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Physical Activity Towards Health and Fitness (PATHFit): Awareness and Theoretical Competencies of Maritime Students

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Abstract

This study examined the extent to which physical health awareness influences the Physical Activity Towards Health and Fitness (PATHFit) competencies of maritime students. Utilizing a quantitative research design, data were collected through a validated researcher-made survey questionnaire covering key aspects of physical health awareness, including nutrition, physical fitness, lifestyle habits, and health assessment tools, alongside PATHFit competencies such as understanding exercise principles, applying techniques, designing fitness programs, and maintaining a healthy lifestyle. Findings revealed that the extent of influence of physical health awareness on all PATHFit competencies was very weak, suggesting that knowledge alone may not sufficiently translate into practical application. Based on these results, the study emphasizes the need for structured interventions to bridge gaps between awareness and competency. Consequently, the Growth-Oriented Development for Optimal Youth (GODOY) Wellness Intervention was proposed, incorporating the Modified ADDIE model in terms of Analysis, Design, and Development phases to enhance students' knowledge, practical skills, and sustainable health behaviors. The intervention is grounded in the Expectancy-Value Theory, SelfDetermination Theory, and Social-Cognitive Theory, ensuring that it motivates, engages, and empowers students to actively apply health knowledge in both academic and maritime contexts.

1. INTRODUCTION

The maritime industry demands that personnel are physically capable of performing demanding, high-risk tasks in challenging environments. Seafaring exposes workers to extended working hours, harsh conditions, and substantial physical workloads that require sustained fitness and resilience. Yet physical health preparation is frequently underemphasized in maritime education, leading to limited awareness of health and fitness among students during their formative training. This gap can leave graduates underprepared to meet the physical demands of seafaring, elevating risks of fatigue, musculoskeletal strain, and other health-related issues. Consequently, the long-term health, safety, and performance capacity of future maritime professionals maybe compromised. In connection, theoretical competence in health- and fitness-related physical activity is essential for safety, operational efficiency, and well-being in the maritime sector, where seafarers routinely face physically demanding tasks. Regular participation in physical activity builds endurance, muscular strength, flexibility, and functional capacity— attributes that are critical for effective maritime operations and injury or fatigue prevention. Despite their importance, these competencies are often underdeveloped in maritime curricula, due to limited emphasis on physical health and insufficient opportunities for active engagement. This gap reflects a disconnect between theoretical knowledge and the habitual practice of fitness, leaving students less prepared to meet the physical demands of their future roles.

Recent research highlights ongoing challenges in physical health awareness across different populations, showing that many individuals still lack a comprehensive understanding of basic health principles despite efforts to promote nature-based outdoor activities, which can limit participation and negatively affect physical health outcomes (Coventry et al., 2021). Similarly, Johnson and Lee (2022) identified health literacy as a crucial factor influencing the adoption of healthy lifestyles, especially in high-risk environments such as the maritime industry. Also, Buja et al. (2020) found in a systematic review that higher levels of health literacy are generally associated with greater physical activity, suggesting that individuals with better health knowledge are more likely to engage in regular exercise and make informed health decisions. These studies underscore the importance of evaluating current levels of health and physical activity awareness to better understand barriers and promote healthier behaviors. Gaining deeper insights into these areas can support the development of more effective health education programs that bridge the gap between knowledge and practice.

Consecutively, readiness, resources, and institutional support shape the effectiveness of PATHFit initiatives. Evidence shows faculty and students exhibit moderate to high readiness, but training and resource gaps can limit impact (Hermosa, 2024; Pineda et al., 2024). Classroom management and structured routines enhance understanding of physical activity and sustained motivation (Olimpo & Reyes, 2024). Aligning PATHFit with policies and outcome-based frameworks strengthens awareness and participation in health-promoting activities (Malone, 2024; Aquino & Rivano, 2024). Emerging approaches such as digital tools and outdoor activities expand holistic engagement with fitness and lifelong wellness (Lumuljo & Cimene, 2025; Lee et al., 2024).

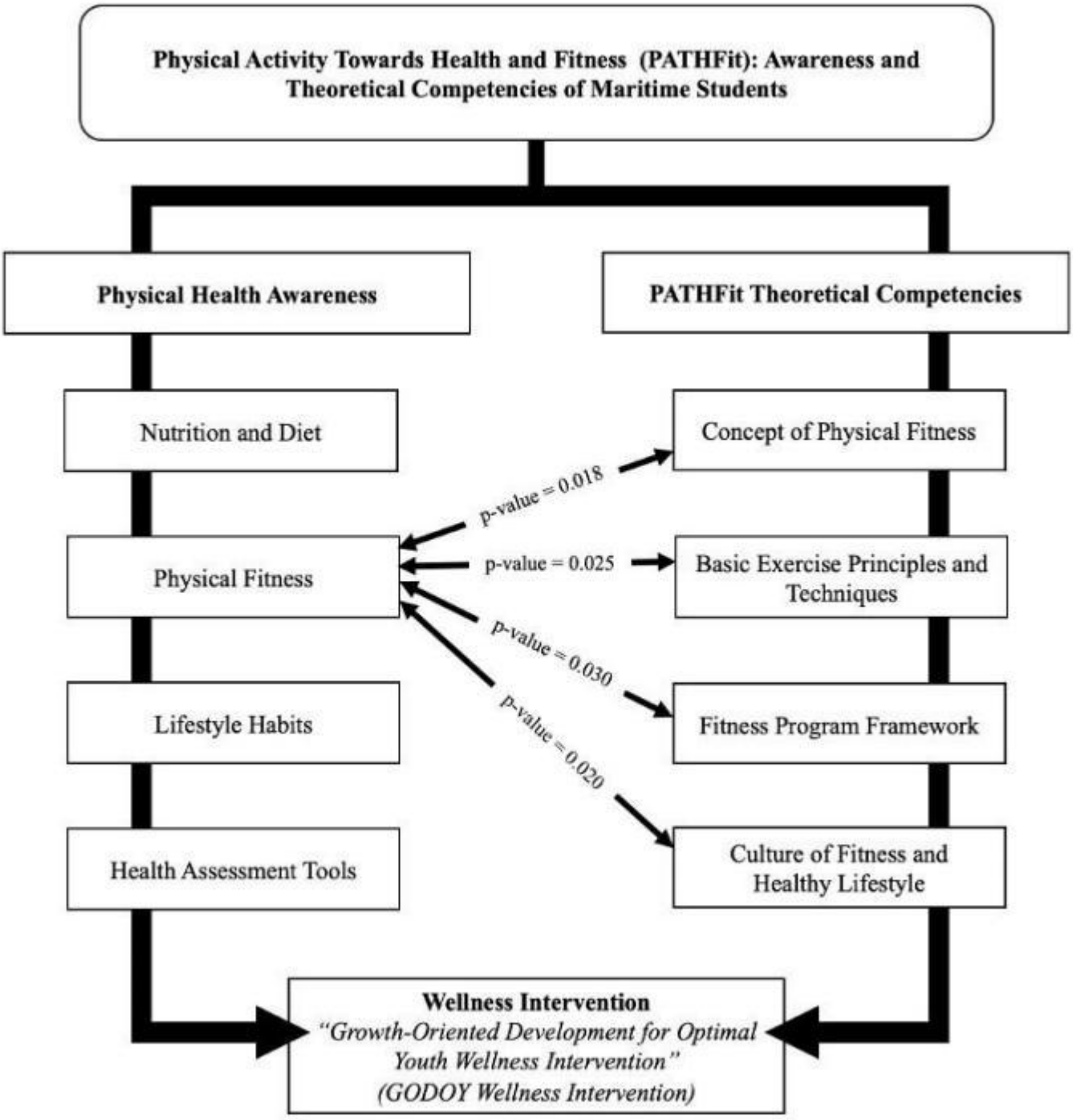
The PATHFit reviewed literature and studies highlights defined theoretical competencies—fitness principles, self-regulation, assessment literacy, safe exercise programming, and health literacy—as the

basis for skill development and lifelong healthy habits, supported by student centered pedagogy, practical application, and formative assessment (Catalan et al., 2024). However, studies reveal gaps in instructional quality and readiness, with inconsistencies in teaching performance and resource constraints that limit competency mastery and health outcomes (Dantes, 2024; Hermosa, 2024; Pineda et al., 2024). Additional concerns include integrating psychological factors such as self-efficacy into fitness education and strengthening alignment with national policies, outcome based frameworks, and innovative learning modalities (Catalan et al., 2024; Malone, 2024;

As a Physical Education instructor in a maritime learning institution, challenges in maritime physical education arise from students' limited awareness of physical health and fitness. Many maritime students lack understanding of the importance of a healthy lifestyle, reducing motivation for regular physical activity. PATHFit gaps in proper exercise techniques, fitness assessment, and health literacy hinder their development. These challenges are worsened by scarce resources and maritime-specific instructional materials. Addressing these issues is essential to boost readiness, well-being, and sustained engagement in physical activity.

Theoretical and Conceptual Framework

The conceptual framework of the study is anchored on physical health awareness as the independent variable, and the dependent variable is the Physical Activities Towards Health and Fitness (PATHFit) theoretical competencies, with an output focusing on a proposed wellness intervention for maritime students. Figure 2 presents the Conceptual Paradigm of the study as it illustrates the assumed significant relationship and influence of the independent variable on the dependent variable.



The independent variable of this study was physical health awareness, which encompassed key aspects such as nutrition and diet, physical fitness, lifestyle habits, and the use of health assessment tools. These elements collectively represented students' understanding and consciousness of the factors influencing their physical well-being. It was assumed that this level of awareness would directly influence the dependent variable, Physical Activities Towards Health and Fitness (PATHFit) theoretical competencies. Students with higher physical health awareness were expected to demonstrate a stronger grasp of fitness concepts, mastery of basic exercise principles and techniques, familiarity with fitness program

METHODOLOGY

This study aimed to examine the influence of physical health awareness on Physical Activity Towards Health and Fitness (PATHFit) theoretical competencies of maritime students. A structured research approach was employed, emphasizing the systematic collection and analysis of data regarding students ' awareness and competencies in physical health, physical activity, and overall fitness. This section therefore presents the research design, participants, instruments, data-gathering procedures, and methods of analysis to ensure the validity and reliability of the findings. Furthermore, the study provides a foundation for developing a wellness intervention designed to enhance both the physical health awareness and PATHFit competencies of maritime students, while offering evidence-based insights to support the promotion of sustained physical health and fitness.

RESULTS AND DISCUSSION

This section presents and interprets the study's findings on physical health awareness and physical activities toward health and fitness (PATHFit). The results come from systematically collected data using a validated survey questionnaire and a teachermade test. The discussion connects these findings to relevant theoretical frameworks and previous studies in health and physical education. Statistical analysis clarifies maritime students ' level of awareness and performance to support proposing a wellness intervention.

Level of Physical Health Awareness of Maritime Students

This study was conducted using a validated survey questionnaire to systematically evaluate the level of physical health awareness of maritime students across four key aspects: nutrition and diet, physical fitness, lifestyle habits, and health assessment tools. The survey questionnaire was a researcher-made and underwent content and statistical validation to ensure clarity, relevance, and alignment with the stated research objective. Each aspect of physical health awareness was measured using a 4-point Likert Scale, which allowed respondents to indicate the extent of their awareness in a structured and quantifiable manner. Data gathered through the survey provided a comprehensive profile of maritime students ' physical health awareness in each identified domain. This approach enabled the researchers to generate reliable and meaningful findings that addressed the objective of evaluating physical health awareness among maritime students.

The results demonstrate the relevance of Self-Determination Theory (SDT) in understanding maritime students ' lifestyle habits, emphasizing intrinsic motivation, autonomy, competence, and relatedness. Students ' engagement in personal hygiene, avoidance of unhealthy behaviors, and participation in regular physical activity reflect autonomous motivation driven by personal values. Their development of mindfulness, selfdiscipline, and time management indicates growing competence and confidence in maintaining healthy behaviors. Additionally, encouraging peers to adopt healthy practices highlights the importance of relatedness in fostering social support for collective motivation. Overall, the findings suggest that when students perceive autonomy, competence, and social connection, they are more likely to sustain health-promoting behaviors.

Table 2a

Level of Physical Health Awareness along Nutrition and Diet

Indicators	WM	Interpretation
It is important to eat a balanced diet to maintain good health.	3.77	VHA
Recognizing how physical fitness contributes to overall well-being is important.	3.63	VHA
Drinking sufficient water daily is important for staying hydrated.	3.60	VHA
Understanding how nutrition impacts physical fitness is valuable.	3.59	VHA
Awareness of the necessary food groups is essential for a nutritious diet.	3.54	VHA
Making conscious food choices supports physical health.	3.53	VHA
Following a regular eating schedule helps meet energy needs.	3.51	VHA
Including fruits and vegetables in daily meals supports good nutrition.	3.47	VHA
Not skipping meals is important for maintaining consistent energy levels.	3.45	VHA
Limiting the intake of foods high in sugar, salt, and fat is beneficial.	3.35	VHA
Average WM	3.54	Very Highly Aware

Note. WM refers to Weighted Mean; while the Interpretation values are based on the following ranges: 1.00 to 1.75 as Fairly Aware (FA); 1.76 to 2.50 as Moderately Aware (MA); 2.51 to 3.25 as Highly Aware (HA); 3.26 to 4.00 as Very Highly Aware (VHA).

Participation in school or community fitness programs is beneficial for maintaining fitness.	3.54	VHA
Regular participation in physical exercises helps maintain personal fitness.	3.51	VHA
Applying fitness principles learned from programs like PATHFit can be integrated into daily routines.	3.50	VHA
Monitoring fitness progress can be achieved through various physical tests or activities.	3.41	VHA
Average WM	3.56	Very Highly Aware

Note. WM refers to Weighted Mean; while the Interpretation values are based on the following ranges:

1.00 to 1.75 as Fairly Aware (FA); 1.76 to 2.50 as Moderately Aware (MA); 2.51 to 3.25 as Highly Aware (HA); 3.26 to 4.00 as Very Highly Aware (VHA).

The results show that students strongly recognize foundational aspects of physical fitness, such as stretching and cardiovascular endurance, likely because these are emphasized in both academic and practical maritime training due to their direct relevance to health and job performance. This awareness extends to appreciating fitness benefits for future careers, indicating an understanding of its long-term value. However, lower attention to monitoring fitness progress and applying fitness principles suggests gaps in exposure to structured assessment and practical integration. This may reflect limited opportunities for students to engage with formal fitness tracking or personalized application of concepts. Strengthening hands-on programs that emphasize progress monitoring and real-world application could improve comprehensive fitness awareness beyond basic knowledge and immediate practices.

Moreover, the students' acknowledgment of the relevance of physical fitness to their future maritime careers and the application of learned fitness principles in daily routines highlights their appreciation of practical and long-term benefits. Engagement in structured programs and monitoring progress further reinforces the perception that physical activity is both purposeful and measurable. The emphasis on preparatory activities, such as stretching and warm-up exercises, along with the understanding of cardiovascular endurance, muscular strength, and flexibility, reflects a well-developed awareness of practices that enhance physical performance and personal well-being. Altogether, the consistency in high ratings across indicators supports the conclusion that the students possess a comprehensive and informed understanding of physical fitness and its role in maintaining health and occupational readiness.

The reviewed studies support that maritime students' fitness awareness stems from regular, enjoyable activity that enhances physical literacy and adherence. In particular, Yan (2023) and Pan (2022) show that enjoyment and engagement boost consistent exercise, aligning with students' emphasis on regular workouts and stretching. Similarly, Dhuli (2022) and Mahindru (2023) connect activity to physical and mental well-being, echoing concerns with endurance and strength. Movement-skills research highlights the importance of flexibility, balance, and coordination, resonating with students' focus on improving these areas. These studies corroborate that ongoing practice, skill development, and program participation underpin health, performance, and career readiness in demanding maritime roles.

The findings on maritime students' awareness of nutrition and diet can be understood through both Self-Determination Theory (SDT) and Expectancy-Value Theory (EVT), highlighting complementary influences on their behaviors. From the SDT perspective, students' choices to follow balanced diets, stay hydrated, and include essential food groups reflect intrinsic motivation driven by autonomy, competence, and relatedness. EVT, on the other hand, explains that their awareness and actions are shaped by the perceived value of nutrition and the expected benefits, such as improved physical fitness and overall well-being. Together, these theories show that the students' engagement in healthy dietary practices is guided both by internal motivation and anticipated outcomes, demonstrating how SDT and EVT jointly inform practical understanding and application of nutrition.

Summary of the Level of Physical Health Awareness. Table 2e details that the aspects covered in the physical health awareness of maritime students were all interpreted as "Very Highly Aware." Among the assessed aspects, "Physical Fitness" emerged as the most recognized area, achieving an average weighted mean of 3.56, followed closely by "Nutrition and Diet" with 3.54. Then, the "Health Assessment Tools" was ranked third with 3.52, while "Lifestyle Habits" was placed fourth with 3.48. As a whole, the overall level across all aspects was 3.51, demonstrating that maritime students maintained a "Very

Highly Aware" level of physical health awareness.

Table 2c

Summary of the Level of Physical Health Awareness

Aspects	AWM	Interpretation	Rank
Health Assessment Tools	3.52	VHA 3	
Lifestyle Habits	3.48	VHA 4	
Nutrition and Diet	3.54	VHA 2	
Physical Fitness	3.56	VHA 1	
Overall	3.51	Very Highly Aware	

Note. AWM refers to Average Weighted Meanwhile the Interpretation values are based on the following ranges: 1.00 to 1.75 as Fairly Aware (FA); 1.76 to 2.50 as Moderately Aware (MA); 2.51 to 3.25 as Highly Aware (HA); 3.26 to 4.00 as Very Highly Aware (VHA).

Physical fitness stands out as the most prominent area of awareness, signaling a clear emphasis on readiness for maritime duties. Nutrition and diet closely follow, indicating solid recognition of dietary practices that support endurance and performance. Health assessment tools and lifestyle habits, while still strongly acknowledged, receive comparatively less emphasis, suggesting limited routine use of monitoring and inconsistent daily health behaviors. This emphasis likely results from training that prioritizes practical fitness and basic nutrition education but offers fewer opportunities for structured assessment and habit formation. Enhancing assessment training and integrating habitfocused activities into the curriculum would help translate strong conceptual awareness into sustained, routine practices.

Consequently, results and findings obtained suggests that maritime students prioritize physical fitness, indicating they view functional readiness as central to their training and future roles. Strong recognition of nutrition and diet implies awareness of the supportive role of dietary practices for endurance and performance. Relatively lower emphasis on health assessment tools and lifestyle habits points to limited translation of knowledge into routine monitoring and daily behaviors. These results infer that current training effectively communicatescore fitness and nutrition concepts but provides fewer opportunities for practical assessment and habit reinforcement. Thus, integrating regular health assessments and habit-focused interventions into the curriculum would likely convert high awareness into sustained, measurable practice.

The findings on maritime students' overall physical health awareness align closely with several recent studies emphasizing the multifaceted nature of health and well-being. Research by Kljajević et al. (2021) andYanet al. (2023) underscores the importance ofphysical activity and fitness in fostering overall health, paralleling the students' high recognition of "physical fitness" as a core aspect of their health awareness. Similarly, Zavitsanou and Drigas (2021) and Creswell et al. (2019) highlight how nutrition, mindfulness, and mental well-being are interconnected with physical health, supporting the students' strong awareness of "nutrition and diet" and "lifestyle habits." Moreover, Saadetal. (2019) emphasize the role of spirituality and holistic practices in promoting health, which complements the students' understanding of "health assessment tools" as part of maintaining well-being. Likewise, these studies reinforce the notion that maritime students demonstrate comprehensive awareness across multiple dimensions of physical health, reflecting an integrated understanding of how lifestyle, fitness, nutrition, and assessment practices contribute to overall wellness.

Moreover, the findings on maritime students' physical health awareness can be interpreted through the lens of Self-Determination Theory (SDT), which emphasizes intrinsic motivation and the fulfillment of basic psychological needs for autonomy, competence, and relatedness. The students' high engagement with "physical fitness" reflects a sense of competence and mastery over their own physical capabilities, while their awareness of "nutrition and diet" and "lifestyle habits" demonstrates autonomous

decisionmaking in managing their well-being. Similarly, attention to "health assessment tools" suggests an internal drive to monitor and regulate personal health, reinforcing self-directed behaviors. Further, SDT helps explain how students' intrinsic motivation and intentional choices contribute to their comprehensive awareness of physical health, fostering sustained engagement in health-promoting practices.

Level of Physical Activity Towards Health and Fitness Theoretical Competencies of Maritime Students

A teacher-made test consisting of 40 multiple-choice items was administered during the semifinal examinations to determine the level of Physical Activity Towards Health and Fitness (PATHFit) competencies of one hundred maritime students from five different sections, with twenty students in each section, at Mariners' Polytechnic Colleges Foundation – Canaman Campus during the School Year 2025–2026. All respondents were first-year students enrolled in the Bachelor of Science in Marine Transportation program. The test was designed to measure students' understanding of the core competencies derived from the simplified course outcomes of PATHFit, ensuring alignment with the objectives of the subject. Specifically, it covered basic exercise principles and techniques, the concept of physical fitness, the culture of fitness and a healthy lifestyle, and the fitness program framework. Each competency was proportionately represented to provide a comprehensive assessment of students' knowledge and understanding of physical activity and healthrelated concepts.

Table 3 presents the level of PATHFit competency of maritime students and all the competencies covered are interpreted as "Good." Among the assessed competencies, "basic exercise principles and techniques" ranked first, with a performance level of 84.70,followed by "concept of physical fitness," which obtained a performance level of 84.20. The competency "culture of fitness and healthy lifestyle" placed third, registering a performance level of 81.40, while "fitness program framework" ranked fourth with a performance level of 80.90. As a whole, the overall competency performance yielded a performance level of 82.80, which corresponds to a "Good" level of PATHFit competency among the maritime students.

Table 3

Maritime Students' Level of PATHFit Theoretical Competencies

Competencies	Items	M	SD	PL	Int	Rank
Concept of Physical Fitness	10	8.42	1.04	84.20	G	2
Basic Exercise Principles and Techniques	10	8.47	0.88	84.70	G	1
Fitness Program Framework	10	8.09	1.15	80.90	G	4
Culture of Fitness and Healthy Lifestyle	10	8.14	1.15	81.40	G	3
Overall	40	33.12	2.14	82.80	Good	

Note. M refers Mean, SD refers to Standard Deviation, PL refers to Performance Level in terms of their obtained competency, and Int refers to verbal Interpretation of the performance level. While the Int is based on the following: 96 to 100 is Excellent (E); (0 to 95 is Outstanding (O); 85 to 89 is Very Good (VG); 80 to 84 is Good (G); 70 to 79 is Fair (F); and 0 to 69 is Poor (P).

Concept of Physical Fitness. For the competency "concept of physical fitness", the mean score was 8.42 based on 10 items, with a standard deviation of 1.04. This performance level corresponded to 84.20, which was interpreted as "Good". Thus, among all assessed competencies, it ranked second. This competency reflects the students' foundational understanding of fitness-related principles commonly emphasized in PATHFit instruction.

This outcome maybe attributed to the theoretical clarity of the competency, which focuses on definitions, components, and benefits of physical fitness that are frequently reinforced through classroom discussions and learning materials. As a core concept, it is more easily internalized by students, particularly first-year maritime learners who are introduced early to the relevance of physical fitness in relation to personal health and professional readiness. However, its ranking suggests that while comprehension is evident, there remains room to deepen understanding through more contextualized applications and experiential learning activities. Integrating real-life scenarios, reflective tasks, and performance-based assessments may further enhance students' mastery of physical fitness concepts and strengthen their overall competency in this area.

The competency on the concept of physical fitness attained its interpretation due to a relatively high mean accompanied by limited score variability, reflecting that maritime students demonstrated a consistently sound understanding of fundamental fitness concepts. The small standard deviation suggests that learning outcomes across respondents were fairly uniform, implying effective and standardized instructional delivery within the PATHFit curriculum. Its performance level and placement as the second-ranked competency indicate that conceptual mastery was strongly developed, although it was slightly exceeded by competencies that prioritize applied skills and techniques. This ranking implies that students may have found practical, execution-based competencies more immediately accessible than purely theoretical constructs. The results support the conclusion that the concept of physical fitness constitutes a solid cognitive foundation for PATHFit learning, reinforcing students' readiness to engage in more advanced and application-oriented physical activity competencies.

The result for the competency on the concept of physical fitness aligns with prior evidence emphasizing the role of structured instruction and pedagogical coherence in strengthening students' foundational understanding of fitness principles, as articulated by Dantes (2024), where effective teaching practices were linked to improved conceptual mastery in PATHFit courses. Parallel findings were reported by Catalan et al. (2024) and Dimarucotetal. (2024), whose works similarly associated sound physical fitness concepts with students' capacity to translate knowledge into measurable fitness outcomes and sustained engagement in physical activity. This consonance suggests that the observed level of competency maybe attributed to curricular emphasis on theoretical grounding as a prerequisite for skill execution and program

adherence. However, the findings slightly diverge from Pineda et al. (2024), who underscored that readiness gaps among faculty and learners could constrain the depth of conceptual acquisition when implementation conditions are less optimal. In support of the present result, Dispo (2025) reinforced that a well-aligned PATHFit curriculum strengthens learners' comprehension of physical fitness concepts, thereby providing a stable base for enhanced physical performance and longterm fitness development.

The application of Social-Cognitive Theory by demonstrating how maritime students' knowledge acquisition was shaped through reciprocal interactions among personal cognition, learning environment, and observed behaviors. Initially, structured PATHFit lessons and guided discussions provided opportunities for observational learning, allowing students to model accurate fitness concepts presented by instructors and peers. Subsequently, repeated exposure to these concepts within an organized instructional setting strengthened self-efficacy, enabling students to internalize and articulate principles of physical fitness with greater confidence. Moreover, the consistency of responses suggests that environmental supports, such as standardized teaching strategies and reinforcement mechanisms, facilitated uniform cognitive processing across learners. Consequently, the competency outcomes illustrate how Social-Cognitive Theory operates in practice, wherein reinforced knowledge, perceived capability, and contextual learning experiences jointly contributed to students' established understanding of physical fitness concepts.

Basic Exercise Principles and Techniques. The "basic exercise principles and techniques" competency was assessed with ten items and was ranked first. Particularly, it yielded a mean of 8.47 and a standard deviation of 0.88. Its performance level was 84.70, with a corresponding interpretation of "Good". This competency emerged as the most developed area, reflecting the students foundational understanding of proper exercise execution, safety considerations, and movement efficiency.

Additionally, this level of competency may be attributed to the practical nature of PATHFit instruction, where students are frequently exposed to demonstrations, guided practice, and repetitive application of exercise techniques that reinforce learning through experience. As first-year maritime students, they are also likely to perceive these principles as directly relevant to physical readiness and performance demands associated with maritime training, thereby strengthening engagement and retention. To further enhance this competency, instructional strategies may emphasize increased application through varied exercise contexts, integration of performance feedback, and progressive skill challenges that promote deeper mastery. Such approaches can support sustained competence while encouraging students to apply exercise principles more confidently across different fitness and occupational settings.

The results suggest that maritime students demonstrated a strong understanding of basic exercise principles and techniques, reflecting a solid grasp of both theoretical concepts and practical application in physical activities. This competency likely achieved its favorable standing because students are able to effectively comprehend the correct execution, safety measures, and structured approach involved in various exercises, which are essential components in promoting physical fitness. Their familiarity with exercise mechanics and adherence to proper techniques may have contributed to their confident performance, indicating readiness to apply these principles in real-world fitness routines. Furthermore, this level of competency may be reinforced by consistent exposure to physical education activities and

In the same tone, this competency attained its rank due to students were acquainted to health-promoting behaviors such as regular physical activity, balanced routines, and lifestyle choices that support wellness, which are commonly reinforced through coursework and daily social contexts. As first-year maritime students, their exposure to health concepts through PATHFit and related subjects likely contributed to a sound understanding of fitness as part of everyday living, though this understanding may remain more conceptual than consistently practiced. Its position relative to other competencies suggests that while students recognize the importance of sustaining healthy habits, translating this awareness into long-term behavioral commitment and lifestyle integration presents greater challenges. To further strengthen this competency, more experiential and reflective learning strategies may be incorporated, such as lifestyle-based fitness projects, self-monitoring activities, and community or campus-wide wellness initiatives. These approaches can deepen personal engagement, encourage habit formation, and reinforce the integration of fitness and healthy living as enduring components of students' personal and professional lives.

The results suggest that the competency in culture of fitness and healthy lifestyle was recognized at a commendable level due to the students' consistent engagement with health-promoting behaviors and their appreciation for fitness as an integral part of daily life. This competency likely reflects the extent to which students internalize healthy habits, including regular physical activity, balanced nutrition, and proactive wellness practices, which collectively reinforce their commitment to a sustainable lifestyle. The observed standing can be attributed to both the students' exposure to fitness education and their personal motivation to maintain well-being within the maritime context, where physical readiness is essential. The interpretation underscores the students' awareness of the value of integrating fitness into routine practices and their inclination to adopt behaviors that support long-term health outcomes. Enhancing this competency further may involve structured interventions that promote not only knowledge but also habitual engagement and social reinforcement, thereby strengthening the students' capacity to consistently practice a healthy lifestyle.

Furthermore, findings in this competency reflects a strong integration of physical activity and well-being into daily routines, aligning with Arena and Hall's (2025) emphasis on community-driven health practices that support long-term wellness. Henning, Dreiskämper, and Tietjens (2022) further highlight that motivation and participation in physical activity are shaped by both actual and perceived fitness, linking confidence to lifestyle adherence. Likewise, Lemes et al. (2021) show that physical fitness mediates the influence of personal and social factors on cognitive performance, underscoring the importance of a supportive environment. These studies collectively echo the competency by demonstrating how social, environmental, and personal factors guide healthy behaviors.

Encouraging such a culture among students can strengthen their commitment to regular physical activity and overall wellness.

In connection, The culture of fitness and healthy lifestyle competency can be understood through the lens of Social-Cognitive Theory, which emphasizes the dynamic interaction among personal beliefs, observed behaviors, and environmental influences. Initially, maritime students' engagement in fitness-related practices reflects observational learning, as exposure to peers, instructors, and structured PATHFit activities likely modeled desirable health behaviors that were gradually internalized. Subsequently, the development of this competency suggests the presence of self-efficacy, wherein students gained confidence in their ability to adopt and sustain healthy lifestyle practices through repeated participation and social reinforcement. Moreover, environmental supports such as institutional fitness programs and shared norms within the maritime setting functioned as facilitators that reinforced positive behavioral expectations. Consequently, the alignment of individual cognition with social and environmental cues illustrates how SocialCognitive Theory operates in shaping a sustainable culture of fitness and healthy living among maritime students.

Overall PATHFit Competency Level. The overall mean score of the maritime students' PATHFit competencies across the 40 items is 33.12 with a standard deviation of 2.14. This corresponds to an overall performance level of 82.80, which is interpreted as Good. The competencies assessed include the concept of physical fitness, basic exercise principles and techniques, fitness program framework, and culture of fitness and healthy lifestyle. Further, the results summarize the students' overall competency in Physical

Activity Towards Health and Fitness (PATHFit).

The overall competency in Physical Activities Towards Health and Fitness (PATHFit) achieved a performance level classified as "Good," reflecting a solid grasp of the fundamental concepts, principles, and practices related to physical fitness and health among maritime students. This outcome suggests that students possess an adequate understanding and application of fitness knowledge, exercise techniques, program design, and the promotion of a healthy lifestyle. The strong engagement with each individual competency contributed to a cumulative level that demonstrates competency beyond basic awareness but still leaves room for refinement. To enhance this overall competency further, focused interventions such as structured practice sessions, personalized fitness planning, and reinforcement of healthy lifestyle habits could be implemented. Additionally, integrating more experiential learning opportunities and continuous feedback may strengthen students' practical application and deepen their comprehension. By fostering consistent engagement and reflective practice, the overall competency could advance toward an even higher level of mastery.

The findings suggest that maritime students demonstrate a strong proficiency in PATHFit competencies, reflecting a solid understanding and practical application across the different components of physical fitness, exercise principles, program design, and lifestyle practices. This level of competency can be attributed to their consistent exposure to both theoretical knowledge and practical activities, which have likely reinforced their skills and awareness in maintaining physical health. Additionally, the relatively balanced performance across all competency areas implies that students are not only knowledgeable about exercise techniques but also capable of integrating this knowledge into structured fitness programs and adopting healthy lifestyle habits. Such a result underscores the effectiveness of the current curriculum or training framework in promoting physical activity literacy and competence. To further enhance these

competencies, continued emphasis on applied exercises, program planning, and lifestyle education could provide students with deeper, more nuanced mastery of the skills needed for lifelong health and fitness.

The PATHFit competency of maritime students demonstrates strong understanding of physical fitness, exercise principles, and healthy lifestyle practices, aligning with research on structured physical education and fitness programs (Baena-Morales & González-Víllora, 2023; Ompoc & Aguinaldo, 2025). Studies in exercise physiology and physical culture emphasize that consistent engagement in well-designed fitness activities enhances both knowledge and practical skills, paralleling the students' performance (Kent & Hayes, 2021; Khalmirzaeva, 2023). Cross-cultural research on healthy lifestyles among young populations supports the connection between fitness knowledge and healthpromoting behaviors, reflecting the students' competency (Latorre-Román et al., 2022). Slightly lower scores in fitness program framework highlight opportunities for more applied or individualized program planning, as noted in AI-driven interventions for tertiary students (Ompoc & Aguinaldo, 2025). These findings collectively affirm that combining theoretical understanding with practical application strengthens physical fitness competencies.

The level of PATHFit competency can be explained through Expectancy-Value Theory, which suggests that students' engagement is influenced by their belief in their ability to succeed and the value they assign to the tasks. Maritime students' consistent performance across competencies reflects that they perceived physical education activities as both achievable and meaningful. Social-Cognitive Theory further explains this outcome through the interaction of personal beliefs, behaviors, and the learning environment, where modeling, feedback, and observation reinforced skill development. Repeated practice allowed students to convert observational learning into confidence and effective performance. Together, these theoretical principles account for the students' established competency level in PATHFit.

7. RECOMMENDATIONS

1. Curriculum should prioritize regular health assessments and habit reinforcement integrated into maritime training. Implement structured fitness and nutrition modules with practical components, including periodic assessments, goal setting, and feedback loops to monitor progress. Develop accessible support systems such as on-site health coaching, peer accountability groups, and habit-tracking tools to sustain practical health behaviors and translate knowledge into consistent practice.

2. Enhance the Fitness Program Framework by embedding a concise module with practical, micro-projects and simple assessment rubrics within existing courses. Implement periodic, lightweight assessments that require designing, implementing, and evaluating small training programs to boost applied proficiency. Provide targeted faculty development and minimal-resource tools to enable reliable evaluation and measurable improvement without a major curriculum overhaul.

3. Pilot test the proposed wellness intervention to further adjust the concept and activities to secure that it aligns with health-awareness activities specifically with the Concept of Physical Fitness

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