Multidimensional Perfectionism, Teaching Competencies, and Interpersonal Support: A Structural Equation Model on the Academic Success of Maritime Students

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ABSTRACT

Academic success among maritime students extends beyond normal achievement as this impacts safety, industry standards, sustainability in education, development, and future career opportunities. This quantitative research study is intended to identify the best-fit model for academic success as influenced by multidimensional perfectionism, teaching competencies, and interpersonal support. It utilized a Structural Equation Model (SEM) approach having 400 respondents from selected Maritime Institutions in the Davao Region. The data gathered was gathered via a pen-and-paper survey using a standardized instrument. Statistical tools include the mean, standard deviation, pearson product moment correlation coefficient, multiple linear regression, and SEM. Results showed that exogenous variables (multidimensional perfectionism, teaching competencies) and endogenous variables (academic success) were very high, while interpersonal support (exogenous variable) was high. On top of these, all exogenous variables correlate with the endogenous variable, and interpersonal support and teaching competencies were significant predictors of academic success. Amongst generated models, the 3rd model was determined the best-fit model on academic success with indicators: socially prescribed, other-oriented, self-oriented, classroom management, mastery of the subject matter, appraisal support, self-esteem, and tangible support, which was predicted by multidimensional perfectionism, teaching competencies, and interpersonal support. Fostering these maritime schools with supportive interpersonal relationships and competent teaching practices led to the students' enhancement and success.

Keywords: educational management, maritime education, multidimensional perfectionism, teaching competencies, interpersonal support, academic success, structural equation model, Philippines

INTRODUCTION

Maritime students who succeed academically achieve more than typical accomplishments influenced by safety standards, educational sustainability, and future careers (Mohammed Amer & Belal, 2024; Politeknik et al., 2024). Unfortunately, the decline in academic success among students, as reported by Brew et al. (2021), is a brewing issue influenced by factors such as socioeconomic disparities and mental health conditions. Though educational policies and teaching methodologies are in place, sometimes, without noticing, they hinder students' academic success. They also emphasized that the ever-increasing

reliance on technology, which offers benefits, can lead to distractions and a lack of more profound engagement with learning materials.

Maritime education continues to evolve, and maintaining a strong focus on student's academic success will forever be essential for the future of its industry (Lau et al., 2021). Indeed, academic success is pivotal among maritime students as it establishes the foundation for professional readiness, promotes safety and compliance, and fosters lifelong learning, including contributing to the maritime industry (Berro et al., 2024). Goegan and Daniels (2019) and Geertsema and van der Rijst (2021) pinned that recognition of these multifaceted values the drive to improved educational practices, which ensures that all students have the opportunity to succeed.

Self-oriented, a factor of multidimensional perfectionism, is believed to have a fine association with academic success, as it drives students towards excellence, and recognition of its potential leads to healthier academic experiences (Rodrigues et al., 2023). A study in Saudi Arabia serves as concrete evidence due to results which hold a higher expectation in oneself and strive for the perfection of one's output(s) or performance(s) are more likely to exert the best effort to achieve higher levels of academic success (Alshehri, 2020)

Additive to academic success is the other factor known as the teacher's mastery of the subject matter or simply the content knowledge, as appeared in the study of Salibat et al. (2024), dwelling on contents utilized along the teaching-learning process. They further emphasized that when the teacher understands the subject matter or content, they are more likely to aid students in developing comprehension, resulting in increased success. According to the investigation by Duru (2020), disclosing student success depends on the teacher's mastery of the content, and the creation of activities/conferences/workshops is needed to bolster this.

The personal traits that aim for high-performance standards and are accompanied by prosperity to assess oneself critically describe the nature of multidimensional perfectionism (Lo et al., 2020; Savina, 2020). Sederlund (2020) examined 206 students' differences within the context of multidimensional perfectionism and its relationship. Results indicated that maladaptive procrastination was consistently associated with maladaptive perfectionism (socially prescribed), and adaptive procrastination showed a link with adaptive perfectionism (self-oriented).

It was further emphasized that the multidimensional perfectionism endpoint is for an individual's optimal performance to resonate with students' motivation and interpretation of success (Mahasneh et al., 2019). Fang and Liu (2022) highlighted that multidimensional perfectionism positively affects an individual's emotions and life satisfaction. They narrow that as beneficial to learning and emotions because a student with high perfectionistic attributes tends to affect mood and emotion in real examination situations positively.

The interplay of knowledge, skills, and abilities that every educator possesses to facilitate learning effectively is what we call teaching competencies. Teaching competencies significantly contribute to student outcomes, engagement, and total educational quality (Tallamy, 2022). Enhancing these is vital in creating a learning environment that ensures students' academic success (Demir et al., 2023).

Teachers catalyze nation-building and allow the country to produce and nurture students who could help and direct its development path (Pamon & Oco, 2024). In the study conducted by Salibat et al. (2024) in Davao City, it was provided that most of the teachers in a premier school have a very high level of content and pedagogical knowledge, implying that teachers' development of content lessons is based on student's prior knowledge and were competent enough.

Interpersonal support enhances individual well-being and fosters resilience (Rojas, 2022). As Slemp et al. (2024) emphasize, an individual's motivational processes, well-being, and performance are facilitated by interpersonal support, leading to crucial success. Empirical studies conducted by Chen et al. (2025) and Repository Africa (2024) disclosed that social activities positively influence students' interpersonal support, with anxiety and loneliness mediating the relationship. Thus, students with higher interpersonal support tend to have better reported academic success than those with lower levels.

According to a study by Kaur and Sharma (2023) at Punjab Agricultural University in India, aspects that impact students' well-being are positively connected with interpersonal support at every year level. Students who perceive a higher level of support are generally happier than those who do not. Supported by the ideas of Martin and Jurado (2021), including Xie and Derakhshan (2021), that kind of support among students by their peers, teacher, and/or family paves the way for output enhancement toward academic success, mental health, and emotional resilience.

Academic success involves a broader range of aspects beyond grades that cover personal growth, mastery of skills, and the ability to apply knowledge within and outside academic settings (Collins-Warfield et al., 2023). It was emphasized that academic success is attributed to personal motivation, social support, and school resources (Sundén, 2019).

In order to achieve happiness, the United Arab Emirates conducted a study on the degree of satisfaction of college students with regard to academic achievement. The study found that their students exhibit a higher degree of both academic success and happiness, as well as a correlation between the two (Moussa & Ali, 2021). Added by the concept of Alyahyan and Düştegör (2020), who highlighted the role of students' academic success in educational institutions, and early identification of students at risk along with preventive measures can drastically enhance their respective success.

The emphasis on the relatedness of interpersonal support and students' academic success boils down to the enhancement of performance, motivation, and overall well-being; thus, students navigate their academic journey with an effective interpersonal relationship woven toward respective success (Bratko, 2022; Ismail, 2023). Supported by a study conducted in Tagum City by 257 students, positive interpersonal support or connections enhance their enthusiasm, resulting in long-term academic success and boosting confidence (Enide & Villocino, 2023).

Although research exists on multidimensional perfectionism, teaching competencies, and interpersonal support independently, a significant empirical gap remains in understanding their combined impact on student academic success. There is a dearth of quantitative and qualitative studies that directly measure how these factors influence academic outcomes, hindering our ability to form a comprehensive model. The lack of empirical evidence is of concern because educational institutions cannot develop data-informed strategies that address the complex relationships between these factors. Consequently, there is an urgent need for empirical studies to inform evidence-based interventions and policies that can effectively support students amidst growing academic pressures.

Towards the realization of the study, it sought to determine the best-fit model for the academic success of maritime students in the contexts of multidimensional perfectionism, teaching competencies, and interpersonal support. Additionally, it addressed the succeeding objectives: to identify the level of multidimensional perfectionism in terms of self-oriented, other-oriented, and socially prescribed; to assess the level of teaching competencies in terms of mastery of the subject matter, teaching skills, classroom management, and evaluation skills; to determine the level of interpersonal support in terms of: tangible support, belonging support, self-esteem, and appraisal support; to describe the identify the level of

academic success in terms of: general academic success, internal motivation/confidence, perceived instructor efficacy, concentration, external motivation/future, socializing, career decidedness, lack of anxiety, personal adjustment, and external motivation/current.

In addition, it aimed to determine the significant relationship between exogenous variables (multidimensional perfectionism, teaching competencies, and interpersonal support) and the endogenous variable (academic success) of maritime students to determine the significant influence of these endogenous variables on the endogenous variable; and finally, to determine the best-fit model for the academic success of maritime students.

The hypothesis that there was no significant relationship between exogenous and endogenous variables, that exogenous variables do not significantly influence endogenous variables, and that there was no best-fit model for the academic success of maritime students were all tested at the 0.05 level of significance.

The Attribution Theory, created by Fritz Heider, Bernard Weiner, and Julian Rotter in the 1950s and 1960s, serves as the ground of the study. The theory provides the interrelatedness of students' academic success, which is attributed to perfectionism, teaching competencies, and support. Furthermore, the success and failure of a student are influenced by internal (perfection – the drive to excel) and external (teacher from the learning process and aid from family, friends, or colleagues) attributes, which then direct the overall performance and rate of success of the student (Rukhiran et al., 2023; Zhang et al., 2019).

Similarly, the Frost Multidimensional Perfectionism or The Frost Model developed by Paul L. Frost and his colleagues in 1990 supports the study, which reflects both aspirational and fearful aspects of perfectionistic behavior, allowing for an assessment of individual's motivation and concerns relative to their performance and self-worth (Al-Kafaween, 2023), Likewise, making this as a valuable tool in understanding the role it played in the academic settings, mental health, and behavior (Fletcher, 2019; Shaham et al., 2024).

In addition, the constructivist approach, which Lev Vygotsky developed from 1896 to 1934, emphasizes that knowledge is developed via experiences and interactions within social contexts (AbdulRab, 2023). This views teachers as adaptive in facilitating a learning environment where students actively engage with content and develop their understanding through exploration and collaboration. They also look into social interactions and cultural tools in learning (Lutz & Huitt, 2004).

Moreover, emotional, informational, or tangible assistance provided by individuals in one's social circle, be it in family, friends, or collogues, boils to interpersonal support associated with Interpersonal Theory developed in the mid-20th century by Harry Stack Sullivan. This is due to the importance of interpersonal relationships and their impact on personality and psychopathology (Janovsky et al., 2023). Brown et al. (2019) and Parenti et al. (2019) believe that strong interpersonal support has been associated with better mental health outcomes and resilience in facing life challenges and issues.

In the same way, Albert Bandura provided valuable insight into the role of self-beliefs in influencing behavior and attaining academic success and goals in 1977, postulating the Self-Efficacy Theory, which contributed to practices in education and mental health and had a lasting impact on understanding human motivation and behavior (Viviers et al., 2022). In educational practices, self-efficacy can improve learning outcomes with greater student engagement and success (Alsomali, 2023; Bracken & Waite, 2020).

Figure 1 is the conceptual framework of the study and postulation of a model with two latent constructs labeled as exogenous and endogenous variables. The latent exogenous variables of this study are multidimensional perfectionism, teaching competencies, and interpersonal support, while the latent endogenous variable is academic success. The two latent variables are interconnected to various measures

from the figure itself. Consequently, the regression direction from latent variables to the observed variable was the primal interest of the study.

Legends:

SEO – Self-Oriented

APS – Appraisal Support

CON – Concentration

OTO – Other-Oriented

SEE – Self-Esteem

EMF – External Motivation/Future

SOP – Socially Prescribed

BES – Belonging Support

SOC – Socializing

EVS – Evaluation Skills

TAS – Tangible Support

CAD – Career Decidedness

CLM – Classroom Management

GAS – General Academic Skills

LOA – Lack of Anxiety

TES – Teaching Skills

IMC – Internal Motivation/Confidence

PEA – Personal Adjustment

MSM – Master of the Subject Matter

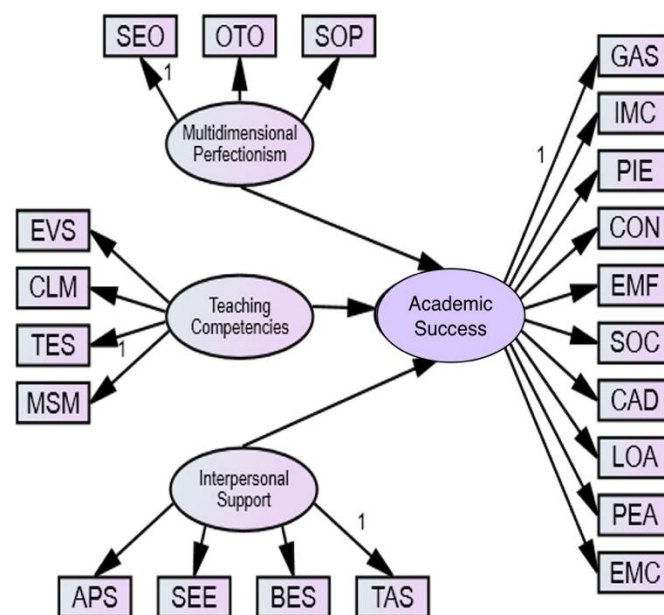PIE – Perceived Instructor Efficacy

EMC – External Motivation/Current

Figure 1. Conceptual Model Showing the Direct Relationship between Latent Exogenous Variables and Latent Endogenous Variable

The first exogenous variable is multidimensional perfectionism, which encompasses *self-oriented, other-oriented,* and *socially prescribed* (Hewitt & Flett, 2004). The second exogenous variable is teaching competencies, which involve *mastery of the subject matter, teaching skills, classroom management,* and *evaluation skills* (Hasegawa, 2012). Interpersonal support is the third variable, encapsulating *tangible support, self-esteem, belonging support,* and *appraisal support* (Cohen & Hoberman, 1983). On the other hand, academic success involves *general academic skills, internal academic skills, perceived instructor efficacy, concentration, external motivation/future, socializing, career decidedness, lack of anxiety, personal adjustment,* and *external motivation/current* (Festa-Dreher, 2012).

Addressing Sustainable Development Goal number 4 on quality education, teacher training, and institutional support directly enhances students' academic success, which is profound in maritime education, attributing towards the quality of maritime professionals, economic viability, response to global challenges, international collaboration, and compliance with regulations. Thus, recognizing and enhancing student's academic success in maritime education is essential to producing a competent and resilient maritime workforce (Heirs & Manuel, 2021). Furthermore, creating a robust industry-aligned learning environment that fosters practical expertise, continuous professional growth, and overall preparedness is dire (Masuku, 2020).

A further implication of this study is to benefit maritime schools by creating a robust maritime educational system that enhances student success and meets the demands of the global maritime industry. By prioritizing this aspect of education, school administrators can create a supportive and effective learning environment; hence, maritime students are well-equipped to achieve success, leading them to be valuable assets for the entire workforce. Additionally, the data gathered and processed may serve as a reference for future researchers who wish to focus on the same area of inquiry. These researchers may use it to examine how multidimensional perfectionism, teaching competencies, and interpersonal support affect maritime students' academic success. Possible weaknesses and forms of limitation may be grounds to challenge themselves to replicate or reproduce such a study.

METHOD

This section encompassed the respondents, materials and instruments, and design and procedure employed in the study.

Research Respondents

Based on data provided by respective maritime school, the researcher was able to determine that 6,562 maritime students were enrolled at maritime schools in the Davao region. Ovie (2023), fortunately, set precise rules about the sample size of a known population for structural equation modeling. Consequently, 400 marine students from three accredited maritime schools were located. The following was the distribution of these Maritime Schools: MS-1 had 244 pupils, MS-2 had 112, and MS-3 had 44.

The selection of respondents from the 400 maritime students through the proportionate stratified random sampling technique, a probability sampling method in which the population is separated into strata or subgroups according to shared traits. (Qualtrics, 2021). This guaranteed that the sample had the same proportion of each stratum or subgroup as the population (Oxford University Press, 2025).

The respondents included were chosen and must be maritime students from recognized maritime schools in the Davao Region. An Informed Consent Form was attached, and names and signatures were treated with utmost confidentiality. These respondents must be officially enrolled across Academic Year 2024 –

2025 levels. Students enrolled in other programs, including teaching and non-teaching personnel, are excluded from this study.

Respondents were assured they had the free will to withdraw whenever they were uncomfortable during the study. Participation was voluntary, and there were no penalties or loss of advantages if they decided to withdraw. There was no coercion since the researcher randomly picked another number corresponding to another maritime student.

Materials and Instruments

The study used several standardized instruments from several sources, namely the Multidimensional Perfectionism of Hewitt and Flett (2024) covering indicators of self-oriented, other-oriented, and socially prescribed Teaching Competencies of Hasegawa (2012) with indicators of mastery of subject matter, teaching skills, classroom management, and evaluation skills; Interpersonal Support of Cohen and Hoberman (1983) emphasizing tangible support, belonging support, self-esteem, and appraisal support; and Academic Support of Festa-Dreher (2012) involving areas in general academic success, internal motivation/confidence, perceived instructor efficacy, concentration, external motivation/future, socializing, career decidedness, lack of anxiety, personal adjustment, and external motivation/current.

These several standardized instruments underwent modification to become unified instruments concerning current settings. The first draft was shown to the research adviser for preliminary improvement, and waited for the directives to proceed to instrument validation. Validation yielded an average of 4.53 (excellent) out of 6 known expert validators who looked intently at its validity (structural and content). To determine the internal consistency of the metrics, the Cronbach Alpha dependability test was reinforced. According to the results, multidimensional perfectionism had a Cronbach Alpha Coefficient of 0.838, academic success of 0.84, interpersonal support of 0.857, and teaching competencies of 0.786. Evidence suggested that the more internally consistent the items measured are, the closer the alpha coefficient value is to 1 (Jugessur, 2019).

A scale was utilized to assess the answers from the respondents on multidimensional professionalism, teaching competencies, interpersonal support, and academic success of maritime students. A mean with a very high descriptive level ranges from 4.20 to 5.00, signifying that maritime students always observe multidimensional professionalism, teaching competencies, interpersonal support, and academic success; a mean with a high descriptive level ranges from 3.40 – 4.19, implying that multidimensional professionalism, teaching competencies, interpersonal support, and academic success are often observed/manifested by maritime students.

Minding the remaining range of mean from 2.60 to 3.39 with a moderate descriptive level denoting that multidimensional professionalism, teaching competencies, interpersonal support, and academic success are sometimes observed/manifested by maritime students; a range of mean from 1.80 to 2.59 with a low descriptive level directing that multidimensional professionalism, teaching competencies, interpersonal support, and academic success are seldom observed/manifested by maritime students; and a range of mean from 1.00 to 1.79 indicating a very low descriptive level inferring directing that multidimensional professionalism, teaching competencies, interpersonal support, and academic success are never observed/manifested by maritime students.

The unified survey questionnaire was validated, and a mean score of 4.97 was obtained from expert validators. It was treated with Cronbach alpha for the dependability test of items with a coefficient value of 0.838 for Multidimensional Perfectionism, 0.789 for Teaching Competencies, 0.857 for Interpersonal Support, and 0.842 for Academic Success. Such results led to a good-acceptable internal consistency as

all ranges fall from 0.70 to 089 based on the concept of Glen (2023).

Design and Procedure

A quantitative, non-experimental, descriptive research design was used in the study, and a computational method was used to lessen the emphasis on statistical analysis of the data using research tools. This process includes collecting and analyzing numerical data as it looks into patterns, averages, predictions, causal relationships, and generalized from a given population. Here, in seeking the levels of multidimensional perfectionism, teaching competencies, interpersonal support, and academic success, the researcher gathered numerical data from the target population and associations between two or more variables without manipulation while carefully selecting respondents through research instruments (Skidmore et al., 2023; University of Southern California Libraries, 2022).

A statistical method for understanding underlying links that result in correlational patterns and identifying the best-fit model using common criteria that define the model's goodness fit, the aforementioned study also used the Structural Equation Model (SEM) (Statistics Solution, 2024), as shown below:

Chi-square	Large value
P-value	>0.95
Chi-square/Degrees of Freedom (CMIN/Df)	0<value>2
Normative Fit Index (NFI)	>0.95
Comparative Fit Index (CFI)	>0.95
Goodness of Fit Index (GFI)	>0.95
Tucker-Lewis Index (TLI)	>0.95
Root Mean Square Error of Approximation (RMSEA)	<0.95
P-close	>0.95

The following statistical tools were used to analyze the collected data: Mean, to determine the measure of central tendency, including the levels of academic success, teaching competencies, interpersonal support, and multidimensional perfectionism (Hayes, 2021). Pearson Product Moment To ascertain whether there is a meaningful relationship between exogenous and endogenous variables, the correlation coefficient is utilized (Laerd Statistics, 2020), and Multiple Linear Regression is also reinforced to know which among the exogenous variables significantly influences the academic success of maritime students (Kenton, 2019).

The University of Mindanao Ethics Review Center (UMERC) received the relevant paperwork, and procedure 2024-450 was acquired. Here, the researcher strictly adhered to the ethical standards expected of academic publications. Avoid unethical activity such as plagiarism, dishonesty, conflict of interest, deceit, falsification, and fabrication while upholding regulations such as informed consent, privacy and confidentiality, voluntary involvement, and transparency to maintain high integrity of the results. The protocol has no risks since it only seeks perceptions or perspectives on multidimensional perfectionism, teaching competencies, interpersonal support, and academic success. All of these steps guarantee that the methodology utilized as the only factor in determining the study's conclusion is valid and reliable.. Also, the researcher gave relevant information based on the results to maritime schools and gave a final copy for the grant of compliance certification following the final defense.

RESULTS AND DISCUSSION

This section deals with the data gathered among maritime students in the Davao Region on their perceptions of multidimensional perfectionism, teaching competencies, interpersonal support, and academic stress. The collated data were evaluated and analyzed in a structured manner that fit the study's objectives. The following topics were disclosed in order: levels of multidimensional perfectionism, teaching competencies, interpersonal support, academic support, the relationship between multidimensional perfectionism and academic success, teaching competencies and academic success, and interpersonal support and academic success, and the determination of which exogenous variables significantly influence(s) academic success, as well as the determination of best-fit model of academic success for maritime students.

Multidimensional Perfectionism of Maritime Students in Davao Region

Disclosed in Table 1 is the level of multidimensional perfectionism of maritime students, which encompasses self-oriented, other-oriented, and socially prescribed. The overall obtained mean is 4.26, characterized as very high with a standard deviation of 0.50, signifying that data points are clustered tightly around the mean, thus representing the perceptions of maritime students on multidimensional perfectionism is always observed.

Table 1 Level of Multidimensional Perfectionism in the Davao Region

Indicator	SD	Mean	Descriptive Level
Self-oriented	0.54	4.30	Very High
Socially prescribed	0.57	4.25	Very High
Other-oriented	0.57	4.23	Very High
Overall	**0.50**	**4.26**	**Very High**

Here, maritime students perform at their full potential, perform a task(s) accordingly, and give respect. Thus, these students always observed adaptability in lifelong learning, embracing mistakes as a part of the learning process, cultivating a productive and fulfilling life, and unifying ambition with personal well-being.

The very high level of multidimensional perfectionism of these maritime students is consistent with the findings of Assar et al. (2024), Choo and Prihadi (2019), and Shaham et al. (2024). With the potentiality of favorable outcomes, such as performing well academically, factored by self-compassion, cultivation of this creates a protective mechanism against anxiety, depressive symptoms, and other detrimental effects.

Teaching Competencies of Maritime Teachers in the Davao Region

Flaunted in Table 2 is the level of teaching competencies observed by maritime students, which includes mastery of the subject matter, teaching skills, classroom management, and evaluation skills. It is disclosed to be very high due to an overall mean of 4.35 with a standard deviation of 0.51. This indicates that the level of teaching competencies is always manifested in these students. Furthermore, amongst its indicators, mastery of the subject matter, with a mean of 4.40, ranked first with a standard deviation of 0.60, and evaluation skills ranked last with a standard deviation of 0.61.

Table 2 Level of Teaching Competencies of Teachers in Davao Region

Indicator	SD	Mean	Descriptive Level
Mastery of the Subject Matter	0.60	4.40	Very High
Teaching Skills	0.58	4.37	Very High
Classroom Management	0.60	4.34	Very High
Evaluation Skills	0.61	4.28	Very High
Overall	**0.51**	**4.35**	**Very High**

Here in the maritime schools, teachers give several examples, situations, and timely information to enhance a better understanding of the lesson at hand, present the lesson in an organized and flawless manner, use various instructional materials to catch/retain students' attention to attain the lesson's objectives, and command respect and establish authority in classes. Thus, ensuring the continuous assessment and adaptation of teaching strategies would significantly enhance learning outcomes and positive classroom dynamics.

The very high level of teaching competencies as observed by maritime students is in agreement with the findings of Bajjaly and Saunders (2024) and Novita et al. (2023) that it has been recognized as a critical factor influencing educational outcomes which have various implications, such that of increases academic performance, enhanced engagement to emotional support, and skill development with the emphasis on investing teacher pieces of training and professional development echoing educational quality and positive student outcomes as it prepares them for future success in the field of maritime industry.

Interpersonal Support of Maritime Students in Davao Region.

Interpersonal Support of Maritime Teachers in the Davao Region

As seen in Table 3, maritime students' interpersonal support level includes self-esteem, appraisal support, belonging support, and tangible support. It is flaunted that the highest obtained mean of 4.36 with a standard deviation of 0.62 is identified as self-esteem and tangible support as the last indicator with the obtained mean of 4.09 and a standard deviation of 0.75.

It discloses that maritime students enjoy the company of friends, are happy, proficient in helping others solve problems, influence each other to change for the better, and have interesting friends. In this manner, maritime schools prioritize and cultivate interpersonal support networks that significantly enhance the students' gestalt experience, leading them to success in academic and life activities. Empowering them with strong interpersonal support is vital in fostering well-rounded and capable maritime students

Table 3 Level of Interpersonal Support of Maritime Students in Davao Region

Indicator	SD	Mean	Descriptive Level
Self-esteem	0.62	4.36	Very High
Appraisal Support	0.70	4.11	High
Belonging Support	0.70	4.10	High
Tangible Support	0.75	4.09	High
Overall	**0.58**	**4.16**	**High**

prepared for future challenges.

Moreover, this result follows the claims of Kaur and Sharma (2021), including Onome and Sanikpege (2024), that students who demonstrate a high level of interpersonal support have a favorable implication

on their academic performance, total well-being, social skill development, and long-term outcomes however regulation must be monitored since over-reliance and social comparison must be at most balance for schools to simultaneous promote student autonomy and resilience.

Academic Success of Maritime Students in Davao Region

Maritime student's level of academic success is found in Table 4, which includes the indicators of external motivation/future, career decidedness, internal motivation/confidence, perceived instructor efficacy, socializing, personal adjustment, general academic success, concentration, external motivation/current, and lack of anxiety. The table suggests that the level of academic success is very high due to an overall mean of 4.21, implying that the academic success of maritime students is always observed, accompanied by a standard deviation of 0.47. Data also revealed that among its indicators,

Table 4 Level of Academic Success of Maritime Students in Davao Region

Indicator	SD	Mean	Descriptive Level
External Motivation/Future	0.54	4.45	Very High
Career Decidedness	0.61	4.37	Very High
Internal Motivation/Confidence	0.54	4.30	Very High
Perceived Instructor Efficacy	0.63	4.24	Very High
Socializing	0.68	4.21	Very High
Personal Adjustment	0.66	4.21	Very High
General Academic Success	0.63	4.18	High
Concentration	0.64	4.11	High
External Motivation/Current	0.73	4.06	High
Lack of Anxiety	0.74	4.00	High
Overall	**0.47**	**4.21**	**Very High**

External motivation/future obtained the highest mean with an obtained mean of 4.45 with a standard deviation of 0.54, and the indicator that ranked last is the lack of anxiety with the obtained mean of 4.00 with a standard deviation of 0.74.

The very high result on the level of academic success of maritime students is due to believing that education plays a crucial role in future success, using learning in the future application, confidence in what work/career they will venture into, performing well due to teacher's efforts, with social life which aids in, and never let personal issues affect their academic performances. Inferring attributes of personal development, social dynamics, and educational practices by creating supportive environments that encourage academic excellence while promoting balance and well-being and emphasizing the importance of holistic

development for the success of studies and a fruitful beyond-the-four walls of the classroom.

The result of the very high level of academic success among maritime students is hyped by Ommering et al. (2021) and Rosalito (2020) that self-discipline, grit, a growth mindset, support from school resources and educational environment, parental involvement, high-achieving peers, guidance and support from teachers, are critical factors towards their exceptional performance. It was emphasized that mentoring would give avenues for motivation, resources, and vital advice students need to navigate academic challenges effectively.

Relationship between Multidimensional Perfectionism and Academic Success

Presented in Table 5 is the connection between multidimensional perfectionism and the academic success of maritime students, with a p -p-value of less than 0.005 and an overall r-value of 0.671**; the null hypothesis was found to be rejected. It discloses a significant relationship observed between multidimensional perfectionism and the academic success of maritime students, showing a substantial link between and among its indicators.

The observance of this relationship carries a significant implication across

psychological, educational, and social arenas, understanding this is vital for crafting effective strategies to support students in balancing their drive for excellence and well-being with the realities of academic life toward long-term personal and professional fulfillment. Though there are few instances that multidimensional perfectionism may harm students' academic success and psychological well-being when assessment is done inaccurately, when appropriately utilized, it undoubtedly boosts the academic

Table 5 Significance of the Relationship between Multidimensional Perfectionism and Academic Success

MP	Academic Success										
	GAS	IMC	PIE	CON	EMF	SOC	CAD	LOA	PEA	EMC	**Overall**
SO	.540**	.527**	.508**	.473**	.434**	.473**	.403**	.321**	.396**	.312**	**.586****
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	**.000**
OO	.548**	.547**	.570**	.543**	.428**	.425**	.378**	.416**	.419**	.369**	**.623****
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	**.000**
SP	.476**	.526**	.534**	.462**	.395**	.436**	.402**	.388**	.418**	.364**	**.591****
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	**.000**
Overall	**.582****	**.596****	**.600****	**.550****	**.467****	**.497****	**.440****	**.420****	**.459****	**.390****	**.671****
	.000	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**

Legend: MP – Multidimensional Perfectionism

PIE – Perceived Instructor Efficacy

SO – Self-Oriented

EMF – External Motivation/Future

OO – Other-Oriented

SOC – Socializing

SP – Socially Prescribed

CAD – Career Decidedness

GAS – General Academic Success

LOA – Lack of Anxiety

IMC – Internal Motivation/Confidence

PEA – Personal Adjustment

CON – Concentration

EMC – External Motivation/Current success among its students.

The outcome supports the study conducted by Choo and Prihandi (2019), which was conducted by 132 students from Malaysia, and shows that the interplay of these variables is the basis for students' excellent performance. Park et al. (2020) mentioned that multidimensional perfectionism drives students to excellence but may lead to detrimental academic outcomes due to stress and anxiety; fostering a school environment that supports and adheres to a supportive and healthy academic striving, teachers, and mental health personnel may help them to navigate pressures associated with perfectionism, ultimately contributing to student's academic success and mental well-being.

Relationship between Teaching Competencies and Academic Success

Flaunted in Table 6 is the test of the significant relationship between teaching competencies and the academic success of maritime students. It

Table 6 Significance of the Relationship between Teaching Competencies and Academic Success

Teaching Competencies	Academic Success										
	GAS	IMC	PIE	CON	EMF	SOC	CAD	LOA	PEA	EMC	Overall
Mastery of the Subject Matter	.518**	.504**	.518**	.432**	.458**	.434**	.393**	.249**	.347**	.252**	.545**
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Teaching Skills	.498**	.457**	.573**	.436**	.434**	.391**	.372**	.284**	.378**	.290**	.548**
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Classroom Management	.492**	.448**	.575**	.446**	.409**	.401**	.330**	.262**	.352**	.307**	.537**
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Evaluation Skills	.463**	.465**	.569**	.427**	.383**	.426**	.371**	.285**	.322**	.293**	.535**
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Overall	.573**	.545**	.650**	.506**	.489**	.480**	.426**	.314**	.407**	.332**	.629**
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Legend: GAS – General Academic Success

SOC – Socializing

IMC – Internal Motivation/Confidence

CAD – Career Decidedness

PIE – Perceived Instructor Efficacy

LOA – Lack of Anxiety

CON – Concentration

PEA – Personal Adjustment

EMF – External Motivation/Future

EMC – External Motivation/Current

obtained a p-value of less than 0.05 and an overall r-value of 0.629**, the null hypothesis was rejected. It points out an observed relationship between these variables, supported by all its indicators with obtained p-values.

Data suggest that the observance of this relationship has far-reaching implications for maritime students that schools may invest in teacher training, supportive policy framework, and improved assessment methods can enhance teaching effectiveness and create a learning environment mechanism that inspires and encourages teacher-student interactions to boost engagement and performance, which is beneficial to all students. Also, it is linked with subject-matter expertise, classroom rules and procedures, and effective instructional practices, which account for a notable portion of the differences in performance and highlights the importance of teacher quality in fostering student success.

Moreover, Ateeq et al. (2024) affirm that teaching competencies directly affect student engagement, motivation, performance, and overall academic success when practiced. Discipulo (2024) concretized that developing these competencies through training and supportive school policies and educational systems would significantly enhance student success, and alignment of these competencies must maximize the total development of the students.

Relationship between Interpersonal Support and Academic Success

As shown in Table 7 is the significance of the relationship between interpersonal support and the academic success of maritime students. Here, the obtained p-value is less than 0.000 with an r-value of 0.706**. The critical role played by these variables is vital to the context of education as this encompasses emotional, informational, and instrumental factors, and assistance from friends/peers, teachers, and family plays such a role in shaping students' academic success. Thus, more interpersonal support tends to have higher academic success since students who receive such support are more likely to feel connected to the learning environment and may actively use adaptive cognitive strategies for learning. On top of that, reshaping policies and practices facilitate strong interpersonal connections with the students academically and with their holistic development.

The result aligns with the ideas of Vadivel et al. (2023) that the role of interpersonal support in academic success among students is also factored by socioeconomic background since those who received support from

Table 7 Significance of the Relationship between Interpersonal Support and Academic Success

IS	Academic Success										
	GAS	IMC	PIE	CON	EMF	SOC	CAD	LOA	PEA	EMC	**Overall**
AT	.437**	.478**	.416**	.412**	.280**	.386**	.371**	.310**	.324**	.355**	**.507****
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	**.000**
BS	.494**	.520**	.445**	.511**	.378**	.478**	.376**	.418**	.353**	.395**	**.588****
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	**.000**
SE	.599**	.593**	.548**	.526**	.522**	.472**	.472**	.352**	.426**	.413**	**.657****
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	**.000**
AS	.572**	.508**	.500**	.514**	.411**	.513**	.420**	.429**	.411**	.434**	**.635****
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	**.000**

Overall	.621** .000	.621** .000	.564** .000	.581** .000	.466** .000	.548** .000	.485** .000	.449** .000	.447** .000	.474** .000	.706** .000

Legend: IS – Interpersonal Support

PIE – Perceived Instructor Efficacy

AT – Appraisal Support

CON – Concentration

BS – Belonging Support

EMF – External Motivation/Future

SE – Self-esteem

SOC – Socializing

AS – Appraisal Support

CAD – Career Decidedness

GAS – General Academic Success

LOA – Lack of Anxiety

IMC – Internal Motivation/Confidence

PEA – Personal Adjustment

EMC – External Motivation/Current

teachers, peers/friends, and family mostly displayed resilience and maintained higher academic performance despite external stressors relative to their current status. Atobatele et al. (2024) and Hamilton and Lordon (2023) stated that emphasizing supportive networks is necessary to mitigate barriers to academic success.

Influence of Multidimensional Perfectionism, Teaching Competencies, and Interpersonal Competencies on Academic Success

Presented in Table 8 is the significance of the influence of multidimensional perfectionism, teaching competencies, and interpersonal competencies on the academic success of maritime students. Based on the data, among variables, only interpersonal support and teaching competencies significantly influence maritime students' academic success due to the p-value of less than 0.05 and an F-value of 141.792. The R^2 of

Table 8 Significance of the Influence of Multidimensional Perfectionism, Teaching Competencies, and Interpersonal Support on Academic Success

Academic Success				
(Variables)	*B*	β	*t*	*Sig.*
Constant	.482		2.183	.030
Multidimensional Perfectionism	.099	.071	1.200	.231
Teaching competencies	.408	.314	4.335	.000
Interpersonal Support	.375	.392	7.192	.000

R	.720
R^2	.518
ΔR	.514
F	141.794
ρ	.000

0.518 suggests that the predictor variables – interpersonal support and teaching competencies – account for 51.80% of the variation of academic success, and 48.20% accounts for the variation not covered in the study. These two identified predictors (multidimensional perfectionism and teaching competencies) are indispensable among maritime students' academic success with a notable impact for a meaningful influence.

Moreover, interpersonal reactivity has a more significant beta coefficient of 0.392 from its predictors. Thus, it has a higher impact on the academic success of maritime students than teaching competencies (0.314). The table further demonstrates the significance of the regression model, the disproved null hypothesis, and the emergence of the existence of predictors of academic

success. In addition, data infer that the interplay of these predictors contributes to student's academic success with the aid of higher educational institutions.

Atobatele et al. (2024) claims support the above results that strong interpersonal support enhances student motivation and lessens the gravity of stress, while effective and efficient teaching competencies drive instructional quality and foster positive teacher-student interactions. Beri and Thakur (2024) clearly stated that prioritizing the enhancement of both predictors within the premises of higher educational institutions creates an environment that maximizes both academic engagement and the success of their respective students.

Best Fit Model on the Academic Success

This section directs the interrelationship among variables understudied (multidimensional perfectionism, teaching competencies, interpersonal support, and academic success). To determine which model best suited the academic success of marine students, three (3) models were created. To determine whether or not to use them, these models were methodically developed using the fit indices that were supplied.

The Summary of Goodness Fir Measure for the Three (3) Generated Models is presented in Table 9. The set of indices given below is utilized to analyze the three (3) generated models and the model that best satisfies and

Table 9 Summary of Goodness of Fit Measures of the Three Generated Models

Model	P-value (>0.05)	CMIN / DF (0<value<2)	GFI (>0.95)	CFI (>0.95)	NFI (>0.95)	TLI (>0.95)	RMSEA (<0.05)	P-close (>0.05)
1	.000	5.822	.797	.833	.806	.812	.110	.000
2	.000	4.131	.848	.893	.864	.878	.089	.000
3	.064	1.304	.974	.994	.976	.992	.028	.990

Legend: CMIN/DF – Chi-Square/Degrees of Freedom

NFI –Normed Fit Index
GFI – Goodness of Fit Index
TLI -Tucker-Lewis Index
RMSEA – Root Mean Square of Error Approximation
CFI – Comparative Fit Index

adheres to these indices is considered to be the best-fit or optimal model. Generated models 1 and 2 do not adhere to the conditions stipulated for goodness of fit measures.

Figure 2 is the third (3rd) Generated Structural Model illustrating the interrelationship among variables understudied. As presented below, the best-fit model shows a closed interconnectedness of exogenous variables (multidimensional perfectionism, teaching competencies, and interpersonal support) and endogenous variables (academic success). The model further disclosed that these three (3) exogenous variables had a direct relation to the endogenous variable.

Presented in Table 10 are the regression weights of the three generated models, which suggested that multidimensional perfectionism and interpersonal support are consistently significant predictors across the models, while teaching competencies do not have a substantial impact on the later models. However, covariances reveal that all pairs of variables – teaching competencies with interpersonal support, multidimensional perfectionism with teaching competencies, and multidimensional perfectionism with interpersonal support – show significant positive covariances, indicating that these variables.

Table 10 Regression Weights of the 3 Generated Models

Exogenous Variables to Endogenous Variable

Model	Multidimensional Perfectionism	Teaching Competencies	Interpersonal Support
1	.422***	.212***	.414***
2	.470***	.097 NS	.446***
3	.215 NS	.136 NS	.689***

are positively correlated in the best-fit model. This suggests that improvements in one variable are linked to improvements in the others.

Digging deeper, all indicators under multidimensional perfectionism, namely self-oriented, other-oriented, and socially prescribed, remained significant predictors. Among four (4) indicators of teaching competencies, only classroom management and mastery of the subject matter persisted as significant predictors. The remaining significant predictors for interpersonal support are appraisal support, self-esteem, and tangible support.

Figure 2. Best-Fit Model on the Academic Success

Moreover, the dynamic interplay and interconnectedness of these exogenous variables significantly affect student's academic success and align with the claims of Graf et al. (2023), Park et al. (2020), Rodrigues et al. (2023), and Savina (2020) that multidimensional perfectionism, consistency of teaching competencies (teachers who demonstrate high level of pedagogical knowledge and effective classroom management contribute to supportive learning environment), support from friends and teachers (which results to lower anxiety and stress) directly enhances and leads to higher level motivation and success of its students.

CONCLUSION AND RECOMMENDATION

Maritime students in the Davao Region have a high degree of multidimensional perfectionism, demonstrated by self-oriented, other-oriented, and socially prescribed indicators. Teaching competencies also have a very high degree due to indicators of mastery of the subject matter, classroom management, teaching skills, classroom management, and evaluation skills. Interpersonal support is observed to be of a high degree due to indicators of tangible support, belonging support, self-esteem, and appraisal support. A very high degree is also observed for academic success as perceived by external motivation/future, career decidedness, internal motivation/confidence, perceived instructor efficacy, socializing, personal adjustment, general academic success, concentration, external motivation/current, and lack of anxiety.

The academic success of maritime students was shown to be significantly correlated with multidimensional perfectionism, teaching competencies, and interpersonal support, based on the correlational test. Also, academic success is significantly predicted by all its interpersonal support and teaching competencies. On the other hand, utilizing the best-fit model for the analysis moves through various stages of model specification, estimation, and assessment as the model improves the study's validation and comprehensiveness. The third (3rd) generated model met all requirements for a good fit and

is the most efficient model; therefore, it is the best-fit model for the academic success of maritime students. Furthermore, the Attribution Theory provided a foundation for understanding how multifaceted perfectionism, teaching skills, interpersonal support, and academic achievement are interconnected.

Considering the findings and to strengthen the interplay of these variables, the following suggestions are provided:

To effectively enhance relaxation post-work (multidimensional perfectionism - self-oriented), the maritime school and its administration may consider integrating mindfulness exercises such as deep breathing or meditation to decelerate mental activity and diminish stress hormones. Subsequently, engaging in light physical activity like gentle stretching or a leisurely walk can alleviate muscular tension and stimulate the release of endorphins, fostering a sense of well-being. Furthermore, creating a dedicated relaxation space characterized by dim lighting, soothing aromas, and comfortable seating may serve as a sanctuary conducive to tranquility. Disrupting from work-related technology and indulging in enjoyable, non-work activities such as reading, listening to music, or pursuing hobbies may further promote mental disengagement and facilitate profound relaxation.

To evaluate the process of rating outputs or performances against peers (teaching competencies – evaluation skills), it is essential to establish clear, objective criteria aligned with learning outcomes, ensuring fair and consistent evaluations. Providing students with detailed rubrics and examples of varying quality may help them understand expectations and offer constructive feedback. Anonymizing the peer assessment process may mitigate bias and encourage more honest, objective ratings, fostering a safer environment for feedback. Incorporating a moderation process, where instructors review and adjust peer ratings, may ensure reliability and fairness while also providing students with insights into the complexities of assessment.

To enhance interpersonal support, the school and/or administrator may provide financial assistance or material goods to alleviate the immediate burden and demonstrate practical care. Cultivating a sense of belonging involves creating inclusive environments and shared activities that foster social connection and mutual understanding. Moreover, offering appraisal support through positive feedback, encouragement, and recognition of others' strengths may bolster self-esteem and confidence. Integrating these support mechanisms, individuals may foster more substantial, more resilient interpersonal relationships that contribute to overall well-being and thriving.

To further enhance the student's academic success, the maritime school and/or administrator may promote active learning techniques such as mindful activities, attentive listening, and creating a distraction-free study environment. This may give students timely feedback, encourage them to collaborate and demonstrate the importance of content. This may also reduce anxiety through positive self-talk, practicing effective time management, and utilizing school resources for support.

To optimize student academic success, maritime schools should foster an environment that recognizes and strategically manages multidimensional perfectionism, enhances teaching competencies, and bolsters interpersonal support systems. When understood and channeled effectively, it may drive students toward higher achievement; therefore, teachers may be trained to identify varying perfectionistic traits and guide students in setting realistic yet challenging goals. Simultaneously, cultivating teaching competencies that emphasize personalized feedback and adaptive instructional strategies may ensure that students receive tailored support that addresses their unique learning styles and perfectionistic tendencies. Maritime schools may cultivate a strong sense of community through robust interpersonal support networks,

including peer mentoring programs and accessible counseling services, enabling students to navigate academic pressures while maintaining their well-being and fostering resilience.