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Physical Activity Towards Health and Fitness (PATH Fit) Compentence and Mental Health of Studetns

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Abstract:

This study investigated the influence of Physical Activity Towards Health and Fitness (PATHFit) competence on the mental health of students at Mariners' Polytechnic Colleges Foundation of Canaman, Camarines Sur. PATHFit competence was examined in terms of cardio-vascular endurance, muscular strength, flexibility, and balance, while mental health was assessed through stress and anxiety, mood and emotional state, behavioral indicators, and academic impact. A descriptive-correlational design was employed, utilizing validated survey questionnaires and statistical analysis to determine the relationship and influence between the PATHFit competence and mental health of students. Results revealed that PATHFit competence demonstrated very weak negative influences on all mental health indicators, with coefficients of determination showing minimal explanatory power. This suggests that while physical fitness contributes to overall wellness, its direct effect on mental health outcomes is negligible. The findings highlight that psychosocial, emotional, and environmental factors play a more significant role in shaping students' mental health compared to physical competence alone. Based on these results, sports-based strategies were proposed to enhance both PATHFit competence and mental health, emphasizing holistic approaches that integrate physical activity with stress management, teamwork, and emotional regulation. The study concludes that although PATHFit competence has limited direct influence, structured sports programs can serve as a foundation for promoting student well-being when combined with broader psychosocial interventions.

1. Introduction

Physical Activity Towards Health and Fitness (PATHFit) is a required higher-education program in the Philippines that develops students' movement skills, physical fitness, and health literacy. It strengthens endurance, strength, flexibility, and coordination through structured modules and performance-based activities. These components help students cultivate lifelong physical-activity habits that promote holistic well-being. Applying fitness principles in daily routines, learners are encouraged to take an active role in maintaining their health. PATHFit competence reflects the students' ability to engage in purposeful physical movement that supports long-term wellness.

Student mental health refers to their emotional, psychological, and social well-being, which influences how they manage stress and make decisions. It is shaped by academic demands, peer interactions, lifestyle choices, and personal circumstances. When mental health is compromised, students may experience anxiety, depression, or a decline in academic performance. In contrast, strong mental well-

being enhances resilience, motivation, and learning effectiveness. Educational institutions therefore monitor mental-health trends to maintain a supportive and productive environment for students.

The connection between PATHFit and mental health lies in the established benefits of physical activity on psychological functioning. Regular movement has been shown to reduce stress, elevate mood, and improve cognitive performance among students. As PATHFit builds competence in essential fitness skills, it potentially contributes to healthier coping mechanisms and better emotional regulation. This makes the program a meaningful avenue for reinforcing mental well-being within academic settings. Understanding this relationship allows institutions to optimize all throughout PATHFit as both a physical and mental-health support strategy.

Globally, mental health challenges among students have become increasingly prevalent in educational settings, driven by a range of interrelated factors. Academic pressure remains one of the most significant contributors, as students face demanding workloads, high expectations, and competitive environments that often lead to stress and burnout. Social dynamics within school—such as bullying, peer rejection, and the pressure to conform—further exacerbate emotional strain. Additionally, the rise of digital technology and social media has introduced new stressors, including cyberbullying, comparison anxiety, and disrupted sleep patterns. These factors, compounded by personal issues and limited coping mechanisms, contribute to a growing mental health crisis in schools.

In the same tone, the 2030 Agenda for Sustainable Development Goals (SDG) by all United aims to ensure healthy lives and promote well-being for all at all ages is reflected in SDG 3, a principle that aligns closely with the objectives of this study. Likewise examining PATHFit competence of students and its relationship to mental health, contributes to SDG 3 to help reduce non-communicable diseases and strengthening mental health services. Parallel on the SDG 3, the integration of movement training and wellness education through PATHFit emphasizes preventive health measures, while the focus on mental health reflects commitment to universal access to quality health care including mental health promotion and support. In this way, the study reinforces the importance of holistic health in educational settings and highlights the school's role in advancing global health targets.

In the local setting, students in higher education institutions continue to face academic pressures, lifestyle adjustments, and the lingering impacts of the pandemic on social interaction and mental well-being. As coursework and online activities consume most of their time, physical activity is often neglected, resulting in sedentary behaviors and increased stress. These conditions highlight the growing need for structured interventions that encourage movement and support healthier routines. In this context, PATHFit becomes essential, as it not only develops physical competence but also strengthens students' psychological resilience and over-all well-being.

In this light, CHED Memorandum Order 39 series 2021 or Policies, Standards and Guidelines on the Implementation of Tertiary Physical Education: Physical Activity Towards Health and Fitness (PATHFit) courses emphasized that:

The Tertiary Physical Education Program builds on the K to 12 PE Curriculum by serving as the cornerstone of physical activity promotion efforts for health, wellness, and overall quality of life. As such, it will encompass opportunities for participation at all levels that range from fitness, play, and

recreation to competition. These learning experiences affirm the learners' adulthood and significantly shape their sense of identity.

In many local schools, there are challenges related to both physical education competence and students' mental health. A common issue is the lack of adequate resources and trained staff to effectively deliver quality physical education programs, which can lead to students not developing essential fitness skills or understanding the importance of an active lifestyle. Additionally, academic pressures and social stressors often contribute to heightened anxiety, depression, and low self-esteem among students, which can hinder their overall well-being and participation in physical activities. Schools may also lack comprehensive mental health support services, leaving students without proper guidance and assistance when facing emotional or psychological difficulties.

Physical education (PE) has been shown to enhance students' emotional well-being, motivation, enjoyment, and participation when programs are structured, competence-oriented, and responsive to learner needs, as demonstrated by studies emphasizing emotional benefits, increased readiness for lifelong activity, and improved satisfaction through well-designed curricular models (Rodríguez et al., 2015; Locke, 2019; Tutkun et al., 2017). At the same time, research also pointed to persistent issues in PE implementation, including declining relevance in secondary schools due to ineffective curricula and negative perceptions, as well as limitations in character-education–oriented programs that struggled with consistency and design quality. These contrasting findings differentiated educational levels, pedagogical approaches, and targeted outcomes, highlighting that PE's impact depended heavily on alignment between instructional quality, student satisfaction, and coherent curriculum design. The strongest developmental outcomes emerged when PE integrated competence development, positive student experiences, and clear instructional sequencing (Cho, 2019; Griban et al., 2020; Extremera & Gallegos, 2015)

The studies reveal convergences and divergences in the role of P.E., showing that structured programs support psychological, motivational, enjoyment-based, and character-forming benefits while also increasing actual physical-activity participation (Hermoso et al., 2020; Little & Sweller, 2015). Additional research strengthens this view by emphasizing adherence, fitness gains, and environmental barriers, while also calling for more longitudinal exploration, acknowledging systemic disparities, recognizing cultural limitations, and highlighting the potential of physically active lessons to improve school experiences despite challenges in maintaining long-term impact (D'Anna et al., 2019; Gil et al., 2022; Silva et al., 2023; Zimmo et al., 2017).

Physical education (PE) and physical activity (PA) have been shown to enhance students' physical competence, psychological well-being, and academic engagement, while low levels of moderate to vigorous activity among students, especially girls, highlight the need for culturally sensitive approaches (Bernstein, 2015). Student perceptions and instructional methods also shape engagement, as competitive structures can discourage participation, yet PE remains beneficial, particularly for overweight children, and innovative game-like methods foster improved fitness outcomes; beyond activity, classroom pedagogy, promotes motivation and holistic growth (Chen, 2020; Chang, 2019; Ho, 2023; Hidayatullah, 2022) Targeted fitness interventions such as stretching and Proprioceptive Neuromuscular Facilitation address flexibility and reaction time, with age-related declines underscoring the importance of age-

appropriate routines (Meyer, 2015; Botagariyev, 2016; Aydin & Ok, 2022; Ribble, 2020)

Aerobic and calisthenics exercises improve flexibility, endurance, and overall fitness, particularly among inactive, overweight, or obese students, with combined routines yielding superior outcomes and even molecular benefits for brain health and disease prevention (Agus, 2021; Parthanahalli & Hoovanna, 2019; Grinko, 2020; Sakinah, 2022). At the same time, innovative teaching strategies such as cooperative learning, collaborative instruction, and strengthened content knowledge enhance motivation, skill development, and holistic growth (Zach, 2023; Da Silva, 2020; Salters & Benson, 2022; Tsuda, 2024). Flexibility-focused interventions, including static, dynamic, and prolonged stretching, further support health and performance, though age-related declines remain a challenge (Robinson, 2016; Mayo Clinic Staff, 2023; Warneke, 2023). The findings affirm the need for inclusive, evidence-based PE programs that integrate physical training and pedagogy to foster competence, mental health, and long-term well-being, especially given rising concerns over depression, anxiety, and stress among students, with gender disparities and lifestyle factors shaping outcomes (Moutinho, 2017; Dalky & Gharaibeh, 2019; Spagert, 2022).

In contrast, several studies demonstrated the positive impact of physical activity on psychological well-being. Physically active students reported higher vigor, improved mood states, and better perceptions of overall health compared to their inactive peers (Gaia, 2022; Reigal, 2021; Legey, 2017). Moderate physical activity was also associated with reduced anxiety, although some findings suggest that contextual factors may create paradoxical links between activity and anxiety. Overall, these studies support the integration of physical activity into student wellness programs as both preventive and therapeutic interventions.

Other research underscores the multifactorial nature of student mental health, which is shaped by lifestyle habits, academic demands, and institutional support systems. Factors such as insufficient physical activity, unhealthy diet, and excessive screen time were found to contribute to sadness and suicidal ideation (Michael, 2020), whereas competence in physical education promoted optimism and resilience (Brown, 2018; Sutherland, 2018; Lattie, 2019). Collectively, these findings reinforce the consensus that physical activity acts as a protective factor against mental health decline. They further highlight the importance of addressing both behavioral and environmental influences when developing student-centered mental health strategies.

Across the reviewed studies, student mental health emerges as a multifactorial challenge shaped by intertwined systemic, structural, and individual-level forces. Predictive approaches using social network behavior demonstrate promise as early screening tools, underscoring how peer dynamics and digital interaction patterns can flag risk before crises escalate (Shi, 2022). Yet these innovations sit within broader institutional and socioeconomic contexts that intensify distress: financial strain and debt consistently correlate with poorer academic performance and adverse mental health outcomes, indicating that economic precarity is a powerful determinant of student well-being (Pisaniello, 2019). On campus, faculty are increasingly tasked with crisis management responsibilities (Hughes, 2018), often without adequate training or support, while first-year students—navigating transitions in identity, autonomy, and academic expectations—appear particularly vulnerable to stress and disengagement (Wyatt, 2017).

Compounding these pressures are stigma dynamics and variable social support, which modulate help-seeking and coping; where stigma is high and support is thin, students delay or avoid care, worsening trajectories, whereas supportive climates buffer stress and facilitate recovery (Hill, 2024; Slavin, 2016). Core academic drivers—workload, assessment pressure, and competitive cultures—reliably elevate stress (Thorley, 2017), and contemporary digital habits (e.g., heavy or dysregulated social media use, late-night screen time) are associated with poorer sleep and mood regulation (Cage, 2021). Even when needs are recognized, barriers to service utilization—including awareness gaps, logistical hurdles, perceived ineffectiveness, and fear of labeling—limit uptake (MacLean, 2016).

This study is significant as it examines the relationship between students' competence in Physical Activity Towards Health and Fitness (PATHFIT) and their mental health, offering valuable insights into two essential dimensions of holistic education. By understanding how physical activity skills and fitness engagement influence psychological well-being, the research provides meaningful implications for various stakeholders. For students, the study supports the development of empowering and health-promoting programs that enhance both fitness and emotional resilience. For teachers and physical education instructors, it offers evidence that can refine instructional practices and create more inclusive, student-centered learning environments. Fitness and health enthusiasts can draw from the findings to reinforce advocacy for active lifestyles that benefit both physical and mental health. The Sports Commission may also utilize the results to strengthen youth development initiatives, school-based wellness programs, and nationwide efforts promoting active, mentally healthy communities. For CHED, the study contributes to curriculum enhancement and policy development, particularly in refining PATHFIT standards aligned with national wellness and educational goals. Finally, the research adds to the existing body of knowledge, providing a foundation for other researchers to explore holistic health, physical education pedagogy, and mental health interventions, ultimately contributing to more resilient and health-conscious populations within schools and communities.

The rationale for conducting this study stems from the growing concern over student mental health issues in academic institutions, often exacerbated by academic stress, social pressures, and sedentary lifestyles. While schools have begun to address these challenges through counseling and wellness programs, the role of physical education— particularly PATHFit, remains underexplored as a proactive intervention. Investigating the interplay between PATHFit competence and mental health, this study aims to establish evidence-based connections that support the integration of movement-based learning into mental health promotion. It seeks to reinforce the school's role in fostering not just intellectual growth but also physical and emotional well-being.

2. Research Objective

This study determined the influence of Physical Activity Towards Health and Fitness (PATHFit) competence on the mental health state of students and used this as a basis in crafting sports-based strategies in Mariners' Polytechnic Colleges Foundation Inc. Specifically, it achieved the following objectives: to describe the level of PATHFit competence of the students in terms of cardio-vascular exercises, muscular strength exercises, flexibility, and balance; to assess the state of mental health of students along stress and anxiety, mood and emotional state, behavioral indicators, and academic impact; to ascertain the relationship between the level of PATHFit competence of the students and their mental health; to evaluate

the extent of influence of the level of PATHFit competence of the students on their mental health; and to develop sports-based strategies to enhance the student's PATHFit competence and mental health.

3. Methods

In this study, a descriptive-correlational research design, complemented by a Modified ADDIE Model, was employed to examine the relationship between students' PATHFit competence and their mental health. The descriptive-correlational approach was selected because it has been widely and successfully applied in educational research to identify associations between variables in natural settings. For instance, Saro, Apat, and Pareja (2023) used a descriptive-correlational design to evaluate teachers' motivation, research skills, and competence, demonstrating how this design can effectively measure relationships without manipulating variables, making it suitable for studies involving human behavior in real-life academic contexts. Similarly, the study by McBurney and White (2020), as referenced in broader methodological discussions on correlational design, supports its use in examining how variables interact in authentic environments, particularly when experimental manipulation is neither feasible nor ethical.

The descriptive design was utilized to determine the level of Physical Activity Towards Health and Fitness (PATHFit) competence of the students in terms of cardiovascular exercises, muscular strength exercises, flexibility, and balance. It was also used to assess the students' mental health across four domains: stress and anxiety, mood and emotional state, behavioral indicators, and academic impact. Additionally, the same method was applied in describing the proposed sports-based strategies aimed at enhancing students' PATHFit competence and mental health. the study by Dumlao and Padua (2019) described the physical fitness levels of senior high school students and their implications for curriculum enhancement. Second, the research conducted by Reyes and Santos (2020) assessed the mental health status of college students during the pandemic, providing a comprehensive profile of emotional and behavioral indicators.

The correlational method was employed to determine the significant relationship between the level of PATHFit competence and the mental health of the students. Furthermore, it was used to examine the extent to which PATHFit competence influenced the students' mental health. Data were collected through standardized instruments and were statistically analyzed to establish patterns, relationships, and levels of influence between the variables. The study by Mendoza and Cruz (2018) established a significant relationship between physical activity and academic performance among university students, highlighting the influence of physical competence on cognitive outcomes. Similarly, the research by Villanueva and Garcia (2021) examined the correlation between fitness levels and stress management skills, revealing that students with higher physical fitness exhibited better emotional regulation and lower anxiety levels.

The study used the Modified ADDIE Model by first analyzing students' needs in terms of physical competence and mental health, then designing sports-based strategies aligned with PATHFit objectives, developing structured activities that integrated movement skills and teamwork, implementing these strategies in actual class settings, and finally evaluating their effectiveness through feedback and performance outcomes, which allowed continuous refinement of the sports-based approaches.

4. Results and Discussion

This section presents and interprets the findings of the study examining the relationship between students' competence in Physical Activity Towards Health and Fitness (PATHFIT) and their mental health status. The results are analyzed in light of existing literature, theoretical frameworks, and the broader implications for student well- being and educational practice. The study aimed to explore how students' engagement in physical activities—measured through their PATHFIT competence—correlates with various dimensions of mental health, including stress levels, emotional resilience, self- esteem, and overall psychological well-being.

Level of Physical Activity Towards Health and Fitness (PATHFIT) Competence of the Students

The level of PATHFit competence of the students across four major fitness components: balance, cardio-vascular endurance, flexibility, and muscular strength. The table includes the mean, interpretation, standard deviation, and rank for each component. Through this presentation, the table identifies areas of strength and areas in need of improvement among the respondents. It serves as a basis for examining how students' physical competencies align with the objectives of the PATHFit program.

Table 1

Level of PATHFit Competence of the Students

Aspects	Mean	Interpretation	Standard Deviation	Rank
Balance	3.33	E	0.87	2
Cardio-Vascular	1.87	G	0.97	4
Flexibility	3.86	E	0.52	1
Muscular Strength	1.94	G	1.08	3
Overall	2.75	Good	2.75	

Note: This table presents the level of PATHFit competence of the students in every indicator and its interpretation as 3.26–4.00 Excellent (E), 2.51–3.25 Good (G), 1.76–2.50 Fair (F), and 1.00–1.75 Poor (P).

Balance obtained a mean of 3.33 with a standard deviation of 0.87 and ranked second, corresponding to an interpretation of "Excellent". Cardio-vascular endurance recorded a mean of 1.87, with a standard deviation of 0.97, ranking fourth and interpreted as "Fair". Flexibility received the highest mean of 3.86, with a standard deviation of 0.52, ranking first and interpreted as "Excellent". Muscular strength posted a mean of 1.94, a standard deviation of 1.08, ranking third and falling under the "Fair" interpretation. Overall, the level of PATHFit competence resulted in a mean of 2.75, which corresponds

to the interpretation “Good”.

These interpretations reflect the students’ current physical skill profile. The “Excellent” ratings in flexibility and balance indicate that students demonstrate strong control, coordination, and mobility skills—areas typically enhanced through regular stretching, functional movement tasks, and classroom-based motor activities. An “Excellent” interpretation generally means that the students consistently meet or exceed performance expectations in these aspects, showing ease of movement and proficiency in tasks that require stability and range of motion.

In contrast, the “Fair” interpretations in cardio-vascular endurance and muscular strength suggest areas where students fall below optimal fitness levels. A “Fair” rating implies that students show basic competency but lack consistency, stamina, or power in these areas. These components often require continuous conditioning, progressive overload, or structured training—elements that may not be fully integrated into students’ daily routines or available facilities. The wider standard deviation in muscular strength further indicates varied conditioning levels across students, reflecting differing habits, backgrounds, and fitness experiences.

Overall, these results imply that students possess strong foundational movement skills but may struggle with activities requiring sustained effort or physical force. Improving endurance and muscular strength therefore becomes essential, as these underpin overall fitness, injury prevention, energy regulation, and functional performance in academic and daily tasks. Strengthening these weaker aspects can also contribute to improved confidence, motivation, and readiness to participate in a wider range of physical activities. In summary, while students show high competence in flexibility and balance, targeted interventions are needed to enhance cardio-vascular and muscular strength capacities.

The patterns observed in the table mirror the tendencies reported in previous research. Studies such as those by Cho (2020) and Griban et al. (2020) similarly found that flexibility and balance develop more readily, aligning with the strong results in these areas. This parallel indicates that the current students’ performance reflects typical developmental trends where mobility-based skills excel due to their accessibility and lower physical demand. Meanwhile, the weaker results in endurance and strength align with findings from Tutkun et al. (2017) and Rodriguez et al. (2015), who observed that these components commonly lag without consistent and structured training. This similarity reinforces the idea that students’ lower scores in these areas are not isolated occurrences but reflect broader patterns across comparable populations. Furthermore, the observed variation in muscular strength is consistent with Garcia-Hermoso et al. (2016), who emphasized the need for intentional progression for improvements—mirroring the varied performance seen in the current data.

The results also relate closely to Behaviorist Learning Theory, which asserts that repeated practice and reinforcement lead to improved performance; the strong outcomes in flexibility and balance reflect consistent reinforcement of these skills. Social Constructivism helps explain the role of collaborative activities and peer interaction, which may support skill development in components that are easier to teach in group settings. Complex Learning Theory further clarifies the uneven competencies by emphasizing that fitness outcomes emerge from multiple interacting factors such as environment, experience, and feedback, aligning with the varied performance across components.

Level of Mental Health State of Students

This section presents the findings related to students' mental health, followed by an analysis of the data, its broader implications, and how the results align with or diverge from existing research. Presented in Tables 3a, 3b, 3c, 3d, and 3are the results of the study, interpretation of the data, and connection the findings to relevant studies.

Academic Impact. Table 3a presents the level of students' mental health status along their academic performance. Table 3a presents the level of students' mental health status along academic performance. The highest-rated academic concern was "feels overwhelmed by academic workload" with a weighted mean of 2.68, interpreted as "Good", and ranked 1st. This was followed by the indicator "notices a decline in academic performance related to emotional well-being", which obtained a weighted mean of 2.53, also interpreted as "Good", ranking 2nd. The lowest-rated indicator, ranking 7th, was "delaying or avoiding completing assignments or exams", with a weighted mean of 2.23, interpreted as "Fair". Another concern with a low rating was "frequent absences or missed academic activities", which recorded a weighted mean falling under the "Fair" interpretation and ranked 6th. Overall, the academic-impact dimension of mental health yielded an average weighted mean of 2.55, which corresponds to a "Good" interpretation.

The data suggests that students are experiencing a mix of emotional and cognitive challenges that affect their academic performance. The fact that feeling overwhelmed ranked highest implies that academic pressure is a significant stressor. Emotional well- being appears to have a direct impact on academic outcomes, as seen in the relatively high concern for performance decline. Meanwhile, behaviors like procrastination and absenteeism, though rated lower, still reflect underlying emotional difficulties. The distribution of ratings across indicators shows that while students are generally coping, there are notable areas where mental health is affecting their academic engagement.

The findings carry important implications for educational institutions and mental health practitioners. The overall rating indicates that students are managing their mental health to a functional degree, but this highlights areas needing attention. Institutions should consider implementing support systems such as counseling services, stress management workshops, and academic mentoring to address the specific challenges identified. With proactively responding to these indicators, schools can foster a healthier academic environment that promotes both emotional well-being and academic success.

Table 1a

Level of Student's Mental Health along Academic Impact goals. emotional well-being. activities.

Indicators	WM	Int	Rank
Struggles to concentrate or focus during study sessions.	2.47	F	4
Delays or avoids completing assignments or exams.	2.23	F	7
Feels overwhelmed by academic workload.	2.68	G	1
Experiences decreased motivation to pursue academic	2.50	F	3

Notices a decline in academic performance related to	2.53	G	2
Displays decreased participation or enthusiasm in academic	2.45	F	5
Experiences frequent absences or lateness related to	2.28	F	6
Average WM	2.55	Good	

Note: This table presents the level of students' mental health along academic impact in every indicator and its interpretation as 3.26–4.00 Excellent (E), 2.51–3.25 Good (G), 1.76–2.50 Fair (F), and 1.00–1.75 Poor (P).

The results patterns that both align with and diverge from the trends reported in earlier studies. The high rating for feeling overwhelmed by academic workload parallels the consistent observations reported by Gil et al. (2022), whose findings suggest that academic pressure commonly affects cognitive functioning in ways similar to the concentration-related issues reflected in the table. Likewise, the noted decline in academic performance connected to emotional well-being aligns with the tendencies described by Zimmo et al. (2017), who highlighted the strong link between emotional states and academic motivation—a pattern also evident in the reduced enthusiasm and participation seen in the current results. The moderate ratings for avoidance behaviors, such as delaying tasks, resemble the broader patterns indicated by Alharbi et al. (2018), whose work shows that elevated stress often reduces students' coping ability, though the impact may vary in degree, just as reflected in the lower-ranked indicators. Similarly, the findings correspond with the general direction identified by Pascoe et al. (2020), where emotional distress influences motivation and persistence—mirrored by the mid-range ratings in academic motivation-related items in the table.

Behavioral indicators. Table 3b illustrates the behavioral manifestations associated

with varying levels of students' mental health. The indicators presented reflect how psychological well-being influences everyday actions, social engagement, and coping strategies. These behaviors range from positive practices, such as engaging in regular self- care, to concerning patterns like withdrawal, avoidance of responsibilities, changes in sleep or appetite, substance use, and compulsive actions driven by stress or anxiety. Thus, the highest-rated behavior was engaging in self-care practices regularly, with a weighted mean of 3.05, indicating a positive coping strategy. This was followed by experiences changes in sleep or appetite patterns at 2.67 and engages in compulsive or repetitive behaviors as a way to manage anxiety or stress at 2.60, both also interpreted as "Good". On the other hand, the lowest-rated indicator used substances to cope with emotional distress, which scored 2.31 and was interpreted as "Fair". Other indicators such as avoids responsibilities, reduces participation in social activities, and shows signs of withdrawal were also rated "Fair", suggesting moderate behavioral challenges. The results on the level of students' mental health along behavioral indicators show an average weighted mean of 2.54, interpreted as "Good".

Note: This table presents the level of students' mental health in every indicator and its interpretation as 3.26–4.00 Excellent (E), 2.51–3.25 Good (G), 1.76–2.50 Fair (F), and 1.00–1.75 Poor (P).

The data reflects a mixed behavioral response among students dealing with mental health concerns. While some students maintain healthy habits like regular self-care, others exhibit signs of emotional distress through avoidance, withdrawal, and reduced social engagement. The presence of compulsive behaviors and changes in sleep or appetite patterns suggests that stress and anxiety manifest in both internal and external behaviors. The low rating for substance use may indicate that while emotional distress is present, students are less likely to resort to harmful coping mechanisms. The behavioral

Table 1b

Level of Student's Mental Health along Behavioral Indicators

Indicators	WM	Int	Rank
Reduces participation in social activities or interactions.	2.38	F	5
Avoids responsibilities or tasks due to emotional distress.	2.33	F	6
Engages in self-care practices regularly.	3.05	G	1
Shows signs of withdrawal or isolation from peers and family.	2.43	F	4
Experiences changes in sleep or appetite patterns.	2.67	G	2
Uses substances to cope with emotional distress.	2.31	F	7
Engages in compulsive or repetitive behaviors as way to manage anxiety or stress.	2.60	G	3
Average Weighted Mean	2.54	Good	

responses suggest a balance between adaptive and maladaptive strategies in managing mental health.

These findings imply that students are actively engaging in some positive behaviors to support their mental health, but there are still areas of concern that require attention. The prevalence of Fair ratings in indicators related to social withdrawal and avoidance of responsibilities highlights the need for interventions that promote emotional regulation and social connectedness. Schools and mental health professionals should consider programs that encourage peer interaction, responsibility-building, and stress management techniques. Strengthening these areas could help students develop more resilient behavioral patterns and reduce the negative impact of emotional distress on their daily functioning. In conclusion, while students show positive efforts to support their mental health, targeted interventions that foster emotional regulation, social connectedness, and responsibility-building are essential to strengthen

resilience and reduce the impact of distress on daily functioning.

The results show patterns that both align with and diverge from those reflected in earlier studies. The high rating for self-care in the table parallels the tendencies noted by Bernstein et al. (2015), whose findings similarly point to the centrality of maintaining personal routines in promoting well-being. At the same time, the Fair ratings in areas such as reduced social participation and avoidance of tasks closely mirror the behavioral patterns highlighted by Meyer et al. (2015), indicating that stress-related withdrawal remains a common manifestation among students. However, the low incidence of substance use in the table contrasts with findings from the same line of research that documented higher tendencies toward maladaptive coping. The results also reflect broader trends suggested by Alharbi et al. (2018), whose findings indicate that supportive environments reduce harmful coping behaviors—consistent with the low levels reported in this study. Similarly, the diminished participation and reduced motivation noted in some indicators parallel the patterns emphasized by Pascoe et al. (2020), where emotional distress impacts engagement. Overall, the table's pattern of high self-care, moderate avoidance.

These results collectively align with Complex Learning Theory, which posits that student behaviors emerge through the dynamic interaction of cognitive, emotional, social, and environmental factors. The varied ratings across indicators—ranging from stronger outcomes in self-care to weaker results in participation and task completion—illustrate how multiple domains influence behavior simultaneously. The consistency of adaptive behaviors such as self-care, alongside the presence of moderate maladaptive responses, reflects the theory's emphasis on learners' fluctuating regulation capacities shaped by both internal processes and external supports. Thus, the table reinforces the idea that students' mental health-related behaviors cannot be understood in isolation but must be viewed as interconnected responses within a broader learning and life context.

Mood and Emotional state. Table 3c presents the level of students' mental health as reflected in their mood and emotional state. The highest-rated was identifies moments of joy or contentment during the week, with a weighted mean of 3.07. This was followed by maintains a sense of emotional stability in daily activities at 2.98, and experiences feelings of guilt or worthlessness during emotional lows at 2.69. The lowest-rated indicator was noticing feelings of irritability or anger that persist beyond usual triggers, which scored 2.35 and was interpreted as Fair. Other indicators such as mood swings, sadness, and changes in sleep or appetite patterns received mixed ratings, ranging from Fair to Good. The results on the level of students' mental health along mood and emotional state show an average weighted mean of 2.64, interpreted as Good.

Table 1c

Level of Student's Mental Health along Mood and Emotional State

Indicators	WM	Int	Rank

Reflects on feelings of sadness or hopelessness over the past two weeks.	2.40	F	5
Expresses frequent mood swings or emotional fluctuations.	2.38	F	6
Notices feelings of irritability or anger that persist beyond usual triggers.	2.35	F	7
Identifies moments of joy or contentment during the week.	3.07	G	1
Maintains a sense of emotional stability in daily activities.	2.98	G	2
Reports changes in appetite or sleep patterns associated with mood fluctuations.	2.64	G	4
Experiences feelings of guilt or worthlessness during emotional lows.	2.69	G	3
Average Weighted Mean	2.64	Good	

Note: Note: This table presents the level of students' mental health in every indicator and its interpretation as 3.26–4.00 Excellent (E), 2.51–3.25 Good (G), 1.76–2.50 Fair (F), and 1.00–1.75 Poor (P)

The data reveals a nuanced emotional landscape among students. While many are able to recognize positive emotions and maintain a degree of emotional stability, there are still signs of distress such as irritability, sadness, and mood fluctuations. The presence of both adaptive and maladaptive emotional experiences suggests that students are navigating complex emotional states. The relatively higher ratings for joy and stability indicate that students are not entirely overwhelmed, but the lower scores for irritability and sadness point to underlying emotional challenges that may affect their overall well-being.

These findings imply that students possess emotional resilience but are also vulnerable to mood disturbances that could impact their academic and social functioning. The balance between positive and negative emotional indicators suggests that mental health support should not only focus on alleviating distress but also on reinforcing emotional strengths. Programs that promote emotional awareness, coping strategies, and peer support could help students manage their emotional states more effectively. Encouraging reflection, mindfulness, and open communication may further enhance their ability to maintain emotional balance. In conclusion, students show both resilience and vulnerability, underscoring the need for balanced mental health support that strengthens emotional strengths while addressing mood-related challenges.

The results in the table show several points of alignment and contrast with the patterns reflected in earlier studies. The presence of generally stable emotional indicators—such as moments of joy and manageable fluctuations—supports the tendencies noted by Botagariyev et al. (2016), as the table similarly reflects students' ability to maintain emotional balance despite academic pressures. Likewise, the lower ratings for irritability and sadness parallel the observations of Aydin and Ok (2022), who also noted that mood-related challenges tend to appear in milder forms among students rather than at severe levels. However, the overall pattern in the table contrasts with the more intense emotional instability reported in their findings, suggesting that the students in the present study may be benefiting from contextual factors

such as institutional support or healthier coping norms. This alignment is further reinforced by the trend consistent with Alharbi et al. (2018), where supportive environments correspond with reduced emotional strain—reflected here in comparatively lower ratings of distress. At the same time, the moderate indicators related to motivation and engagement parallel the broader tendency highlighted by Pascoe et al. (2020), where emotional challenges influence students' participation in academic and social activities.

Stress and Anxiety. Table 3d outlines the manifestations of students' mental health in relation to stress and anxiety. The highest-rated was manages feelings of stress effectively in challenging situations, with a weighted mean of 2.93.

Table 1d

Level of Student's Mental Health along Stress and Anxiety

Indicators	WM	Int	Rank
Experiences feeling overwhelmed by academic or personal pressures.	2.53	G	5
Notices physical symptoms such as headaches, fatigue, or rapid heartbeat related to stress.	2.31	F	7
Perceives difficulty in relaxing or calming down after stressful events.	2.44	F	6
Identifies situations that trigger feelings of anxiety or worry.	2.61	G	3
Manages feelings of stress effectively in challenging situations.	2.93	G	1
Seeks reassurance or validation from others when faced with uncertainties.	2.63	G	2
Uses maladaptive coping strategies such as procrastination or avoidance to manage stress.	2.56	G	4
Average Weighted Mean	2.57	Good	

Note: This table presents the level of students' mental health in every indicator and its interpretation as 3.26–4.00 Excellent (E), 2.51–3.25 Good (G), 1.76–2.50 Fair (F), and 1.00–1.75 Poor (P).

This was followed by seeks reassurance or validation from others when faced with uncertainties at 2.63, and identifies situations that trigger feelings of anxiety or worry at 2.61. The lowest-rated indicator was noticing physical symptoms such as headaches, fatigue, or rapid heartbeat related to stress, which scored

2.31 and was interpreted as “Fair”. Other indicators such as feeling overwhelmed, difficulty relaxing, and use of maladaptive coping strategies received mixed ratings, ranging from “Fair” to “Good”. The results on the level of students' mental health along stress and anxiety reveal an overall average weighted mean of 2.57, interpreted as “Good”.

The data suggests that students generally demonstrate a moderate ability to manage stress and anxiety, with some strengths in recognizing stressors and seeking support. The highest-rated indicators reflect positive coping mechanisms and awareness of emotional states, indicating that students are not entirely consumed by stress. However, the lower ratings for physical symptoms and difficulty relaxing suggest that stress still manifests in ways that may go unnoticed or unaddressed. The presence of maladaptive behaviors like procrastination also points to areas where students may struggle to apply effective coping strategies consistently.

These findings imply that while students are capable of managing stress to a certain extent, there is a need for more comprehensive support systems to help them cope with the physiological and behavioral effects of anxiety. The data highlights the importance of promoting both emotional and physical self-awareness, as well as teaching adaptive coping strategies. Institutions should consider implementing stress management programs, mindfulness training, and accessible counseling services to help students navigate academic and personal pressures more effectively. In conclusion, although students demonstrate some ability to manage stress, comprehensive support systems are essential to address the physiological and behavioral effects of anxiety and strengthen coping strategies.

The results in the table reflect patterns that show both alignment and contrast with the trends indicated in previous studies. The students’ ability to identify their stressors and seek reassurance aligns with the general tendencies highlighted by Ribble (2020), as the table also shows consistently “Good” ratings in indicators related to emotional awareness and help-seeking. Similarly, the lower ratings for physical symptoms and difficulty relaxing parallel the milder anxiety patterns described in the work of Chen (2020), suggesting that physiological manifestations of stress appear at manageable levels among the respondents. However, the overall “Good” interpretation in the table contrasts with the more critical tone reflected in Chen’s findings, indicating that the students in this context may be experiencing less severe emotional disruption—possibly due to stronger institutional or peer support. The presence of both adaptive responses (such as seeking support) and maladaptive tendencies (such as procrastination) also corresponds with the broader patterns noted by Beiter et al. (2016) and Sampson et al. (2018), who likewise observed that stress can influence motivation and coping in different ways depending on available supports.

These results reinforce Complex Learning Theory, which explains that learners’ emotional and behavioral responses arise from the dynamic interaction of cognitive, social, and environmental factors. The coexistence of strong adaptive strategies—such as recognizing stress and seeking reassurance—alongside less constructive behaviors like procrastination illustrates how multiple internal and external influences shape coping responses. The varied levels across the table's indicators demonstrate that no single factor determines students’ stress responses; rather, these behaviors emerge from interconnected systems involving self-regulation, peer relationships, academic demands, and contextual supports. This interplay aligns with the theory’s premise that learning and behavior development are nonlinear and

multidimensional, shaped by continuous feedback and interaction across different domains.

Based on the data presented in Table 3e, among the four indicators assessed, Mood and Emotional State received the highest average weighted mean of 2.64, ranking first. This was followed by Stress and Anxiety with an average weighted mean of 2.57 which is ranked 2nd, Academic Impact at 2.55 which is ranked 3rd, and Behavioral Indicators with the lowest average weighted mean of 2.54, placing it in the fourth rank. the overall level of students' mental health was interpreted as “Good”, with an overall average weighted mean of 2.55.

It can be analyzed that students generally maintain a stable and positive mental health status across various dimensions. The prominence of mood and emotional state indicates that students are relatively emotionally resilient and capable of managing their feelings effectively. The slightly lower scores in behavioral indicators and academic impact may reflect areas where mental health challenges subtly manifest, such as in classroom behavior or academic performance, though not to a critical degree. The consistency across all indicators reinforces the notion of a balanced mental health profile among the student population.

Table 1e

Level of Student's Mental Health

Indicators	AWM	Int	**Rank**
Academic impact	2.55	G	3
Behavioral indicators	2.54	G	4
Mood and Emotional State	2.64	G	1
Stress and Anxiety	2.57	G	2
Overall WM	2.58	Good	

Note: This table presents the level of students’ mental health in every indicator and its interpretation as 4.00 Excellent (E), 2.51–3.25 Good (G), 1.76–2.50 Fair (F), and 1.00–1.75 Poor (P).

These findings imply that while students are coping well overall, there is still room for targeted interventions, particularly in behavioral and academic domains. The data suggests that emotional well-being is a strength, which can be leveraged to support improvements in other areas. Educational institutions might consider implementing programs that reinforce positive behaviors and academic coping strategies, building on the existing emotional stability of students. Moreover, the relatively uniform scores highlight the importance of a holistic approach to mental health that addresses multiple facets simultaneously. In conclusion, although students demonstrate strong emotional well-being, targeted interventions in behavioral and academic domains are needed to ensure balanced development and reinforce overall mental health through a holistic approach.

The generally stable emotional ratings, particularly in mood and emotional state, are consistent with the tendencies noted by Chang (2019), whose findings similarly reflect the importance of emotional regulation as a contributor to well-being. Likewise, the solid emotional stability reflected in the table parallels the observations of Ho (2023), showing that students often maintain emotional control despite academic and social pressures. The slightly lower behavioral indicator rating (2.54) corresponds with the patterns described by Moutinho et al. (2017), who suggested that behavioral concerns tend to be less frequently acknowledged, which may explain their lower ranking relative to other indicators. On the other hand, the table's finding that academic-related stress influences both emotional and behavioral outcomes parallels the broader tendencies reported by Beiter et al. (2016), whose findings similarly reflect the interconnectedness of academic demands and students' coping capacity. Overall, the table's consistently "Good" ratings reflect a pattern of moderate but manageable concerns, aligning with many of the trends highlighted across these studies while also presenting slightly more positive outcomes than some reports, suggesting contextual strengths within the student environment.

The findings also support the principles of Social Constructivism Theory, which emphasizes that learning, behavior, and well-being develop through interaction, shared experiences, and social environments. The consistently "Good" ratings across all indicators in Table 3e suggest that students' emotional balance, academic functioning, and behavioral responses are shaped not only by personal regulation but also by the support systems and social contexts surrounding them. The presence of stable emotional states and effective stress management reflects the role of peer interactions, institutional support, and collaborative experiences in fostering resilience. At the same time, the slightly lower behavioral rating illustrates how individual differences and environmental pressures interact to influence coping patterns. Together, the results show that student mental health emerges from the dynamic interplay of social relationships, academic demands, and shared learning experiences—exactly as outlined in Social Constructivist principles.

Relationship between students' PATHFit Competence and Mental Health

Table 2 presents the correlation between students' PATHFit competence and their mental health. This table highlights the statistical relationship between the level of fitness competence developed through PATHFit and indicators of psychological well-being. Examining the correlation values, it becomes possible to determine whether higher PATHfit competence is associated with better mental health outcomes, such as reduced stress, improved emotional balance, and greater resilience. The findings in this table provide important evidence for understanding how physical fitness education contributes not only to students' physical development but also to their overall mental wellness.

The results in Table 2 show that among all PATHFit components, balance paired with mood and emotional state was the only pairing that demonstrated a significant relationship. This pairing showed a correlation coefficient of -0.197 with a probability

Table 2

Correlation between the Students' PATHfit Competence and Mental Health

PATHfit Competence	Mental Health	r-value	Int	p-value	Int
Cardio-Vascular	Academic Impact	0.051	L	0.579	N/A
	Behavioral Indicators	0.055	L	0.553	N/A
	Mood and Emotional State	0.051	L	0.58	N/A
	Stress and Anxiety	0.069	L	0.454	N/A
Muscular Strength	Academic Impact	-0.023	L	0.805	N/A
	Behavioral Indicators	-0.075	L	0.417	N/A
	Mood and Emotional State	-0.117	L	0.202	N/A
	Stress and Anxiety	-0.044	L	0.631	N/A
Flexibility	Academic Impact	0.139	L	0.131	N/A
	Behavioral Indicators	0.166	L	0.071	N/A
	Mood and Emotional State	0.026	L	0.778	N/A

	Stress and Anxiety	0.004	L	0.966	N/A
Balance	Academic Impact	-0.144	L	0.116	N/A
	Behavioral Indicators	-0.076	L	0.412	N/A
	Mood and Emotional State	-0.197*	M	0.031	S
	Stress and Anxiety	-0.106	L	0.247	N/A
Overall PATHFit Competence	Overall Mental Health	-0.085	Very Low	0.194	N/A

Note: This table presents the correlation between the students' PATHFit competence and mental health, with significance levels denoted as $p < .05$ (*), $p < .01$ (), and $p < .001$ (*). Correlation values are interpreted as follows: .90 to 1.00 (or -.90 to -1.00) Very High, .70 to .90 (or -.70 to -.90) High, .50 to .70 (or -.50 to -.70) Moderate, .30 to .50 (or -.30 to -.50) Low, and .00 to .30 (or -.00 to -.30) Negligible.

value of 0.031, indicating a negligible but statistically significant association. This means that even small changes in balance performance were linked to variations in students' emotional states. Among the non-significant results, the highest non-significant pairing was flexibility paired with behavioral indicators, which recorded a correlation coefficient of 0.166 with a probability value of 0.071. Although this was the strongest among the non-significant associations, the relationship still did not reach the threshold for significance, showing that flexibility did not meaningfully relate to students' behavioral patterns. The lowest non-significant pairing was balance paired with stress and anxiety, which showed a correlation coefficient of -0.106 with a probability value of 0.247. This reflected the weakest association among all non-significant relationships, indicating that balance had virtually no connection to levels of stress or anxiety.

The results indicate that balance paired with mood and emotional state was the only variable combination that demonstrated a significant relationship. This pairing reflected a negligible negative correlation, yet its significance suggests that even slight shifts in balance ability may be associated with variations in students' emotional functioning. In contrast, the non-significant pairings reveal a broader trend in which most aspects of PATHFit competence show no meaningful connection to mental health indicators. The highest non-significant value was observed in the pairing of flexibility and behavioral indicators, which suggests a mild tendency but ultimately does not reach a level that demonstrates meaningful linkage. Meanwhile, the lowest non-significant value appeared in the pairing of balance with

stress and anxiety, showing virtually no association. The results show that while students' physical competence varies, only balance shows any measurable connection to a dimension of mental health, and even that relationship remains minimal.

It can be inferred that balance carries a modest but noteworthy influence on students' emotional states, suggesting that activities requiring controlled movement and stability may provide subtle emotional regulation benefits. The absence of significant relationships across the remaining fitness components implies that cardiovascular endurance, muscular strength, and flexibility do not independently shape mental health outcomes in this group. The contrast between the strongest and weakest non-significant relationships further suggests that while some physical skills may appear loosely associated with behavioral or emotional tendencies, these links are not strong enough to be considered meaningful. The study concludes that improvements in physical fitness do not uniformly contribute to mental health enhancement, with balance emerging as the only component showing a statistically relevant connection. This highlights the importance of targeted, evidence-based interventions rather than assuming all fitness dimensions equally influence psychological well-being.

The weak associations in the table parallel the findings of Yu et al. (2024) and Donnelly et al. (2024), who also reported weak or inconsistent links between cardio-vascular fitness and reductions in stress, reflecting the same lack of meaningful connection observed in the present results. Likewise, the non-significant relationship between muscular strength and mental health is consistent with Zhang et al. (2022), whose work indicated that strength-related mental health benefits only emerge when training is sustained and intensive—conditions not evident among the students reflected in the table. The absence of significant correlations involving flexibility aligns with the conclusions of Mursalzade et al. (2025), who emphasized that flexibility alone does not strongly predict psychological resilience or emotional stability. Furthermore, the table's overall pattern of negligible relationships supports Abrogar (2024), who found that the mental health benefits of physical fitness are moderated by contextual factors such as stress levels and environmental pressures, explaining why improvements in fitness scores do not automatically correspond to improved mental well-being.

The pattern presented in Table 3e also aligns with the principles of Social Constructivism Theory, which emphasizes that learning, behavior, and well-being are shaped through social interaction, shared experiences, and environmental context rather than through individual attributes alone. The negligible correlations across the fitness variables indicate that mental health outcomes cannot be attributed solely to physical competence, but instead emerge from the dynamic interaction of peer relationships, classroom environments, institutional support, and lived experiences. The students' generally stable mental health indicators despite varying fitness levels illustrate that emotional and behavioral well-being are co-constructed through ongoing social engagement rather than determined by physical ability. This supports the theory's position that holistic wellness requires socially grounded structures, and it highlights the need for fitness programs that integrate collaboration, connection, and meaningful support rather than emphasizing physical performance in isolation.

Influence of Students' PATHFit Competence their Mental Health

This presents the extent of influence of students' PATHFit competence on their overall mental health. The table highlights the correlation between the two variables, showing whether physical fitness competence contributes meaningfully to psychological well-being. Examining the strength and significance of the relationship, the table provides a clear statistical basis for understanding how PATHFit competence interacts with mental health outcomes.

Focusing solely on the pairing of balance with mood and emotional state, the analysis shows a statistically significant inverse association, with a correlation coefficient of -0.197 and a probability value of 0.031, indicating a negligible yet meaningful relationship in statistical terms. Practically, this suggests that small variations in balance performance co-occur with small, opposite-direction shifts in emotional functioning, consistent with the idea that tasks demanding postural control, proprioceptive accuracy, and sustained attentional focus can engage regulatory processes relevant to emotion. Although the effect size is very weak, the presence of significance warrants cautious instructional attention: balance-oriented activities such as graded single-leg stance progressions, dynamic stability drills, or mindfulness-infused balance sequences could be integrated and monitored as low-burden options to support emotional regulation within PATHFIT. Future iterations should track changes in balance alongside validated mood indicators over repeated sessions to verify durability, rule out confounds, and determine whether targeted balance training yields incremental benefits for students' emotional stability.

The analysis of these findings suggests that while PATHFit competence does exert influence on mental health, the magnitude of these effects is minimal. Positive influences, such as those from cardio-vascular fitness and flexibility, indicate that certain physical abilities may contribute slightly to better academic performance and behavioral outcomes. Conversely, the negative influences observed in muscular strength, balance, and overall competence imply that these aspects may be linked to challenges in emotional regulation or stress management. However, given the very weak nature of all these relationships, the data suggest that physical fitness alone is not a strong determinant of mental health outcomes.

The implications highlight the importance of adopting a holistic approach to student well-being. While PATHFit competence contributes weakly to mental health, it should not be disregarded, as even small influences can accumulate over time. Schools and educators may consider integrating fitness programs with psychological support and wellness initiatives to maximize benefits. Activities that enhance flexibility and cardio-vascular endurance could be promoted to encourage positive outcomes, while balance and strength training should be paired with mental health strategies to mitigate potential negative effects. This integrated approach ensures that both physical and psychological dimensions of student health are addressed more effectively.

The findings show a pattern of both alignment and divergence when compared with existing research. The very weak influence observed between physical activity competence and mental health is consistent with the trends reported by Hughes et al. (2018), Shi et al. (2022), Michael et al. (2020), and Spagert et al. (2022), who collectively emphasized that the mental health benefits of physical activity are often mediated by psychological, environmental, and social factors rather than by physical competence

alone. This reinforces the current study's outcome in which PATHFit components showed minimal impact on students' mental health indicators. In contrast, the negligible influence found here differs from the stronger associations highlighted by Pisaniello et al. (2019), who reported more direct links between physical activity and reduced stress levels among students, suggesting that contextual factors specific to the present setting may buffer or dampen such effects. Meanwhile, the limited influence of flexibility in the results mirrors the position of Legey et al. (2017), who noted that although flexibility is a valuable component of physical fitness, its direct contribution to academic or psychosocial outcomes tends to be minimal.

These results are best understood through two relevant learning theories. Behaviorist Learning Theory explains that observable improvements in skills and outcomes depend heavily on reinforcement, repetition, and consistent conditioning. Since the fitness components in this study did not receive intensive or repeated reinforcement beyond standard classroom activities, the weak influence on mental health aligns with this expectation. At the same time, Complex Learning Theory provides a broader explanation by emphasizing that development occurs through the interaction of multiple domains—cognitive, emotional, physical, and social. The negligible correlations found in the table reflect this principle, showing that physical fitness alone is insufficient to produce meaningful changes in mental health unless supported by social context, emotional factors, and environmental conditions.

Sports-based Strategies

Sports-based strategies are envisioned as a holistic approach to student development, designed to enhance physical competence while simultaneously fostering resilience, confidence, and mental well-being through structured and engaging activities at Mariners' Polytechnic Colleges Foundation Inc Canaman Campus. The development of the sports-based strategies was guided by the Modified ADDIE Model, ensuring that the program was systematically crafted, evidence-based, and directly responsive to the findings of the study. The overall goal of the strategies is to enhance students' PATHFit competence while simultaneously improving their mental health by integrating physical, emotional, and social dimensions of well-being. Following the structure of the model, the Analysis phase examined student needs based on the identified gaps in PATHFit competence and mental health indicators. The Design phase translated these needs into clear objectives and structured, student-centered activities aligned with institutional standards. The Development phase produced concrete sports-based programs, activity plans, and resource requirements grounded in the study's results, particularly the significant and influential variables. The Implementation phase outlines how these strategies will be delivered through organized sports sessions, teamwork-oriented games, and wellness-focused activities integrated into curricular and extracurricular spaces. Finally, the Evaluation phase provides mechanisms for continuous monitoring through fitness assessments, attendance logs, and mental health surveys, ensuring the strategies remain adaptive and effective (See Appendix H).

Analysis Phase. In the Analysis Phase, the independent variable (PATHFit competence) and the dependent variable (mental health) were examined to determine which areas required targeted intervention. The results showed that cardiovascular endurance and muscular strength were low, while flexibility and balance were high, and only balance showed a significant link to mood and emotional state. These patterns identified which physical components needed improvement and which mental health areas

required support. By analyzing these variable relationships, the study determined the specific needs—physical gaps, emotional priorities, and behavioral challenges—that would shape the structure and content of the sports-based strategies. This analysis provided the foundation for designing activities that simultaneously strengthen weaker fitness components and address emotional well-being, ensuring that the output directly responds to what the data revealed.

Design Phase: In the Design Phase, the sports-based strategies were structured following the Mariners' Template for Proposals by clearly outlining the program objectives, expected outputs, methodology, activities, and budget in a systematic format. Using the results from the Analysis Phase, the design focused on addressing the identified gaps in PATHFit competence and supporting the mental health indicators that required improvement. The strategies were organized into components that align with institutional standards—cardio fitness enhancement, strength and conditioning, flexibility-balance training, team sports, mind-body approaches, and recreational activities. Each component was designed with a clear purpose, frequency schedule, responsible personnel, and expected outcomes, directly reflecting the template's requirements. The program design emphasized integration of physical, emotional, and social elements, ensuring that activities not only develop fitness skills but also foster emotional regulation, stress reduction, cooperation, and resilience. By embedding objectives, structured activities, implementation flow, and monitoring tools into a formal proposal format, the Design Phase transformed the analyzed variables into a comprehensive, organized, and actionable sports-based program.

Development. In the Development Phase, the sports-based strategies were constructed by directly applying the results of the significant relationship and influence between the independent and dependent variables. Since balance showed a significant relationship with mood and emotional state, activities that enhance stability, coordination, and postural control were prioritized and embedded into the program to support emotional regulation. At the same time, the very weak influences observed in cardiovascular endurance, muscular strength, and flexibility guided the design of activities that target these components without assuming strong mental-health effects. Instead, these fitness elements were integrated primarily to improve physical competence while pairing them with psychosocial components to address the mental-health indicators that lacked physical influence. Through this variable-driven approach, the Development Phase ensured that the final sports-based strategies responded precisely to what the data revealed: strengthening balance-related emotional outcomes and improving other fitness components through supportive, socially grounded activities that complement the minimal physical-to-mental influence.

5. Conclusions

1. The overall level of PATHFit competence among the students is generally good, characterized by excellent performance in flexibility and balance and fair performance in cardiovascular endurance and muscular strength.

2. The mental health of students was generally in a good state across stress and anxiety, mood and emotional condition, behavioral indicators, and academic impact.

3. Only balance and mood/emotional state showed a weak but significant negative correlation, suggesting that higher balance skills are slightly linked to fewer negative emotional states. Thus,

null hypothesis is therefore accepted.

4. The influence of PATHFit competence on students' mental health was found to be consistently very weak. This indicates that increases in cardiovascular endurance, muscular strength, flexibility, or balance do not meaningfully affect students' emotional, behavioral, or academic functioning.

Sports-based strategies were effectively developed using the Modified ADDIE Model, ensuring that the program directly responded to the study's findings. Guided by the significant relationship between balance and mood, and the very weak influence of other fitness components on mental health, the strategies were designed to prioritize balance-focused activities while still enhancing overall physical competence.

6. Recommendations

1. Implement structured cardio activities such as interval running, swimming, or cycling three times a week to gradually build cardiovascular endurance.
2. Add resistance training using bodyweight, free weights, or circuit workouts twice weekly to improve muscular strength and balance overall fitness development.
3. Conduct regular workshops on mindfulness, breathing techniques, and time management to help students cope with academic and personal pressures.
4. Establish peer mentoring groups and ensure accessible counseling services so students can share concerns and receive guidance in managing emotional challenges.
5. Combine physical activities with psychosocial interventions such as group discussions, resilience training, and emotional regulation exercises.
6. Incorporate yoga, tai chi, or martial arts into fitness programs to connect physical training with emotional regulation and stress reduction.
7. Develop initiatives focused on counseling, emotional literacy, and supportive learning environments to strengthen mental health outcomes where fitness alone has limited impact.

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