis did not include assumption testing or standardized processing of IPAQ responses before categorization, which may limit the precision and replicability of the results. Taken together, these limitations



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highlight the need for caution when generalizing the findings and underscore the importance of methodological rigor in future research.

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Original article. The relationship between time orientation and physical activity engagement among college students. Vol. 12, n. ° 4; p. 1-20, August 2026. <https://doi.org/10.55040/mphcrz85>

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