

Students' Wellbeing and Level of Motivation towards Science Learning in Relation to Their Academic Achievement

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Abstract

Academic achievement requires a lot of motivation. Given that students' wellbeing substantially affects their overall performance, examining the many aspects and how they affect students is necessary. This study determined the students' wellbeing and motivation towards science learning concerning their academic achievement. The results were obtained from 134 respondents. The study employed a descriptive-correlational research approach and utilized three main tools: the Student Subjective Wellbeing Questionnaire, the Students' Level of Motivation Questionnaire, and the academic records of the students. The research in question employed various statistical techniques, including the Pearson Product Moment Correlation Coefficient, mean, standard deviation, stepwise multiple regression analysis, and mean. Results showed that the overall wellbeing of the students was good, their level of motivation was high, and their academic achievement in science was very satisfactory. It was found that there was a significant relationship between students' wellbeing and academic achievement in terms of academic efficacy. Furthermore, there is a significant relationship between students' levels of motivation and their academic achievement. The research results indicate that the extent of a student's motivation, specifically their self-belief and their goals for achievement, played a significant role in predicting their success in science education. The findings make instructors use different science teaching strategies that consider students' learning styles while planning classes and activities to help students develop desirable behaviors toward appreciation and interest in science.

Keywords: wellbeing, academic efficacy, achievement goals, motivations, science learning

1. Introduction

The COVID-19 pandemic forced Philippine schools to stop holding in-person classes and swiftly shift to an online curriculum. Students in the Philippines faced several interconnected challenges as they attempted to adjust to online learning (Baticulon et al., 2021). The epidemic had an impact on people's mental health all across the world. Many students experience tension and anxiety (Cao et al., 2020). Such psychological difficulties frequently impede students' adaptation to online education. (Jaeger & Blaabk, 2020). Students face difficulties when learning the science subject regarding student motivation, cognitive aptitude, instructor traits, subject matter substance, medium of instruction, learning environment, instructional resources, teaching curriculum, and parental assistance (Sadera et al., 2020).

Academic pressure in an increasingly competitive environment and a wide range of lifestyle changes can contribute to suboptimal wellbeing (Burns, 2020). All instruction was gone digital, and the sudden shift to emergency remote teaching harmed student learning, engagement, and mental health. Concerns about motivation and engagement, personal scheduling, teacher interaction, and increased anxiety and stress were among the main challenges raised by students (Petillion, 2020). Both learners and teachers have encountered challenges as a result of the urgent shift to online learning and teaching. Online learning causes a great deal of stress and worry in many teens and young adults, which can cause a variety of mental health issues. Not all teens can benefit from these novel-learning environments, and some find it difficult to maintain their academic progress while still being motivated and interested (UNESCO, 2020). Children's and young people's viewpoints have been generally disregarded when deciding on the best strategies to assist students' wellness at school. The vast potential for change and school reform in student welfare exists when accessing and using children's and young people's perspectives (Powell et al., 2018). Students frequently struggle to get social and emotional

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support, and many feel less like they belong in school, hindering them from pursuing successful academic and professional pathways. (Borman et al., 2019)..

According to Edgar et al. (2019), early identification of at-risk students may make the transition to higher education easier for many individuals. Universities and their surrounding communities are deeply alarmed by the widespread and intense mental health challenges faced by college students (Baik et al., 2019). University students must have good mental health to reach their full academic potential. Students' learning can be hampered by mental health issues, which affect their attention, cognition, problem-solving, social relationships, and ability to collaborate constructively with others or engage effectively in learning activities. On the other hand, positive mental health (or wellbeing) implies that students will have the resilience, drive, and tenacity required to engage effectively in challenging learning activities, handle stresses, respond positively to obstacles, and maximize opportunities (Baik et al., 2021).

The cognitive and affective assessments of one's life represent a person's subjective well-being. According to Chattu et al. (2020), higher academic achievement is correlated with greater subjective wellbeing, proving the importance of subjective wellbeing to a student's academic life. Relationships with oneself, teachers, friends, classmates, and significant others were acknowledged as being important to their wellbeing in the students' thorough reflections on their wellbeing, which were separated into three interwoven themes: "being," "having," and "doing" (Powell et al., 2018).

It should be mentioned that students, in general, face several challenges to maintaining a high level of learning motivation during their university studies, such as exposure to subjects or lecturers who do not necessarily regard an interest in teaching (Garn & Morin, 2021). Many students lack a positive attitude, frequently caused by a combination of reasons such as tutoring techniques, anxiety, concerns about failing the course, cultural and societal influences, and so on. When these influences begin to accumulate or take hold of the student, the consequences on academic achievement in this topic are typically poor, leading to demotivation and desertion by the student in many circumstances (Cerda et al., 2017).

Self-belief was the primary feature of motivation determining student performance in the transition to university. Transferring to higher education may be influenced by one's motivation to study, notably by one's self-belief in one's capacity for learning. Using academic motivation measures to gauge student involvement with the curriculum may be effective in discovering any relationship between student self-belief and performance in particular courses (Edgar et al., 2019). Adolescents' interest in science has decreased partly because schools and science teachers are emphasizing mastering goals less. Adolescent motivation was most strongly correlated with practices relating to the nature of the tasks and student autonomy (Vedder-Weiss & Fortus, 2018).

Motivation is essential for students to learn a given area and attain academic success. Student-centered Learning (SCL) aims to solve the shortcomings of prior traditional methods by placing students at the center of classroom learning (Dewi et al., (2019). Student attitudes and motivation toward assessment are critical factors for success in online learning since motivation is a condition for and a result of effective instruction (McLaughlin & Yan, 2017). Students are actively motivated to engage in learning activities when pedagogical design appropriately fulfills these psychological demands (Hsu et al., 2019).

Science education focuses on teaching science concepts and methods and resolving learner misunderstandings about science subjects. Science education is critical to the prosperity of any nation, which is why every country must prioritize it in all educational institutions (Siayah, 2020). STEM education integrates science, technology, engineering, and mathematics into a holistic learning approach. Various learning strategies help students develop various talents, such as problem-solving abilities. Problem-solving has become essential to learning since it may encourage students and improve their cognitive ability (Austuti, 2021). Science and technology education is crucial to long-term growth. The learning cycle is completed when information gained from education is not isolated within institutions but spreads in daily life and across society. The fundamental understanding of science and technology must be linked to various environmental phenomena so that students are interested and consider the implications. This finally prompted them to become aware of the world's pressing issues and seek feasible solutions (Dey, 2021).

The 21st century requires a variety of skills, particularly in the fields of science, technology, engineering, and mathematics (Salikha et al., 2021). To thrive in today's global society, citizens must be informed, consumers, and scientific knowledge providers. According to several educational stakeholders, such talents and abilities are not natural and must thus be taught. To develop knowledge and behaviors like deep conceptual comprehension, model-based reasoning, and oral and written debates in which scientific evidence is reviewed, such training calls for a fundamental

change in how science is taught. The capacity of high school pupils to do scientific research must be improved (Murphy et al., 2018).

In this paper, the researcher looked at some critical points about the student's wellbeing and learning motivation toward science. The importance of motivation for academic success cannot be overstated. Examining the numerous health variables and how they impact pupils is necessary since students' welfare dramatically impacts their overall performance. In order to grasp the relationship between students' well-being and their academic success, it is essential to identify the factors that influence their academic performance. As a result, this chapter will examine the intricate relationship between students' academic success, motivation, and well-being.

2. Methodology

2.1. Research Design

A descriptive-correlational strategy was utilized in this quantitative research. Through the collection of quantitative data and employing statistical analysis, the researchers utilized their study's framework to elucidate various aspects such as events, beliefs, actions, and other identifiable factors (Kapici & Akcay, 2016). The choice of employing the descriptive-correlational research method in this investigation was particularly apt, as it allowed for the evaluation of students' well-being, their level of interest in scientific learning, and the examination of how these factors interrelate with academic achievement.

2.2. Research Setting

The research was carried out at Misamis University, situated in Ozamiz City. Established in 1929 as Misamis Institute, the institution underwent name changes, becoming Misamis Colleges in 1955 and eventually achieving university status in 1977. MU is a non-sectarian institution given "Autonomous Status" by CHED for the 2019 academic year. The University offers 29 programs, including graduate school and primary education. Secondary education ensures (1) the growth of a person's cultural, sociopolitical, physical, moral, and spiritual characteristics; (2) the development of his/her sense of membership in a national community; (3) the development of his/her intellectual and work skills; and (4) the development of his/her values. Misamis University provides academic support for Junior High School students by assisting them in re-directing their values and attitudes and utilizing their competencies for service, as well as providing a balanced program of students' growth and development that includes intellectual, moral, spiritual, social, and physical aspects of development. Misamis University is also one of several institutions that have adopted the online learning mode, with classes offered synchronously and asynchronously. This ensures that children continue receiving a high-quality education despite a pandemic.

2.3. Respondents of the study

The respondents of the study were 134 Junior High School students at Misamis University who were chosen through simple random sampling. The selection of the respondents was based on the following criteria: (1) Junior High School students who are enrolled in the SY 2021-2022; (2) students who are taking science subjects; (3) students who are attending an online learning class and (4) students who gave their full agreement to participate in the study.

2.4. Research Instrumentation

The study used questionnaires, documents, and records as data-gathering instruments.

- a) Student Subjective Wellbeing Questionnaire (Appendix A). This questionnaire was adapted and modified from *Renshaw* (2020). It is a four-point Likert scale used to determine the students' wellbeing. The instrument contains 16 indicators with four constructs: enthusiasm for acquiring knowledge, sense of belonging to the school community, clarity of educational goals, and confidence in academic abilities.

In determining the students' wellbeing, the following scale was used:

Responses	Continuum	Interpretation
4 – Almost Always	3.25 – 4.0	Very Good
3 – Often	2.50 – 3.24	Good
2 – Sometimes	1.75 – 2.49	Fair
1 – Never	1.0 – 1.74	Poor

- b) Students' Level of Motivation Questionnaire (Appendix B). This questionnaire was adapted and modified from *Tuana, Chinb, & Shieh (2005)*. The questionnaire utilized the four-point Likert scale. The instrument contains 35 indicators with five constructs: self-efficacy, active learning strategies, science learning value, achievement goal, and learning environment stimulation. The researcher pilot-tested the instrument to selected students for reliability and yielded a Cronbach's Alpha coefficient of 0.70. Hence, the instrument will be valid and reliable for the study.

In determining the students' motivation, the following scale was used:

Responses	Continuum	Interpretation
4 – Strongly Agree	3.25 – 4.0	Very High
3 – Agree	2.50 – 3.24	High
2 – Disagree	1.75 – 2.49	Low
1 – Strongly Disagree	1.0 – 1.74	Very Low

- c) Students' Academic Achievement in Science. The researchers used documentary analysis using the first and second-quarter grades of the students. In determining the academic achievement in Science of the students, the following scale was used based on the DepEd grading system:

Rating	Interpretation
90-100	Outstanding (O)
85-89	Very Satisfactory (VS)
80-84	Satisfactory (S)
75-79	Fairly Satisfactory (FS)
74 and below	Did not Meet Expectation (DME)

2.5. Data Collection

Before performing the study, professional standards should be followed, college/university clearance on campus should be obtained through the IRB, and local consent should be obtained from the location and participants. Respecting and disrupting the site, avoiding misleading respondents, describing the aim of the research and how the data will be used, and adhering to the procedure are all significant while collecting data (Creswell, 2014).

In gathering the data, the researchers asked permission from the research instructor, the College of Education of Misamis University, and the Junior High School to conduct the study. The researchers went to the University for the Letter of Approval. Upon entering the school, safety protocols were observed: temperature check, filling out the log-in forms, hand washing or sanitizing, social distancing, and wearing a mask. Once the permit was obtained, the researchers prepared a consent letter for the participants. Participants were informed of the study's importance and were interviewed using MS Teams and Messenger since face-to-face interview is not allowed due to pandemic restrictions. For those respondents who preferred to answer the soft copy of the instruments, the researcher created Google forms on the two research instruments and sent the Google form link to the students. Finally, the data gathered were tallied through Excel and computed digitally. The results were presented in tabular forms for analysis and subsequent interpretation of data.

2.6. Ethical Considerations

When dealing with people, you should always follow through on commitments and act honestly (Resnick, 2015). Respondents should have proper information regarding the study, participation, rights, rewards, and damage. Respondents must be made aware that their participation is completely voluntary and that they are free to discontinue

at any time, even after the data has been collected, without facing consequences or prejudice. Especially while collecting data, the responders' identities should be kept confidential. Non-authorized individuals should have no access to the data. There will be no collection of data that is irrelevant to the research. Mental, emotional, or bodily damage should not be inflicted on the participants. The location and time of the interview should be chosen to be convenient for the participants (Amdur & Bankert, 2011).

The participants' informed consent was sought before responding to the questionnaires to maintain the study's ethical features. Before completing the survey, respondents were informed of the study's objectives, possible benefits for them and others, the confidentiality of the data, and the participants' anonymity throughout the study. Researchers informed the participants that their participation was optional, and they were allowed to respond to or reject any question they did not feel comfortable answering. The researchers made sure to steer clear of any deceptive information, coaching, or misinterpretation of the original data, and all conversations regarding the study were honest and open.

2.7. Data Analysis

The study used the following tools in analyzing the data gathered with the use of Minitab Software:

Mean and standard deviation. This was used to describe students' motivation for scientific learning in areas such as self-efficacy, active learning techniques, science learning value, accomplishment objective, and learning environment stimulation. Certainly, when discussing the students' overall sense of happiness and fulfillment in relation to their education, the researchers can focus on their enthusiasm for learning, their sense of belonging to the school community, their clarity of purpose in education, and their belief in their academic abilities.

Pearson r Product Moment Correlation Coefficient. This study aimed to investigate the notable correlation between students' well-being, their motivation for learning science, and their overall academic achievements.

Multiple Regression Analysis. It was employed to uncover the factors influencing students' performance in science by analyzing the variables that predict their academic success.

3. Results and Discussion

3.1. Students' Wellbeing

The students' overall wellbeing was measured in areas of enthusiasm for acquiring knowledge, sense of belonging to the school community, clarity of educational goals, and confidence in academic abilities (Table 1). The statistics showed that their overall well-being was good ($M= 3.17$; $SD= 0.60$). According to the statistics, students have enough psychological, cognitive, social, and physical functioning, as well as the ability to live a happy and full life.

The data indicated that the students are satisfied with their educational purpose, which got the highest remark as very good. The students care about their learnings as well as about themselves as individuals. The three aspects - the pleasure of acquiring knowledge, a strong sense of belonging within the school community, and confidence in academic abilities, got a good remark. Students have a positive intellectual and emotional state and experience satisfaction and belongingness in learning. They demonstrated confidence in organizing and achieving academic success at a certain difficulty level. Positive attitudes toward learning experiences enhance educational ownership and help students grow self-confidence and self-esteem.

As an essential notion in positive psychology, well-being should also be viewed as a fundamental component of education (Seligman, 2009). The findings support the study of Alt (2018), which indicates that the students had a decent overall level of psychological wellbeing while having minimal personal growth and autonomy. In an educational context, achieving student wellbeing is complex, yet it is necessary for the whole child's development (Poulou, 2017).

People with an average education level are more pleased than those with a low or a high education level (Stutzer, 2004). Children who are more satisfied in school are less likely to feel excluded and have higher senses of agency, communication, self-esteem, confidence, community involvement, and self-fulfillment. To promote the well-being of learners at school and in the community, educational goals and environments are essential (Anderson & Graham, 2016).

By offering access to worthwhile activities and enhancing the school's physical environment to make it more student-friendly and conducive to learning, teachers can foster a warm environment where everyone feels supported and protected and where students feel appreciated as individuals. They should look for different methods to make learning fun in the classroom by giving students freedom over their actions, having a sense of humor, and keeping the lines of

communication open so that they may feel more connected to them and support their learning experiences as they progress toward mastery.

Table 1. Students' Wellbeing (n = 134)

Constructs	M	SD	Remarks
Joy of Learning	3.08	0.65	Good
School Connectedness	3.06	0.66	Good
Educational Purpose	3.61	0.52	Very Good
Academic Efficacy	2.94	0.63	Good
Overall Wellbeing	3.17	0.60	Good

Note: Wellbeing Scale 3.25-4.0 (Very Good); 2.50-3.24 (Good); 1.75-2.49 (Fair); 1.0-1.74 (Poor)

3.2. Students' Level of Motivation

The students' level of motivation was measured in areas of self-efficacy, active learning strategies, science learning value, achievement goals, and learning environment stimulation (Table 2). The student's motivation towards science learning was high ($M = 3.14$; $SD = 0.49$). Students are highly motivated in their convictions to complete a task, their reasons, goals for finishing the work, and their emotional response to completing the assignment.

Based on the preceding results, students have the highest motivation regarding science learning value, indicating they are driven to hone their problem-solving skills, engage in inquiry-based activities, sharpen their minds, and comprehend the significance of science in their daily lives. Students have high remarks regarding their self-efficacy, active learning strategies, achievement goal, and learning environment stimulation. The students show a firm conviction in their potential to do well in scientific learning activities. They demonstrated active participation in constructing new information based on prior knowledge gained in science lessons, employing a range of ways. Additionally, many revealed satisfaction at the fact that understanding science had increased their confidence and sense of success. The learning environment surrounding the students, such as the curriculum, instructors' teaching, and student interaction in class, also influences students' motivation to learn science.

The findings of this study supported the role of motivation in learning, in which motivation is a driving force that drives people to react. Motivation, as used in education, refers to the justification or goal teachers and students have for engaging in learning activities (Corpuz & Salandanan, 2013). Two significant issues in science education are engaging students in scientific processes and building and sustaining interest (Bobby et al., 2021). Targeting students' interests and motivation is essential in enabling their career aspirations and persistence in science subjects (Chittum et al., 2017). The objective of science education is commonly acknowledged to be the development of a scientifically literate society, including the capacity to problem solve, make evidence-based judgments, and assess information rationally (Glaze, 2018).

Motivation is an important emotional factor in scientific classes. Students must be motivated to better grasp scientific concepts, excel in science courses, and develop scientific process skills. Motivation in learning is a significant concept that has a direct influence on student accomplishment in scientific approaches (Uzun & Keleş, 2012).

The study's motivational factors significantly impacted the students who participated, showing the need for a shift to a growth mindset teaching approach that makes science applicable to daily life (Bedford, 2017). Motivation, engagement, and interest are critical to deeper learning, and ignoring their importance in individuals' involvement and learning may affect whether a project's goals are met (Renninger et al., 2018). Thus, instructors must be aware of the importance of motivation, evaluate affective elements such as motivation throughout educational processes, and provide appropriate learning environments for students to promote affective qualities such as motivation for learning (Yldrm & Karataş, 2018).

It is a challenge for teachers to know their student's capabilities and interests to find an easier way to raise students' motivation. Instructors must plan how to engage the students in the learning process to help them improve their attention and focus, encourage them to develop higher-level critical thinking abilities, and foster meaningful learning experiences. Instructors should use a student-centered approach to instruction to improve possibilities for student interaction, which will help everyone achieve the course's learning objectives more successfully. Active learning demands students to interact in class rather than simply sitting and listening. Hands-on activities and experiential learning events must be included in scientific learning strategies.

Teachers have to think about how to set clear goals, create effective evaluation procedures, and offer helpful feedback to students to enhance their enthusiasm to master science concepts. They must continue creating an environment that allows for the free interchange of ideas, thoughts, and skills among themselves and learners to attain the intended educational goals while considering all learners' physical, psychological, social, and cultural requirements.

Table 2. Students' Level of Motivation (n = 134)

Constructs	M	SD	Remarks
Self-efficacy	2.81	0.41	High
Active Learning Strategies	3.22	0.44	High
Science Learning Value	3.35	0.47	Very High
Achievement Goal	3.24	0.58	High
Learning Environment Simulation	3.10	0.49	High
Overall Motivation	3.14	0.49	High

Note: Level of Motivation Scale 3.25-4.0 (Very High); 2.50-3.24 (High); 1.75-2.49 (Low); 1.0-1.74 Very Low)

3.3. Students' Academic Achievement in Science

Data in Table 3 revealed that students' science performance was generally very satisfactory (M= 85.733). While the majority of the students had outstanding performance (f= 52; %= 40.30), almost half of the majority demonstrated very satisfactory (f= 28; %= 20.90) and satisfactory (f=28; %= 20.90), and the small group also demonstrated fairly satisfactory performance (f= 23; %= 17.16), a very negligible number (f= 1; %= 0.75) did not meet the expectation. Written performance assignments and periodic evaluations were used to assess students' progress in science. Thirty (30) percent of the grade comprises written work, including written outputs and unit/chapter assessments. The percentage of performance tasks comprising both product- and performance-based activities is fifty percent (50%); the percentage of quarterly evaluations is twenty percent (20%).

The data implies that the outstanding students outnumbered the very satisfactory scientific achievements. The majority of the students are doing very well in this subject. All their written, performance and quarterly scores were outstanding. However, only one (1) student still needed to meet expectations. This student needed help understanding the concepts of science.

Academic achievement is vital for a child's development since it affects a variety of outcomes, including longevity, work performance and earnings, career accomplishment, and physical and mental health (Calvin et al., 2017). The academic performance of students is an essential aspect of education. Academic performance is the knowledge learned by an educator measured by grades or targets for learning set by learners and educators to be completed in a specific time frame. They also claimed that continual evaluation or examination outcomes measure these objectives. Several variables are affecting students' academic performance.

On the other hand, a strong parental support system, friendships, internet access, and involvement in extracurricular activities seem to boost children's performance (Narad & Abdullah, 2016). The more often students took notes, paid attention in class, and independently studied, the better they did in science (Corpuz, 2017). Both positive and negative effects of students' social and lifestyle choices may be shown in how well they perform academically (Salih, 2021).

In order to enhance students' academic success in the field of science, educators should explore avenues to boost their proficiency in science and their overall grasp of scientific knowledge. Utilizing research on how students acquire scientific knowledge can aid in the creation of teaching approaches that facilitate effective learning. By refining teaching techniques and enhancing the quality of science instruction, students can cultivate a more profound comprehension of scientific concepts, ultimately resulting in improved performance in assessments. Those students who were always or frequently experience difficulties in science can overcome challenges in science topics by listening to lectures, taking notes, and studying independently.

3.4. Significant Relationship between the Students' Wellbeing and Their Academic Achievement

Pearson Product Moment Correlation Coefficient was used to assess the significance of the relationship between students' well-being and their academic achievement. (Table 3). The data revealed that out of the four constructs, only academic efficacy ($r= 0.20$; $p= 0.02$) was related to the student's academic achievement. While the remaining three,

namely: school connectedness ($r= 0.007$; $p=0.84$), educational purpose ($r= 0.16$; $p= 0.07$), and joy of learning ($r= 0.17$; $p= 0.84$), did not correlate to students' achievement.

The data implies a connection between students' academic effectiveness and their academic performance, which means that when students are confident in their capability to organize, execute, and regulate their problem-solving or task performance at a designated level of competence, they perform high performance in their academic achievement.

It fosters emotional health and wellbeing and plays a supportive and protective role by increasing the positive effect of mastery and performance-approach goals. However, a very weak positive relationship existed between educational purpose and academic achievement ($r= 0.16$; $p=0.07$). Even if students are passionate about their schoolwork, this does not guarantee that they will excel in their academics at all times.

Table 3. Students' Academic Achievement (n= 134)

Students' Academic Achievement in Science	Frequency	Percent
Outstanding (O)	52	40.30
Very Satisfactory (VS)	28	20.90
Satisfactory (S)	28	20.90
Fairly Satisfactory (FS)	23	17.16
Did not Meet Expectation (DME)	1	0.75
Overall Performance	85.733	Very Satisfactory

Note: Performance Scale Academic Achievement Scale 90-100 (Outstanding); 85-89 (Very Satisfactory); 80- 84 (Satisfactory); 75-79 (Fairly Satisfactory); <74 (Did not meet expectation)

As an essential notion in positive psychology, well-being should also be viewed as an essential component of education (Seligman, 2009). Adolescent wellbeing predicts their likeness in academic attitude, which leads to academic performance (Palmer, 2014). Academic success during childhood and adolescence can have a significant impact on the educational and career paths that individuals choose later in life (Flashman, 2012). Life satisfaction is related to students' average academic success and attitudes toward education (Maltby, 2010). Inadequate academic achievement can result in children and teenagers becoming discouraged and disheartened about their prospects. This, in turn, prompts educators and parents to apply undue stress, which has an adverse impact on the emotional well-being of young individuals.

Moreover, many studies have indicated a correlation between academic achievement and the subjective well-being of children and adolescents. For example, Kirkcaldy et al. (2004) analyzed the Program for International Student Assessment (PISA) to investigate the relationship between academic achievement and the subjective well-being of high school students in 30 countries (using life satisfaction and negative affect as indicators of subjective well-being). Academic achievement was positively correlated with life satisfaction and negatively correlated with negative affect at the country level. Studies of high school students in Germany and the USA have shown that academic achievement positively correlates with life satisfaction (Crede et al., 2015).

However, the study of Luhman et al. (2018) states that wellbeing predicts students' academic success relatively, which indicates that poor-achieving students only sometimes have low wellbeing. High-achieving students only sometimes have a high degree of wellbeing.

The teachers need to ensure that they have to maintain a positive, warm, and welcoming environment for everyone where they feel safe and supported. They must foster belongingness and positive engagement—students who feel they belong are linked to higher student wellbeing and better academic achievement.

3.5. Relationship between the Students' Level of Motivation in Science Learning and their Academic Achievement

Pearson Product Moment Correlation Coefficient was utilized to determine the significance of the relationship between the student's level of motivation and their academic achievement. Table 5 presents data that indicates a noteworthy and favorable correlation between students' motivation levels and their academic success in the field of science. The students' self-efficacy ($r = 0.28$; $p = 0.000$) in learning was highly and significantly correlated to their academic achievement in science. The active learning strategies ($r=0.17$; $p=0.05$) and achievement goal ($r=0.23$; $p=0.01$) were also significantly correlated with their academic achievement in science learning. The science learning value ($r= 0.15$;

$p = 0.09$) and the learning environment stimulation ($r = 0.09$; $p = 0.32$) in learning did not correlate with their academic achievement in science.

Table 4. Relationship between the Students' Wellbeing and their Academic Achievement (n=134)

Variables	<i>r</i> value	Relationship Strength	<i>p</i> value	Remarks
Joy of Learning and Achievement	0.17	Very Weak	0.84	Not Significant
School Connectedness and Achievement	0.007	Very Weak	0.93	Not Significant
Educational Purpose and Achievement	0.16	Very Weak	0.07	Not Significant
Academic Efficacy and Achievement	0.20	Weak	0.02	Significant

Note: Relationship Strength Scale: 1.00 (Perfect); 0.80-0.99 (Very Strong); 0.60-0.79 (Strong); 0.40-0.59 (Average); 0.20-0.39 (Weak); 0.01-0.19 (Very Weak); 0.00 (No Relationship)
Probability Value Scale: ** $p < 0.01$ (Highly Significant); * $p < 0.05$ (Significant); $p > 0.05$ (Not significant)

The data indicated that those students with higher self-efficacy, active engagement in using a variety of methods to develop new knowledge based on their current understanding of the motivation to perform well in scientific learning activities, and greater levels of academic achievement in science are associated with an elevated sense of satisfaction as individuals enhance their competence and accomplish more during the learning process. The more students believe in their abilities to do well, the more driven they are to complete scientific learning tasks and master science ideas to achieve higher grades in science.

The study's findings backed up the idea that, among the factors influencing learning among learners, motivation serves as one of the most important factors that might affect students' learning accomplishment (Rosmayanti & Yanuarti, 2018). Another aspect that might influence academic achievement is motivation (Fereidooni-Moghadam et al., 2017). Academic achievement is predicted by motivation (Dogan, 2017). As a result, motivation is essential for academic achievement. Higher academic success follows from higher motivation (Kori et al., 2016). Academic success is influenced by the active participation of students, their belief in their ability to excel academically, and their drive to achieve in their studies (Dogan, 2017). Cognitive involvement predicts academic success but not emotional or behavioral engagement.

Table 5. Relationship between the Students' Level of Motivation and their Academic Achievement (n=134)

Variables	<i>r</i> value	Relationship Strength	<i>p</i> value	Remarks
Self-efficacy and Achievement	0.28	Weak	0.00	Highly Significant
Active Learning Strategies and Achievement	0.17	Very Weak	0.05	Significant
Science Learning Value and Achievement	0.15	Very Weak	0.09	Not Significant
Achievement Goal and Achievement	0.23	Weak	0.01	Significant
Learning Environment Stimulation and Achievement	0.09	Weak	0.32	Not Significant

Note: Relationship Strength Scale: 1.00 (Perfect); 0.80-0.99 (Very Strong); 0.60-0.79 (Strong); 0.40-0.59 (Average); 0.20-0.39 (Weak); 0.01-0.19 (Very Weak); 0.00 (No Relationship) Probability Value Scale: ** $p < 0.01$ (Highly Significant); * $p < 0.05$ (Significant); $p > 0.05$ (Not significant)

Furthermore, academic self-efficacy and drive have a favorable and meaningful link with academic success. There is a substantial association between motivation and academic achievement, and students' motivation may be used to predict their performance (Muhammad et al., 2015). Nonetheless, a study conducted by Cetin in 2015 presented opposing findings compared to the earlier study. Cetin's research aimed to assess whether academic aspiration and self-regulated learning could forecast students' GPAs. Surprisingly, Cetin's results indicated that there was no discernible connection between GPA and either academic motivation or self-regulated learning.

Teachers must consider their students' learning styles while developing classes and activities to ensure they are as successful as feasible. If the instructor needs clarification about their student's learning styles, creating exercises that include visual, auditory, and kinesthetic learning to cover all bases is best. Teachers need to build relationships with

their students so that they may have fun without disrupting the lesson. Humor is the glue that holds a classroom together, and students value teachers who go out of their way to connect with them. Making learning enjoyable will motivate learners to attain academic achievement. Goals should also be challenging but attainable so that teachers may encourage the students to perform at their highest level. Instructors should offer as much encouragement and appreciation as possible along the route so that learners feel empowered.

3.6. Regression Analysis on the Students' Wellbeing and Level of Motivation Predict their Academic Performance

Stepwise Regression Analysis was used to identify the predictors of students' academic achievement, which resulted in p-values lesser than 0.05 alpha level (Table 6). The finding revealed that the students' self-efficacy ($\beta= 3.89$, $t= 2.88$, $p= 0.005$) and achievement goal ($\beta= 2.25$, $t= 2.38$, $p= 0.01937$) were shown to be indicators of their academic achievement in science (Table 3). Factors such as the enjoyment of learning, feeling connected to school, having a clear educational goal, believing in one's academic abilities, employing active learning techniques, recognizing the value of science education, and simulating a conducive learning environment do not have a significant impact on students' academic performance. The regression equation ($\text{Achievement} = 68.15 + 3.89 \text{ Self-efficacy} + 2.246 \text{ Achievement Goal}$) indicates that the unit increase of the students' self-efficacy and achievement goal in science learning, their academic achievement also increased by 3.89 and 2.246, respectively. Therefore, the information suggests that a student's success in science education can be linked to their confidence in their ability to excel in science-related tasks and their contentment as they experience growth in their proficiency and accomplishments within the realm of science learning.

Several academic studies have consistently found a positive and robust association between self-efficacy and academic performance. These research findings demonstrate that individuals who possess a higher sense of self-efficacy tend to excel academically, irrespective of their age, gender, field of study, academic discipline, or geographic location. A study conducted in the United States stated that, while there were differences in levels of self-efficacy by gender in early adolescents studying mathematics and science, self-efficacy was still shown to be a good predictor of accomplishment results (Louis & Mistele, 2011). The findings also support Talsma et al. (2018) prior research, which indicated that self-efficacy has long been recognized as a strong predictor of academic achievement. One perspective is that self-efficacy is just a reflection of previous performance. Because of the effects on students' behavior and academic achievement, self-related perceptions have become an important issue in education (Talib et al., 2009).

Lack of self-efficacy among students was associated with a belief that intellect is inherent and unalterable. Additionally, research showed that students with high levels of self-efficacy favored mastery goals, such as difficulties and interesting content, above performance targets, such as high grades and dominating their peers. Furthermore, children with self-efficacy performed academically because they could understand and manage their emotions and flourish in the face of difficulty (Köseoglu, 2015). Students' pleasure and academic progress were found to be inextricably linked. Furthermore, among the student satisfaction subscales, "being considerate" predicted students' growth the best (Rashidi & Moghadam, 2014).

Life fulfillment has been related to a number of positive effects. Achievement goals have an impact on academic success (Rahmani, 2011). Emotions and achievement goals are essential to students' learning processes (Hall, 2013). According to specific research, life pleasure is also associated with favorable educational achievements. A number of studies, for example, have found that appropriate life satisfaction, in addition to the lack of psychological discomfort, is an important element in increasing university students' motivation and academic achievement (Antaramian, 2015; Renshaw & Cohen, 2014).

Additionally, according to Duffy et al. (2012), students who are very satisfied with their lives are happy with their academic experiences. According to O'Sullivan (2011), life happiness is likewise related to better academic ambitions, more academic self-efficacy, higher perceived vital progress toward goals, and reduced academic stress. Increased grade point averages (GPAs) among students are also associated to increased life satisfaction (Rode et al., 2005).

Self-efficacy may promote student accomplishment, support mental health and well-being, and be a valid predictor of motivation and learning; consequently, students need to work hard to develop their self-efficacy to better themselves and, thus, their academic performance. To start, individuals must showcase a profound interest in the field of science, make intuitive breakthroughs when tackling scientific issues, possess a comprehensive understanding of scientific concepts, and effectively apply this knowledge to tackle fresh challenges and explore new subjects. Additionally, they should display exceptional levels of motivation and concentration.

Teachers also need to engage their students at a high level, be aware of their student's learning styles, bring scientific teachings to life with real-world applications, be aware of student sensitivities and differences, and be devoted to

ongoing professional development. In order to enhance students' motivation, academic performance, and enthusiasm for pursuing careers in science, educators should employ techniques such as social role modeling and collaborative learning experiences.

Table 6. Regression Analysis on the Students' Wellbeing and Level of Motivation Predict their Academic Performance (n = 134)

Predictors	Coef	SE C oef	T-Value	P-Value	VIF
Constant	68.15	4.56	14.95	0.000	
Self -Efficacy	3.89	1.35	2.88	0.005	1.02
Achievement Goal	2.25	0.942	2.38	0.019	1.02

$R^2 = 9.66\%$

Achievement = 68.15 + 3.89 Self-efficacy + 2.246 Achievement Goal.

4. Conclusion and Recommendations

The students reported a high level of subjective wellbeing in relation to their educational goals, with positive perceptions of their enjoyment of learning, sense of belonging to the school, and confidence in their academic abilities. Students showed a high level of motivation for learning science. They perceived their self-efficacy, active learning strategies, achievement goal, and learning environment stimulation with high motivation. Overall, the student's academic performance in science was very satisfactory with the standards set in the DepEd curriculum. There was a significant relationship between students' achievement in science and their overall wellbeing in terms of academic efficacy. There was no significant correlation observed between the student's performance in science and the various factors influencing their overall well-being. There was a significant relationship between the students' self-efficacy, active learning strategies, and achievement goals towards their academic achievement in science—no significant relationship between students' science learning value and learning environment stimulation.

The key factors that strongly influenced students' academic success in science education were their belief in their own abilities (self-efficacy) and their goals for achievement. The students are content with their educational objectives and experience a favorable intellectual and emotional condition. They feel a sense of fulfillment and connection within the learning journey and possess the confidence to effectively plan and attain academic accomplishments. The students are more likely to participate actively in class activities, are interested in completing scientific learning activities, and are driven to comprehend science concepts. The students perform very satisfactorily in Science. The students' positive attitude toward their abilities to fulfill academic tasks links to their wellbeing and academic success. Students are certain of their abilities to plan, perform and manage their problem-solving or work performance at a particular extent of competence as they excel academically. The achievement of students in the field of Science is closely tied to their motivation, particularly in terms of their belief in their own abilities and their goals for success in scientific studies.

Based on the findings and conclusion of the study, the following are the recommendations: The teacher has to create a positive environment where the student's wellbeing is prioritized and have available resources for students needing counseling services. Teachers need to plan how to engage students in the learning process that improves their attention and focus, stimulates higher-level critical thinking abilities, and creates meaningful learning experiences in Science subjects. Hands-on activities and experiential learning events must include scientific learning techniques corresponding to the student's interests and skills. Teachers may use different science teaching strategies to help students develop desirable behaviors toward appreciation and interest in science. Life scenarios and hands-on activities can help learners have a positive approach to learning science. Teachers must employ strategies aligned with their interests to build positive student attitudes to succeed academically. Teachers need to use a variety of approaches that take into account students' learning styles that are effective in encouraging them to accomplish their work. Future researchers should perform another study to investigate the elements influencing students' academic progress in scientific learning.

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