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ARTIFICIAL INTELLIGENCE ANXIETY AND THE LEARNING MOTIVATION OF STUDENTS

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ABSTRACT

Artificial Intelligence (AI) has transformed our lives, affecting how we think, act, and interact with society. With the rise of these technologies, students need to understand, adapt, and develop AI-related skills for their future endeavors. This study utilized a descriptive-quantitative research design to explore the relationship between Artificial Intelligence Anxiety (AIA) and Learning Motivation among students of the College of Teacher Education at Saint Michael College of Caraga. It is anchored on the theory of reasoned action (Fishbein & Ajzen,1975) and supported by self-determination theory (Ryan & Deci, 2000). Data were collected from 199 students across various education programs using stratified random sampling, with instruments including an adapted version of the Artificial Intelligence Anxiety Scale (AIAS). Statistical analysis revealed moderate levels of AI anxiety predominantly influenced by AI Learning Anxiety, AI Job Replacement Anxiety, and Sociotechnical Blindness. The study found that these anxieties significantly influence students' learning motivations, with AI Learning Intention being the most affected. This

research underlines the need for integrating AI education that addresses anxiety and enhances motivation among future educators. Primary recommendations include incorporating AI fundamentals in the curriculum to better prepare students for evolving educational demands.

KEYWORDS

AI Job Replacement Anxiety, AI Learning Anxiety, AI Learning Intention, Artificial Intelligence Anxiety, Extrinsic Learning Motivation, Intrinsic Learning Motivation, Learning Motivation, Learning-Self Efficacy, Sociotechnical Blindness

INTRODUCTION

Background

In the modern era, Artificial Intelligence (AI) has emerged as a transformative technology, encompassing fields such as robotics, deep learning, machine learning, and natural language processing. The advent of AI-powered tools like ChatGPT has increased public awareness and integration of AI into various domains, including education (Eager & Brunton, 2023). Within the educational context, AI refers to computing systems capable of human-like cognitive tasks, such as learning, adapting, synthesizing information, and correcting errors (Chatterjee & Bhattacharjee, 2020; Haenlein & Kaplan, 2019). Recent studies indicate that AI-driven digital technologies have significantly influenced human cognition, behavior, and social interactions (Chen et al., 2020; Johnson & Verdicchio, 2017; Khasawneh, 2018).

Despite its potential, AI has raised concerns among experts and influential figures, such as Bill Gates and Elon Musk, regarding its possible negative consequences. A major concern is the potential loss of human control over AI, which could lead to harmful outcomes for society (Johnson & Verdicchio, 2017). In education, students may struggle to keep pace with the rapidly evolving AI landscape, leading to a gap between their skills and the increasing complexity of AI technologies. This gap has contributed to rising AI anxiety, where students feel overwhelmed by the subject, affecting their motivation to learn (Khasawneh, 2018). Addressing this issue is critical, as AI-related knowledge and skills are increasingly essential for future careers (Gati & Kulcsár, 2021; OECD, 2018).

Prior research suggests that students with positive attitudes toward AI are more likely to engage with AI-related learning (Ng & Chu, 2021). Similarly, studies have shown that Korean high school students were more inclined to study AI when they had a favorable perception of it (Fornell & Larcker, 1981; Kim & Lee, 2020). However, students in online learning environments may experience anxiety, which can hinder their intrinsic motivation to learn (Almaiah & Al-Khasawneh, 2020). In the Philippines, leveraging AI in education offers an opportunity to enhance instructional effectiveness and adaptability (Tong et al., 2019).

However, the rapid advancement of AI challenges traditional educational approaches, necessitating curriculum reforms to keep pace with technological developments (Taeihagh, 2021).

This study was conducted at Saint Michael College of Caraga, Nasipit, Agusan del Norte, focusing on all College of Teacher Education (CTE) students from first-year to fourth-year levels. Given the complexity of AI algorithms, students may feel overwhelmed, leading to decreased motivation and a lack of appreciation for the subject's practical and enjoyable aspects. Conversely, concerns about AI replacing human jobs may serve as a motivating factor for students to develop AI-related competencies. Therefore, this study aims to examine students' AI anxiety and learning motivation, assess the levels of AI anxiety and motivation based on verified variables, and explore the relationship between AI anxiety and learning motivation.

Objectives of the Study/Statement of the problem

The study aimed to determine the relationship between Artificial Intelligence Anxiety and the Learning Motivation among CTE students of Saint Michael College of Caraga.

Specifically, the research seeks to address the following questions:

1. What is the students' profile in terms of:
    1.1 Age;
    1.2 Gender;
    1.3 Year Level;
    1.4 Gadgets Frequently Used; and
    1.5 Monthly Family Income?

2. What is the level of Artificial Intelligence Anxiety of the respondents in terms of:
    2.1 AI Learning Anxiety;
    2.2. AI Job Replacement Anxiety; and
    2.3 Sociotechnical Blindness?

3. What is the level of the Learning Motivation of the respondents in terms of:
    3.1 Intrinsic Learning Motivation;
    3.2 Extrinsic Learning Motivation;
    3.3 Learning Self-Efficacy; and
    3.4 AI Learning Intention?

4. Is there a significant relationship between the respondents' Artificial Intelligence Anxiety and their Learning Motivation?

5. Is there a significant relationship between the respondents' profile and their Artificial Intelligence Anxiety?

6. Is there a significant relationship between the respondents' profile and their Learning Motivation?

THEORETICAL FRAMEWORK

This study is anchored on the Theory of Reasoned Action (TRA) developed by Fishbein and Ajzen (1975), which seeks to explain the relationship between intention and behavior. The theory posits that an individual's intention is the primary determinant of whether they will engage in a specific behavior. Intention, in turn, is shaped by personal beliefs and attitudes. In the context of this study, Artificial Intelligence Anxiety (AIA) is considered a belief that influences students' motivation to learn AI-related subjects. Prior research suggests that anxiety related to technology can either hinder or enhance an individual's future behavioral intention (Brosnan & Lee, 1998; Igbaria et al., 1994; Russon et al., 1994; Y. Wang, 2007).

Additionally, Self-Determination Theory (SDT) (Ryan & Deci, 2000) is also discussed in relation to motivation. SDT differentiates between two types of motivation: intrinsic motivation, which is internally driven, and extrinsic motivation, which is shaped by external factors. Intrinsic motivation fosters persistence and engagement in learning, whereas extrinsic motivation helps individuals' complete tasks that may not initially interest them (Fishbach & Woolley, 2022; Woolfolk, 2016). In the context of AI anxiety, individuals experiencing higher levels of AIA may also exhibit increased learning motivation, as anxiety can act as a stimulus that encourages skill development.

Literature Review

The study of artificial intelligence (AI) and its integration into education has significantly evolved since its inception in the 1940s, progressing through machine learning, deep learning, and generalized AI (Sağıroğulu & Demirezen, 2020). AI technologies have become deeply embedded in modern life, influencing fields such as recruitment, healthcare, and education (Karal & Turan, 2021). In education, AI has transformed how students learn and how teachers manage administrative tasks (Joseph, 2019). However, the rise of AI has also prompted concerns about its implications, including fears of job displacement, societal dependence on technology, and existential anxieties regarding its potential to replace human functions (Johnson & Verdicchio, 2017; Wang & Wang, 2022). These issues highlight the need to examine students' profiles, levels of AI-related anxiety, and learning motivations to address the challenges and opportunities AI presents in education effectively.

One significant trend is the increasing anxiety surrounding AI, termed "AI Anxiety," which can manifest as fears of learning AI technologies, job replacement, and sociotechnical blindness (Johnson & Verdicchio, 2017; Wang & Wang, 2022). Sociotechnical blindness, in particular, reflects a lack of understanding of AI's dependence on human input and social institutions. Studies suggest that this fear may stem from

misconceptions about AI functioning independently of humans, a notion reinforced by media and public discourse (Richardson, 2015). Despite the potential for AI to improve education, such anxieties can hinder students' willingness to engage with AI technologies, impacting their learning motivation and future career prospects (Wang & Siau, 2019).

Learning motivation, which includes intrinsic and extrinsic factors, is another critical area of focus. Intrinsic motivation, driven by curiosity and personal satisfaction, often leads to better learning outcomes (Mazllami, 2020), while extrinsic motivation, influenced by rewards and social expectations, can be effective in the short term but may not foster long-term engagement (Deci et al., 1999). In AI-integrated environments, students' self-efficacy and their intention to learn AI play a pivotal role. Research indicates that students with a positive attitude toward AI are more likely to engage with it, and higher self-efficacy correlates with greater confidence and persistence in learning tasks (Ng & Chu, 2021; Bandura, 1986). However, gaps remain in understanding how intrinsic and extrinsic motivations interact with AI anxiety and how these factors influence students' learning behaviors and academic success.

Demographic factors, such as age, year level, gender, and socioeconomic status, also play a role in shaping students' experiences with AI. Generation Z, characterized by technological proficiency and a preference for digital learning tools, faces unique challenges, including short attention spans, high levels of anxiety, and reliance on technology (Giunta, 2017; Jenkins, 2019). Gender differences in attitudes toward technology have also been observed, with female students and teachers often experiencing higher levels of anxiety than their male counterparts (Awofala et al., 2017; Chua et al., 1999). Furthermore, socioeconomic disparities, particularly in developing regions like Southeast Asia, exacerbate the digital divide, limiting students' access to AI technologies and hindering their educational progress (Schleicher, 2020). These demographic factors must be considered to design inclusive and equitable AI-based educational interventions.

Furthermore, despite advancements in AI and its applications in education, research gaps persist. In this study, there is limited understanding of the relationship between students' demographic profiles and their levels of AI anxiety and learning motivation. Additionally, while tools like the AI Anxiety Scale (Wang & Wang, 2022) provide insights into anxiety dimensions, more research is needed to explore the interplay between AI anxiety and intrinsic/extrinsic motivations. Moreover, the long-term effects of AI on students' psychological well-being, creativity, and decision-making remain underexplored (Yu & Li, 2022). Addressing these gaps is crucial for developing strategies that mitigate AI anxiety, enhance learning motivation, and promote equitable access to AI technologies in education.

RESEARCH METHODS

Research Design

The study employed a **descriptive–quantitative research design** to determine the relationship between Artificial Intelligence Anxiety and the Learning Motivation of College of Teacher Education (CTE) students at Saint Michael College of Caraga (SMCC) in Nasipit, Agusan del Norte. This design enabled the researchers to obtain measurable data that describe the characteristics of the variables under investigation and examine the degree of association between them.

A survey questionnaire served as the primary data-gathering instrument, allowing the researchers to systematically collect responses from participants regarding their level of Artificial Intelligence Anxiety and Learning Motivation. The quantitative approach facilitated objective data analysis and supported the formulation of conclusions based on statistical evidence.

Research Locale

The study was conducted at **Saint Michael College of Caraga (SMCC)**, formerly Saint Michael Institute (SMI), located at Barangay 4, Atupan Street, Nasipit, Agusan del Norte, Philippines, beside the Saint Michael Parish (SMP). As the only Catholic educational institution in Nasipit, SMCC has provided quality education and academic excellence for over 75 years.

Specifically, the respondents were drawn from the **College of Teacher Education (CTE)**, which offers the following academic programs:

- Bachelor of Secondary Education (BSED) major in:
    - English
    - Science
    - Social Studies
    - Mathematics
- Bachelor of Elementary Education (BEED)
- Bachelor of Physical Education (BPED)
- Bachelor of Technical Vocational Teacher Education (BTVTED)

These programs are administered under the supervision of the Dean and respective Program Heads.

Research Respondents

The respondents of the study consisted of 199 enrolled students from the College of Teacher Education during the School Year 2023–2024. A stratified random sampling technique was utilized to ensure proportional representation across the different CTE programs, namely:

- BSED-English
- BSED-Science
- BSED-Social Studies
- BSED-Mathematics
- BEED
- BPED
- BTVTED

The respondents were categorized according to their age, gender, year level, gadgets frequently used, and monthly family income**,** which were analyzed under the demographic profile section of the study.

Research Instrument

The primary instruments used in this study included the Artificial Intelligence Anxiety Scale (AIAS) adapted from Wang et al. (2022) and Wang and Wang (2022). The AIAS measured students' perceived level of anxiety related to Artificial Intelligence in the learning process. Intrinsic and extrinsic learning motivation were assessed using the seven-item scale developed by Nordhaug (1989). Learning self-efficacy was measured using items adapted from Bandura (1977), while learning intention items were based on the Technology Acceptance Model constructs proposed by Venkatesh et al. (2003). The questionnaire consisted of two parts: Part I identified the respondents' demographic profile, including name (optional), age, gender, year level, gadgets frequently used, and monthly family income; while Part II-A identified the factors of Artificial Intelligence Anxiety, namely AI Learning Anxiety, AI Job Replacement Anxiety, and Sociotechnical Blindness. Part II-B identified the factors of Learning Motivation, including Intrinsic Learning Motivation, Extrinsic Learning Motivation, Learning Self-Efficacy, and AI Learning Intention. The questionnaire employed a four-point Likert scale to measure responses, ranging from strongly agree to strongly disagree, with corresponding verbal interpretations. The instrument was validated by a panel of experts prior to administration.

Data-Gathering Procedure

The data-gathering process involved several steps. First, a letter of approval was secured from the Dean of the College of Teacher Education, granting permission to collect data from first-year to fourth-year students during the School Year 2023–2024. An orientation was then conducted to inform the respondents of the purpose of the study and to emphasize ethical considerations such as confidentiality and voluntary participation.

After obtaining informed consent, the researchers personally distributed the survey questionnaires to the respondents and allowed sufficient time for completion. Subsequently, the completed questionnaires were retrieved and prepared for analysis. The collected data were then identified, classified, and organized using the designated statistical tools for interpretation.

Statistical Treatment

The gathered data were summarized, translated, and analyzed using appropriate statistical tools. Frequency and percentage were used to describe the demographic profile of the respondents. Weighted mean was employed to determine the level of Artificial Intelligence Anxiety and Learning Motivation of CTE students. Spearman Rho Correlation was used to determine the significant relationship between Artificial Intelligence Anxiety and Learning Motivation. Additionally, Pearson's r Correlation was utilized to determine the significant relationship between the respondents' profile and their Artificial Intelligence Anxiety and Learning Motivation.

RESULTS AND DISCUSSION

Problem 1: What is the students' profile in terms of age, gender, year level, gadgets frequently used, and monthly family income?

Table 2. Distribution of the Respondents in terms of Age

Age	F	%	Rank
18-21 years old	124	62.31	1
22-25 years old	64	32.16	2
26 years old and above	11	5.53	3
Total	199	100	

The majority of respondents (62.31%) fall within the 18-21 age bracket, while only 5.53% are aged 26 and above. This aligns with Puiu (2017) and Seemiller and Grace (2017), who describe Generation Z as highly immersed in digital technologies. Younger members of Generation Z, as revealed by recent studies, are particularly receptive to adopting new technologies like AI. This highlights the importance of tailoring educational strategies to address generational characteristics.

Table 3. Distribution of the Respondents in terms of Gender

Gender	F	%	Rank
Male	47	23.62	2
Female	152	76.38	1
Total	199	100	

Female respondents constituted 76.38% of the sample, significantly outnumbering male respondents (23.62%). According to UNESCO (2023), women dominate the teaching force globally, though their representation decreases at higher education levels. Lin et al. (2021) suggest female students may perceive themselves as less motivated to learn AI, raising questions about the gender gap in AI-related learning.

Table 4. Distribution of the Respondents in terms of Year Level

Year Level	F	%	Rank
1st Year	44	22.11	3
2nd Year	55	27.64	2
3rd Year	61	30.65	1
4th Year	39	19.60	4
Total	199	100	

Third-year students (30.65%) represented the largest group, while fourth-year students (19.60%) were the smallest. This result aligns with Sulasula (2023), who emphasizes the growing relevance of AI in education and the need to assess students' readiness to adopt AI technologies. Similar trends are observed in other Asian countries, such as China and South Korea (Zhang & Lu, 2021), where AI is being actively integrated into education.

Table 5. Distribution of the Respondents in terms of Gadgets Frequently Used

Gadgets Frequently Used	F	%	Rank
Smartphones/Cellphones	143	71.86	1
Tablets	2	1.01	4
Laptops	48	24.12	2
Computers	6	3.01	3
Others	0	0	5
Total	199	100	

Smartphones are the most frequently used device (71.86%), indicating their critical role in students' academic and personal activities. Studies confirm smartphones' dual utility as both educational tools and entertainment devices. However, misuse or overreliance on smartphones could hinder students' learning goals (Gowthami & VenkataKrishnaKumar, 2016; Tossell et al., 2015).

Table 6. Distribution of the Respondents in terms of Monthly Family Income

Monthly Family Income	F	%	Rank
₱5,000 and below	74	37.19	1
₱5,001-₱10,000	69	34.67	2
₱10,001-₱30,000	38	19.09	3

₱30,001-₱50,000	15	7.54	4
₱50,001 and above	3	1.51	5
Total	199	100	

Most respondents (37.19%) belong to families earning ₱5,000 or below monthly, reflecting economic constraints. Research shows that students from low-income families often face limited access to digital technologies, potentially affecting their academic performance and AI literacy (Vogels, 2021; National Center for Education Statistics, 2017).

Problem 2: What is the level of Artificial Intelligence Anxiety of the respondents in terms of AI Learning Anxiety, AI Job Replacement Anxiety, and Sociotechnical Blindness?

Table 7. Level of Artificial Intelligence Anxiety of the respondents in terms of AI Learning Anxiety

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. Learning to understand all of the special functions associated with an AI technique/product makes me anxious.	2.82	Agree	Moderate	1
2. Learning to use AI techniques/products makes me anxious.	2.68	Agree	Moderate	5
3. Learning to use specific functions of an AI technique/product makes me anxious.	2.69	Agree	Moderate	3.5
4. Learning how an AI technique/product works makes me anxious.	2.69	Agree	Moderate	3.5
5. Learning to interact with an AI technique/product makes me anxious.	2.66	Agree	Moderate	6.5
6. Taking a class about the development of AI techniques/products makes me anxious.	2.66	Agree	Moderate	6.5
7. Reading an AI technique/product manual makes me anxious.	2.64	Agree	Moderate	8
8. Being unable to keep up with the advances associated with AI techniques/products makes me anxious.	2.73	Agree	Moderate	2
Average Weighted Mean	2.70	Agree	Moderate	

Respondents showed moderate anxiety (2.70 weighted mean) regarding learning AI, particularly in understanding AI techniques and manuals. Granter et al. (2017) suggest that the complexity of AI can heighten anxiety due to perceived learning difficulties. This aligns with findings that anxiety often stems from vicarious exposure to AI challenges.

Table 8. Level of Artificial Intelligence Anxiety of the respondents in terms of AI Job Replacement Anxiety

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. I am afraid that AI may make us dependent.	3.21	Agree	Moderate	7
2. I am afraid that AI may make us even lazier.	3.38	Agree	Moderate	1
3. I am afraid that if I begin to use AI, I will become dependent upon them and lose some of my reasoning skills.	3.18	Agree	Moderate	8
4. I am afraid that widespread use of humanoid robots will take jobs away from people.	3.35	Agree	Moderate	3.5
5. I am afraid that AI may replace humans.	3.23	Agree	Moderate	6
6. I am afraid that AI will replace someone's job.	3.35	Agree	Moderate	3.5
7. I am afraid that the increasing use of AI may lead to job loss without proper training.	3.37	Agree	Moderate	2
8. I am afraid that a significant portion of the workforce will need to switch professions due to AI.	3.26	Agree	Moderate	5
Average Weighted Mean	3.29	Agree	Moderate	

Moderate anxiety (3.29 weighted mean) was reported regarding AI's impact on employment, including fears of dependency on AI and job loss. Studies (Huang & Rust, 2018; Frey & Osborne, 2017) predict significant job displacement due to AI, which could deepen economic inequalities (Bossmann, 2016).

Table 9. Level of Artificial Intelligence Anxiety of the respondents in terms of Sociotechnical Blindness

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. I am afraid that AI product may be misused.	3.34	Agree	Moderate	2
2. I am afraid of various problems potentially associated with AI.	3.20	Agree	Moderate	8
3. I am afraid that AI may get out of control and malfunction.	3.29	Agree	Moderate	5
4. I am afraid that AI may lead to robot autonomy.	3.21	Agree	Moderate	7
5. I am afraid that the true extent of AI's impact on society may not be fully understood.	3.28	Agree	Moderate	6
6. I am afraid that reliance on AI may lead to a loss of essential skills and knowledge.	3.34	Agree	Moderate	2
7. I am afraid that AI's capabilities may be exaggerated, leading to unrealistic expectations.	3.30	Agree	Moderate	4
8. I am afraid that AI's development may prioritize profit over ethical considerations.	3.34	Agree	Moderate	2
Average Weighted Mean	3.29	Agree	Moderate	

Respondents expressed moderate concerns (3.29 weighted mean) about AI being misused, leading to ethical issues and loss of essential skills. Literature (Haseski, 2019; Akkaya et al., 2021) highlights that insufficient understanding of AI exacerbates anxiety, while positive perceptions (Jeffrey, 2020) coexist with concerns about AI's societal impacts.

Table 10. Summary on the Level of Artificial Intelligence Anxiety of the respondents

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
• AI Learning Anxiety	2.70	Agree	Moderate	3
• AI Job Replacement Anxiety	3.29	Agree	Moderate	1.5
• Sociotechnical Blindness	3.29	Agree	Moderate	1.5
Average Weighted Mean	3.09	Agree	Moderate	

The overall artificial intelligence anxiety of respondents was moderate (3.09 weighted mean). Takil et al. (2022) and Neudert et al. (2020) emphasize that AI anxiety is widespread, shaped by ethical, economic, and sociotechnical concerns.

Problem 3: What is the level of the Learning Motivation of the respondents in terms of Intrinsic Learning Motivation, Extrinsic Learning Motivation, Learning Self-Efficacy, and AI Learning Intention?

Table 11. Level of the Learning Motivation of the Respondents in terms of Intrinsic Learning Motivation

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. Learning AI-related skills can improve my personal development.	3.06	Agree	Moderate	4
2. The process of learning AI-related skills is very interesting.	3.15	Agree	Moderate	1
3. Learning AI-related skills can enrich my skills.	3.01	Agree	Moderate	5.5
4. The process of learning AI-related skills is challenging.	3.10	Agree	Moderate	2
5. Learning AI-related skills will benefit me a lot.	3.08	Agree	Moderate	3
6. Learning AI-related skills can help me develop my potential.	3.01	Agree	Moderate	5.5
7. Learning AI-related skills can help personal growth.	2.82	Agree	Moderate	7
Average Weighted Mean	3.03	Agree	Moderate	

Respondents exhibited moderate intrinsic motivation (3.03 weighted mean), finding AI learning interesting but not fully recognizing its personal growth potential. Studies (Bisdas et al., 2021; Lee et al., 2022) highlight the importance of integrating AI into curricula to foster intrinsic interest.

Table 12. Level of the Learning Motivation of the Respondents in terms of Extrinsic Learning Motivation

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. Learning AI-related skills can increase my advantage in finding a job.	2.96	Agree	Moderate	1
2. Learning AI-related skills can ensure that I keep my job in the future.	2.78	Agree	Moderate	3
3. Learning AI-related skills can help me get a higher salary in the future.	2.70	Agree	Moderate	5

4.	My opinions will receive more attention from the team after learning AI-related skills.	2.74	Agree	Moderate	4
5.	Learning AI-related skills improves people's opinion of me.	2.67	Agree	Moderate	6
6.	I will be recognized for my outstanding performance in learning AI-related skills.	2.66	Agree	Moderate	7
7.	In general, learning AI-related skills is very useful for achieving my goals.	2.88	Agree	Moderate	2
	Average Weighted Mean	2.77	Agree	Moderate	

Moderate extrinsic motivation (2.77 weighted mean) was observed, with job prospects being a key motivator. However, external recognition was less influential. Research (Frase, 2016; Srnicek & Williams, 2015) suggests that job-related anxiety might drive extrinsic motivation.

Table 13. Level of the Learning Motivation of the Respondents in terms of Learning Self-Efficacy

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. I find learning AI-related skills is easy for me.	2.87	Agree	Moderate	5
2. I do have the ability to learn AI-related skills.	2.95	Agree	Moderate	4
3. I do have the solid basis to master AI-related skills.	2.74	Agree	Moderate	7
4. I am not afraid to learn AI-related skills.	3.07	Agree	Moderate	2
5. I have enough intelligence to learn AI-related skills.	2.79	Agree	Moderate	6
6. I am aware of how AI can help me be more creative and learn.	3.11	Agree	Moderate	1

7.	I am not afraid to interact with AI technologies to support my skills.	3.04	Agree	Moderate	3
	Average Weighted Mean	2.94	Agree	Moderate	

Respondents demonstrated moderate confidence (2.94 weighted mean) in mastering AI-related skills. Vu and Lim (2022) emphasize that self-efficacy positively influences AI adaptation.

Table 14. Level of the Learning Motivation of the Respondents in terms of AI Learning Intention

Indicators		Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1.	I intend to learn AI-related skills.	3.08	Agree	Moderate	3
2.	I believe that I am ready to learn AI-related skills.	3.07	Agree	Moderate	4
3.	I plan to learn AI-related skills in the future.	3.01	Agree	Moderate	5
4.	I am more likely to learn AI because of my positive attitude toward it.	2.97	Agree	Moderate	6.5
5.	I am motivated to learn AI because I am confident in my ability to understand it.	2.97	Agree	Moderate	6.5
6.	I am interested in acquiring knowledge on AI technologies and techniques for educational purposes.	3.11	Agree	Moderate	2
7.	I am prepared to adopt and utilize AI to improve the teaching and learning process.	3.14	Agree	Moderate	1
	Average Weighted Mean	3.05	Agree	Moderate	

AI learning intention was the highest motivator (3.05 weighted mean), with respondents moderately prepared to adopt AI in teaching and learning. Gherheș and Obrad (2018) found similar trends, with students optimistic about AI's societal benefits.

Table 15. Summary on the Level of the Learning Motivation of the Respondents

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank

Intrinsic Learning Motivation	3.03	Agree	Moderate	2
Extrinsic Learning Motivation	2.77	Agree	Moderate	4
Learning Self-Efficacy	2.94	Agree	Moderate	3
AI Learning Intention	3.05	Agree	Moderate	1
Average Weighted Mean	**2.95**	**Agree**	**Moderate**	

The overall learning motivation was moderate (2.95 weighted mean). Wang et al. (2022) found that AI learning intention is influenced by self-efficacy and moderated by AI anxiety.

Problem 4: Is there a significant relationship between the respondents' Artificial Intelligence Anxiety and their Learning Motivation?

Table 16. Test on Relationship between the Respondents' Artificial Intelligence Anxiety and their Learning Motivation

Variable 1	Variable 2	Correlation Coefficient	p-value	Decision	Interpretation
Respondents' Artificial Intelligence Anxiety	Respondents' Learning Motivation	.243	.001	RejectH_{01}	There is a significant relationship between the respondents' Artificial Intelligence Anxiety and their Learning Motivation.

A positive but low correlation (r = .243, with a significance of .001 using p-value < 0.05) was found, indicating that AI anxiety moderately impacts learning motivation. In the study of Wang & Wang (2022), the results indicated that artificial intelligence anxiety was facilitative to some extent, as it appeared to influence motivated learning behaviors. Also, Wang & Wang (2022) suggest that while AI job replacement anxiety can enhance extrinsic motivation, learning anxiety negatively influences both intrinsic and extrinsic motivations.

Additionally, factors such as AI literacy, confidence in AI, and perceiving the purpose of learning AI for social good have been found to positively influence students' behavioral intention to engage in AI learning (Chai, Lin et al., 2020; Chai, Wang, et al., 2020).

Problem 5: Is there a significant relationship between the respondents' profile and their Artificial Intelligence Anxiety?

Table 17. Test on Relationship between the Respondents' Profile and Artificial Intelligence Anxiety

Variable 1	Variable 2	Correlation Coefficient	p-value	Decision	Interpretation
Age	Artificial Intelligence Anxiety	-.247	.038	Reject H_{02}	There is a significant relationship between the respondents' profile in terms of age and their Artificial Intelligence Anxiety.
Gender		-.018	.805	Accept H_{02}	There is no significant relationship between the respondents' profile in terms of gender, year level, gadgets frequently used, and monthly income, and their Artificial Intelligence Anxiety.
Year Level		-.044	.537	Accept H_{02}	
Gadgets Frequently Used		-.079	.270	Accept H_{02}	
Monthly Family Income		-.083	.246	Accept H_{02}	

Only age showed a significant negative correlation that has -.247 correlational coefficient and a significance of .038 (p-value < 0.05) with AI anxiety, suggesting younger respondents experience higher anxiety. Zhang & Dafoe (2019) and Almaiah et al. (2022) stated that younger students may feel more anxious due to frequent interactions with AI technologies.

Problem 6: Is there a significant relationship between the respondents' profile and their level of Learning Motivation?

Table 18. Test on Relationship between the Respondents' Profile and Level of Learning Motivation

Variable 1	Variable 2	Correlation Coefficient	p-value	Decision	Interpretation
Age		.088	.216	Accept H_{03}	There is no significant relationship between the respondents' profile in terms of age and gender, and their level of Learning Motivation.
Gender		-.040	.575	Accept H_{03}	

Year Level	Level of the Learning Motivation	.214	.002	Reject H_{03}	There is a significant relationship between the respondents' profile in terms of year level and their level of Learning Motivation.
Gadgets Frequently Used		.050	.487	Accept H_{03}	There is no significant relationship between the respondents' profile in terms of gadgets frequently used and monthly family income, and their level of Learning Motivation.
Monthly Family Income		-.019	.785	Accept H_{03}	

Year level was the only significant factor that has a correlational coefficient of .214 (positive but low correlation) with a significance of .002 (p-value <0.05), implying that higher-level students are more motivated to learn AI. According to Almaiah et al. (2022), advanced topics such as AI are more likely to be introduced in higher-level courses in many educational institutions. As students reach these levels, structured exposure to AI through their curriculum could naturally increase their interest and motivation to learn more about AI technologies.

RECOMMENDATION

Based on the findings of the study conducted among College of Teacher Education (CTE) students at Saint Michael College of Caraga, the following recommendations are proposed:

1. **Curriculum Integration of AI Concepts.** The College of Teacher Education is encouraged to integrate Artificial Intelligence (AI) fundamentals, applications in education, and ethical considerations into its curriculum to reduce AI-related anxiety and enhance students' readiness for technology-driven teaching environments.
2. **Professional Development for Educators.** School administrators and teachers should implement continuous training, seminars, and capacity-building programs focused on AI literacy and pedagogical integration to support the effective use of AI tools in instructional practices.
3. **Multidisciplinary and Collaborative Engagement.** Collaboration among educators, technology experts, and professionals from related disciplines such as psychology and social sciences should be strengthened to ensure a comprehensive and context-sensitive implementation of AI in education.
4. **Future Research on AI Integration.** Future researchers are encouraged to examine the long-term effects of AI on learning motivation and anxiety, as well as institutional

readiness for AI adoption, to support the development of effective and ethical AI-based teaching and learning practices.

CONCLUSION

This study investigated the relationship between Artificial Intelligence (AI) Anxiety and Learning Motivation among College of Teacher Education students at Saint Michael College of Caraga. Findings indicated that respondents exhibited moderate levels of AI anxiety and learning motivation, reflecting both awareness of AI's educational relevance and concerns regarding its complexity and potential impact on employment. A significant positive relationship was found between AI anxiety and learning motivation, suggesting that AI-related apprehension may simultaneously function as a barrier and a motivational driver for acquiring AI competencies. Additionally, age was significantly associated with AI anxiety, while year level showed a significant relationship with learning motivation. These results emphasize the need for targeted curricular and institutional interventions to reduce AI-related anxiety and enhance students' readiness for AI-integrated educational environments.

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