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Self-Efficacy and Learning Motivation of Students

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Abstract:

The paper aimed to determine the level of self-efficacy and learning motivation of administration students in one of the schools in China during the school year 2022-2023. The study includes 125 administration students and used the descriptive, and comparative analytical schemes and data were subjected to SPSS with frequency count, percentage, mean, Mann-Whitney U test as the statistical tools. Findings revealed moderate level of students' self-efficacy in the areas of cognitive self-efficacy, affective self-efficacy, and behavioral self-efficacy. Likewise, students' level of learning motivation in the Intrinsic and Extrinsic areas was moderate. In addition, an important difference was revealed in students' self-efficacy in the area of Affective Self-efficacy when grouped and compared according to Major. Meanwhile, students' Level of learning motivation in intrinsic area showed significant differences when grouped and compared according to age. This call for lectures and seminars on specific topics to help students actively copes with academic difficulties, encourage participation in subject competitions and develop practical activities allowing students to use their knowledge to solve practical problems.

Keywords: Self-Efficacy, Learning Motivation, cognitive self-efficacy, affective self-efficacy, behavioral self-efficacy.

Introduction:

Nature of the Problem

A standard definition of self-efficacy is confidence in one's ability to accomplish a task or reach a desired result. Pupils who feel highly empowered are inclined to set challenging goals for themselves and possess an innate drive. These students will work hard to fulfill their obligations and will not blame failure on outside forces but on circumstances beyond their control (Margolis & McCabe, 2016). Fratturar (2018) stated that developing efficacy beliefs in the classroom is a great place to start. We all see our students struggle with motivation. Self-efficacy can be adrenaline for motivation. Students who are confident and free from stress show a greater motivation propensity.

An essential component of successful teaching and learning is motivation. It is a fundamental component of self-regulated learning, the collection of mindsets and cognitive processes that enable individuals to direct their learning. Motivated students have a far higher chance of succeeding and realizing their potential. It results in more well-behaved students and increases their well-being (Hawthorne, 2017).

In an increasingly important data analysis era, mastering statistical software becomes even more necessary. The undergraduate stage is a critical period for intensive software learning, and it takes much effort for students to master statistical software proficiently. This phenomenon is related to students' subjective factors, and the main reason is that students' learning motivation is not strong. First of all, students' judgment on the value of statistical software courses has changed, and they believe that this course is a course with high input and low output. It takes much time to master software, but this does not benefit the students, eventually making them unwilling to work hard for the course. Second, students' low self-efficacy also leads to poor academic performance in statistical software courses. They think that the difficulty of the course is high, and it is almost impossible for them to master it so that they will reduce their effort. Therefore, research on this topic can find ways to improve students' learning motivation and self-efficacy and then intervene in students' learning process to achieve better academic performance and master statistical software. At the same time, this study is also a supplement to the existing research results. At present, research on East Asian samples is relatively scarce. Through analyzing Chinese students, motivation and self-efficacy theories can be further verified.

Current State of Knowledge

Expectation theory includes the vital concept of self-efficacy theory. Individuals believe something can be accomplished and estimate the success rate before forming expectations (Koenka, 2020; Eccles & Wigfield, 2020; Schunk & DiBenedetto, 2020). The content of expectation theory and perceptual control theory are somewhat similar. Some articles confuse self-efficacy and self-concept, but there is a difference between the two. Self-efficacy affects more later things, while self-concept is summarized by previous things (Scherrer & Preckel, 2019). The improvement of self-efficacy is an essential and inevitable factor in solving problems. Problems are ever-changing, and adjusting emotions is the premise (GÖK et al., 2022; Kabung'a et al., 2023). Self-efficacy and self-regulation go hand in hand (Theresya et al., 2018； Yabukoshi et al., 2021； Stephen et al., 2020； Müller et al., 2018).

The progress of learning in the current era emphasizes students to have critical thinking skills, be able to implement real-world knowledge, master information technology, communicate and collaborate. One of the skills needed to achieve this goal is mathematical literacy. Therefore, it takes cognitive and affective abilities that are able to develop mathematical literacy skills, namely mathematical critical thinking ability and self-confidence. Students with good mathematical literacy skills will easily solve problems that occur in everyday life (Pratama 2020).

Theoretical Underpinnings

This study is anchored on the expected value theory and self-efficacy theory. Expectation value theory can be divided into expectation theory and value theory. Expectation theory refers to individuals believing something can be accomplished and estimating the success rate before forming expectations (Koenka, 2020; Eccles & Wigfield, 2020; Weiner, 2010; Schunk & DiBenedetto, 2020). The core content of value theory is that individuals consider high-value events before doing them. Value includes four aspects: achievement value, intrinsic value, utility value, and cost (Gaspard et al., 2020; Eccles & Wigfield, 2002; Pekrun, 2006; Pekrun et al., 2017; Putwain et al., 2018). The self-efficacy theory was first put forth by Bandura (1997), who noted that self-psychological cognition plays a role in determining an individual's achievement. The "I can do it" mentality increases one's chances of success.

Expected value theory and self-efficacy theory are closely related to this study. For most students, the study of statistical software courses is only to obtain the credits of the required courses. They think the value of mastering SPSS software is relatively small, so they are not motivated to study hard. Moreover, students' lower expectations of success lowered their sense of self-efficacy. Most of the students have a weak foundation in statistics. In addition, the course is relatively challenging, and they are prone to setbacks in the learning process. This will bring psychological hints to students, such as "I can't master SPSS software."

Hayat et. al, (2020), stated that self-efficacy beliefs lead to the individuals' excellent performance through increasing commitment, endeavor, and perseverance. The learners with high levels of self-efficacy attribute their failures to lower attempts rather than lower ability, while those with low self-efficacy attribute their failure to their low abilities. Therefore, self-efficacy can influence the choice of tasks and perseverance while doing them. In other words, students with low self-efficacy are more likely to be afraid of doing their tasks, avoiding, postponing, and give them up soon.

Motivated students are much more likely to achieve their potential and find success. An essential component of successful teaching and learning is motivation. Students exhibit more positive behavior as a result of it, and it also increases their sense of well-being. Understanding how to motivate children and young people in education is crucial to giving them the best possible start in life. Motivation helps children and young people focus on a key goal or outcome in education. In doing so, they are unfazed by possible distractions and, therefore, can maintain their attention for extended periods. Students who are motivated display goal-orientated behaviors. They take initiative, show resilience, harness their curiosity, and care for and respect their work. They can orchestrate their learning journey (Hawthorne, 2021).

According to McClure (2023), whether students are taking a course just because it is a requirement or because they thought it would be interesting, all students need to understand why the content of a course matters. This affects not only motivation but also their understanding of how this course relates to other knowledge and skills. In addition, Chuter (2020) stated that motivation is a mindset for education. As a result, it affects a student's propensity to persevere or give up, as well as the quality of their learning reflection. It is more likely that a student will reject simple answers to complex questions the more deeply motivated they are to pursue the activity. In summary, solid and adaptable critical thinking abilities are fostered by intrinsic motivation. On the other hand, low interest and academic persistence were caused by motivation, specifically extrinsic motivation.

Objectives

The study's primary purpose was to determine the level of self-efficacy and learning motivation of administration

students in one of the schools in China during the school year 2022-2023. Specifically, the research aimed to answer the following questions: 1) the level of self-efficacy of students according to cognitive self-efficacy, affective self-efficacy, behavioral self-efficacy; 2) level of learning motivation of students according to Intrinsic and extrinsic; 3) the significant difference in the level of self-efficacy of students when grouped and compared according to the aforementioned variables; 4) the significant difference in the level of learning motivation of students when grouped and compared according to the aforementioned variables.

Research Methodology:

This section discusses the research methodology used, the subjects and respondents of the study, the research instruments used, the validity and reliability of the instruments, the procedure for data gathering, and the statistical tools and procedures for data analysis.

Research Design

A descriptive research design was used in this study, considering the nature of the data involved. Descriptive research is a method to describe the characteristics of the population or sample, and its function is to find out the law of the sample from the data set. Descriptive research only explores the data of one variable for description without considering the relationship between two or more variables. Descriptive research can organize the collected raw data into meaningful information or statistics. The data processing methods include presenting frequency distribution tables, charts, and various statistical quantities of the data. Different variable scales have different presentation methods. Continuous variables (equal interval or ratio variables), such as scales and scores, are usually represented by statistics or diagrams. In contrast, categorical variables or ordinal variables are typically represented by frequency distribution tables or diagrams (Wu Minglong, 2010). The descriptive research method of this study is used to collect statistics on the students' basic information and analyze the items on the scale. Using descriptive research methods, it is possible to understand the sample's gender, grade, major, average monthly family income, and attitude toward the scale items.

Respondents

The study's respondents were 125 administration students in one of the colleges in China, with a total population of 184. Since the number of respondents is large, the Cochran Formula was used to determine the sample size. These respondents were identified using stratified sampling and random sampling techniques, such as the Fishbowl method.

Instruments

A researcher-made survey questionnaire was used to gather the data to determine the level of self-efficacy and learning motivation of administration students concerning their academic performance. It was subjected to validity (4.58-excellent) and reliability (0.829-acceptable). All of them were interpreted as worthy and good, respectively. The questionnaire was divided into two parts; wherein part I deals with the profile of respondents in terms of Age, Sex, and Average Family Monthly Income. Part II of the questionnaire is a 21-item statement with seven items each for areas cognitive, affective, and behavioral for self-efficacy, and 21-item with seven items each in the areas of social, knowledge acquisition for learning motivation which measures the level using 5-point Likert scale rating with five (5) as always, four (4) as often, three (3) as sometimes, two (2) as rarely and one (1) as almost never.

Data Gathering Procedure

After establishing the validity and reliability of the instrument, the researcher wrote a letter to the head of the college asking permission to conduct the study. Upon approval, the researcher set a schedule for the data gathering with the letter requested by the manager. In the study, the researcher explained the purpose of the study personally and administered the questionnaire to the respondents to guide them carefully in answering and giving the needed data. Then, the questionnaires were retrieved. The respondents were assured of the confidentiality of the data gathered. The Statistical Package for Social Sciences (SPSS) was used to process the encoded data.

Data Analysis and Statistical Treatment

Objective No. 1, which is to determine the level of self-efficacy of students according to the following areas of cognitive self-efficacy, affective self-efficacy, and behavioral self-efficacy, the descriptive-analytical scheme and mean was used.

Objective No. 2 used the descriptive-analytical scheme and mean to determine students' learning motivation level according to the following areas: achievement learning motivation, social learning motivation, and knowledge acquisition learning motivation.

Objective No. 3, which is to determine whether or not a significant difference exists in the level of self-efficacy of students when grouped and compared according to the aforementioned variables, the comparative analytical scheme and Mann-Whitney U Test was utilized.

Objective No. 4, which is to determine whether or not a significant difference exists in students' learning motivation level when grouped and compared according to the aforementioned variables, the comparative analytical scheme and Mann-Whitney U Test was utilized.

Ethical Considerations

To address ethical issues, the researcher secured the respondents' informed consent and emphasized that their participation in this study would be voluntary, and they have the right to withdraw if they feel uncomfortable gathering information from them. They were also assured of complete confidentiality. No information that discloses their identity was released or published without their specific consent to the disclosure except when it is imperatively necessary. The materials that contain raw information derived from them were disposed of by manual shredding after data processing within a given period.

Results and Discussion

This section presents the findings, statistical analysis, and interpretation of the data gathered concerning the study's objectives.

Table 3
Level of self-efficacy of students in the area of Cognitive Self-efficacy

Items	Mean	Interpretation
As a student, I…		
1. feel capable of evaluating information from different perspectives.	3.69	High Level
2. am confident in my ability to analyze and solve challenging situations.	3.37	Moderate Level
3. believe I can retrieve information, especially during exams or discussions.	2.89	Moderate Level
4. can apply logical reasoning to various problems.	1.88	Low Level
5. believe I can make informed decisions based on available information.	3.90	High Level
Overall Mean	**3.15**	**Moderate Level**

Students' level of self-efficacy in cognitive self-efficacy obtained an overall mean of 3.15, which is interpreted as a "Moderate level." Moreover, it was revealed that item 5, " believe I can make informed decisions based on available information." obtained the highest mean of 3.90, interpreted as "High Level.", while item 4, " can apply logical reasoning to various problems." got the lowest mean of 1.88, interpreted as "Low Level." This implies that students know sufficiently about previous topics or may have encountered parallel situations. However, they have not been exposed to various logical reasoning problems or have few opportunities to practice applying them in different contexts, leading to a lack of confidence. The progress of learning in the current era emphasizes students to have critical thinking skills, be able to implement real-world knowledge, master information technology, communicate and collaborate. One of the skills needed to achieve this goal is mathematical literacy. Therefore, it takes cognitive and affective abilities that are able to develop mathematical literacy skills, namely mathematical critical thinking ability and self-confidence. Students with good mathematical literacy skills will easily solve problems that occur in everyday life (Pratama 2020).

Table 4
Level of self-efficacy of students in Affective Self-efficacy

Items	Mean	Interpretation
As a student, I…		
1. am confident in my ability to recognize and identify my emotions.	4.24	High Level
2. believe I can manage my emotions effectively, especially during challenging situations.	3.74	High Level
3. am confident in my ability to understand and empathize with the feelings of others.	4.28	High Level
4. believe I can engage in effective and open communication with friends, family, and peers.	2.53	Moderate Level
5. am confident in my ability to cope with stress and pressure.	2.04	Low Level
Overall Mean	3.36	**Moderate Level**

As presented in Table 4, students' affective self-efficacy level obtained an overall mean of 3.36, which is interpreted as a "Moderate level." In addition, it was evident that item 3, " I am confident in my ability to understand and empathize with the feelings of others." obtained the highest mean of 4.28, interpreted as "High

Level." In contrast, item 5, "am confident in my ability to cope with stress and pressure." got the lowest mean of 2.04, interpreted as "Low Level." This implies that students have developed some emotional regulation skills but have yet to be fully confident in managing a wide range of emotions. They need more specific strategies or experiences in dealing with emotional states, making them less confident in coping with stress and emotional issues. According to Klynn (2021), emotional control and regulation is taking any action that alters the intensity of an emotional experience. It doesn't mean suppressing or avoiding emotions. With emotional regulation skills, you can influence which emotions you have as well as how you express them. Some people are better at regulating their emotions than others. They are high in emotional intelligence and are aware of both their internal experiences and the feelings of others. While it may seem like they're just "naturally calm," these people experience negative feelings too. They've just developed coping strategies that allow them to self-regulate difficult emotions.

Table 5
Level of self-efficacy of students in the area of Behavioral Self-Efficacy

Items	Mean	Interpretation
As a student, I…		
1. am confident in my ability to set meaningful goals for myself.	1.77	Low Level
2. believe I can prioritize tasks and allocate time appropriately.	2.26	Low Level
3. believe I can create and maintain an orderly environment for studying and working.	4.08	High Level
4. feel confident in my ability to engage in social interactions and build relationships.	4.21	High Level
5. am confident in my ability to adjust to new situations and changes.	2.78	Moderate Level
Overall Mean	3.02	**Moderate Level**

Table 5 shows that students' level of self-efficacy in behavioral self-efficacy obtained an overall mean of 3.02, which is interpreted as a "Moderate level." Moreover, item 4, " feel confident in my ability to engage in social interactions and build relationships." obtained the highest mean of 4.21, interpreted as "High Level." In contrast, item 1, "am confident in my ability to set meaningful goals for myself." got the lowest mean of 1.77, interpreted as "Low Level." This implies that students don't have sufficient opportunities to engage in behaviors related to behavioral self-efficacy. In addition, they rarely establish goals and make reasonable learning plans during the learning process. Findings conform to Hayat et. al, (2020), stating that self-efficacy beliefs lead to the individuals' excellent performance through increasing commitment, endeavor, and perseverance. The learners with high levels of self-efficacy attribute their failures to lower attempts rather than lower ability, while those with low self-efficacy attribute their failure to their low abilities. Therefore, self-efficacy can influence the choice of tasks and perseverance while doing them. In other words, students with low self-efficacy are more likely to be afraid of doing their tasks, avoiding, postponing, and give them up soon.

Table 6
Level of learning motivation of students in the area of Intrinsic

Items	Mean	Interpretation
As a student, I…		
1. find learning to be exciting and intellectually stimulating.	3.62	High Level
2. enjoy having choices and control over my learning process.	2.71	Moderate Level
3. find a sense of accomplishment in mastering new skills.	3.10	Moderate Level
2. enjoy connecting what I learn to real-world situations and experiences.	3.35	Moderate Level
3. find joy in exploring, discovering, and understanding.	3.79	High Level
Overall Mean	3.31	**Moderate Level**

The Level of students' learning motivation in Intrinsic obtained the overall mean of 3.31, interpreted as a "Moderate Level." Moreover, it was revealed that item 3, " find joy in the process of exploring, discovering, and understanding." obtained the highest mean of 3.79, interpreted as "High Level.", while item 2, " enjoy having choices and control over my learning process." got the lowest mean of 2.71, interpreted as "Moderate Level." This implies that students perceive the subject as less relevant to their personal lives or future goals. Likewise, they feel they need more control or autonomy over their learning with a limited range of choices in terms of learning activities. Result agrees with McClure (2023) that whether students are taking a course just because it is a requirement or because they thought it would be interesting, all students need to understand why the content of a course matters. This affects not only motivation but also their understanding of how this course relates to other knowledge and skills.

Table 7
Level of learning motivation of students in the area of Extrinsic

Items	Mea	Interpretatio

	n	**n**
As a student, I…		
1. am motivated to learn to achieve my future career goals.	3.43	Moderate Level
2. feel driven by the desire to excel and prove myself.	3.31	Moderate Level
3. am motivated to learn when I can compete and compare my performance with others.	3.61	High Level
4. find that external pressure helps me stay focused on my studies.	3.26	Moderate Level
5. value tangible rewards, such as prizes or privileges, for my academic efforts.	2.87	Moderate Level
Overall Mean	3.30	**Moderate Level**

Table 7 shows students' learning motivation level in Extrinsic, which obtained an overall mean of 3.30, interpreted as a "Moderate Level." Moreover, it was revealed that item 3, " am motivated to learn when I can compete and compare my performance with others." obtained the highest mean of 3.61, interpreted as "High Level.". In contrast, item 5, "value tangible rewards, such as prizes or privileges, for my academic efforts." got the lowest mean of 2.87, interpreted as "Moderate Level." This implies that students only study to obtain credits. They need to connect the knowledge with their future development. Likewise, they plan to use the knowledge not to obtain honors but to pass the exam.

Table 8
Difference in the Level of self-efficacy of students in the area of Cognitive Self-efficacy when grouped and compared according to the Variables

Variable	**Category**	**N**	**Mean Rank**	**Mann Whitney U**	**Kruskal Wallis H**	**p-value**	***Sig. level***	**Interpretation**
Age	Younger	31	59.42	1346.000		0.521	0.05	Not Significant
	Older	94	64.18					
Sex	Male	39	60.03	1561.000		0.532		Not Significant
	Female	86	64.35					
Average Family Monthly Income	Lower	55	63.50	1897.500		0.890		Not Significant
	Higher	70	62.61					
Parents' Highest Educational Attainment	Lower	35	65.21	1497.500		0.667		Not Significant
	Higher	90	62.14					
Major	Administrative Management	71	61.73		1.753	0.416		Not Significant
	Public Affairs Management	39	68.44					
	Other Majors	15	54.90					

The difference in the level of self-efficacy of students in the area of Cognitive Self-efficacy when grouped and compared according to the Variables Age, Sex, Average Family Monthly Income, Parents' Highest Educational Attainment, and Major, with the computed p-value of 0.521, 0.532, 0.890, 0.667 and 0.416 respectively, which are greater than the level of significance 0.05. Therefore, the null hypothesis is accepted that no significant difference exists in students' self-efficacy level in Cognitive Self-efficacy when grouped and compared according to the Variables. This implies that grouping variables do not affect students' Cognitive Self-efficacy, showing that regardless of grouping variables, students have a reasonable, but not exceptionally high, belief in their ability to perform cognitive tasks successfully.

Table 9
Difference in the Level of self-efficacy of students in the area of Affective Self-efficacy when grouped and compared according to the Variables

Variable	**Category**	**N**	**Mean Rank**	**Mann Whitney U**	**Kruskal Wallis H**	**p-value**	***Sig. level***	**Interpretation**
Age	Younger	31	63.56	1439.500		0.919	0.05	Not Significant
	Older	94	62.81					
Sex	Male	39	69.36	1429.000		0.179		Not Significant

	Female	86	60.12				
Average Family Monthly Income	Lower	55	65.40	1791.000		0.498	Not Significant
	Higher	70	61.09				
Parents' Highest Educational Attainment	Lower	35	67.54	1416.000		0.374	Not Significant
	Higher	90	61.23				
Major	Administrative Management	71	61.26		6.448	0.040	Significant
	Public Affairs Management	39	72.69				
	Other Majors	15	46.03				

No differences were revealed in the Level of self-efficacy of students in the area of Affective Self-efficacy when grouped and compared according to Age, Sex, Average Family Monthly Income, and Parents' Highest Educational Attainment, with the computed p-value of 0.919, 0.179, 0.498, and 0.374 respectively, which are greater than the level of significance 0.05. Therefore, the null hypothesis stating that there is no significant difference in students' self-efficacy level in Affective Self-efficacy when grouped and compared according to Age, Sex, Average Family Monthly Income, and Parents' Highest Educational Attainment is accepted. However, when grouped and compared according to Major, the computed p-value of 0.040 showed a significant difference, indicating that the null hypothesis states no considerable difference in students' self-efficacy level in the area of Affective Self-efficacy is rejected. This implies that age, average family monthly income, and parent's highest educational attainment do not affect students' self-efficacy in Affective, showing that individuals have a reasonable, but not exceptionally high, belief in their ability to regulate and manage their emotions and attitudes. Significant effects on students' self-efficacy level in Affective Self-efficacy, where Public Affairs Management revealed higher self-efficacy than Administrative Management and other majors. This implies that being exposed to different social activities contributes to greater self-efficacy.

Table 10
Difference in the Level of self-efficacy of students in the area of Behavioral Self-Efficacy when grouped and compared according to the Variables

Variable	Category	N	Mean Rank	Mann Whitney U	Kruskal Wallis H	p-value	*Sig. level*	Interpretation
Age	Younger	31	65.42	1382.000		0.665		Not Significant
	Older	94	62.20					
Sex	Male	39	66.58	1537.500		0.453		Not Significant
	Female	86	61.38					
Average Family Monthly Income	Lower	55	62.25	1883.500		0.835		Not Significant
	Higher	70	63.59					
Parents' Highest Educational Attainment	Lower	35	63.79	1547.500		0.879	0.05	Not Significant
	Higher	90	62.69					
Major	Administrative Management	71	60.51		1.633	0.442		Not Significant
	Public Affairs Management	39	69.05					
	Other Majors	15	59.03					

Table 10 showed no significant differences in the level of self-efficacy of students in the area of Behavioral Self-Efficacy when grouped and compared according to the Variables Age, Sex, Average Family Monthly Income, Parents' Highest Educational Attainment, and Major, with the computed p-value of 0.665, 0.453, 0.835, 0.879 and 0.442 respectively, which are greater than the level of significance 0.05. Therefore, when grouped and compared according to the Variables, the null hypothesis stating that there is no significant difference in students' Level of self-efficacy in the area of Behavioral Self-Efficacy is not rejected. This implies that grouping variables do not affect students' self-efficacy level in Behavioral Self-efficacy, showing that regardless of the grouping variable, students possess a reasonable, but not exceptionally high, belief in their ability to perform specific behaviors.

Table 11
Difference in the Level of learning motivation of students in the area of Intrinsic when grouped and compared according to the Variables

Variable	Category	N	Mean Rank	Mann Whitney U	Kruskal Wallis H	p-value	*Sig. level*	Interpretation
Age	Younger	31	58.18	1307.500		0.386		Not Significant
	Older	94	64.59					
Sex	Male	39	68.56	1460.000		0.240		Not Significant
	Female	86	60.48					
Average Family Monthly Income	Lower	55	58.65	1686.000		0.228		Not Significant
	Higher	70	66.41					
Parents' Highest Educational Attainment	Lower	35	58.81	1428.500		0.414	0.05	Not Significant
	Higher	90	64.63					
Major	Administrative Management	71	64.36		0.302	0.860		Not Significant
	Public Affairs Management	39	61.97					
	Other Majors	15	59.23					

The level of learning motivation of students in the area of Intrinsic grouped and compared according to the Variables when grouped and compared according to Variables Age, Sex, Average Family Monthly Income, Parents' Highest Educational Attainment, and Major, with the computed p-values of 0.386, 0.240, 0.228, 0.414 and 0.860 respectively, which are greater than the level of significance 0.05 showed no significant differences. Therefore, the null hypothesis of no significant difference in students' Level of learning motivation in Intrinsic is not rejected when grouped and compared according to the Variables. This implies that students' grouping or categorizing does not substantially impact their internal, self-driven desire to learn.

Table 12
Difference in the Level of learning motivation of students in the area of Extrinsic when grouped and compared according to the Variables

Variable	Category	N	Mean Rank	Mann Whitney U	Kruskal Wallis H	p-value	*Sig. level*	Interpretation
Age	Younger	31	51.60	1103.500		0.041		Significant
	Older	94	66.76					
Sex	Male	39	60.27	1570.500		0.566		Not Significant
	Female	86	64.24					
Average Family Monthly Income	Lower	55	59.74	1745.500		0.366		Not Significant
	Higher	70	65.56					
Parents' Highest Educational Attainment	Lower	35	65.17	1499.000		0.672	0.05	Not Significant
	Higher	90	62.16					
Major	Administrative Management	71	62.35		0.131	0.937		Not Significant
	Public Affairs Management	39	64.69					
	Other Majors	15	61.70					

Differences in the Level of learning motivation of students in the area of Extrinsic when grouped and compared according to Sex, Average Family Monthly Income, Parents' Highest Educational Attainment, and Majors revealed no significant differences with the computed p-value of 0.919, 0.179, 0.498, and 0.374 respectively, which are greater than the level of significance 0.05. Therefore, the null hypothesis stating that there is no significant difference in the level of learning motivation of students in the area of Extrinsic when grouped and

compared according to Sex, Average Family Monthly Income, Parents' Highest Educational Attainment, and Majors is not rejected. However, when grouped and compared according to Age, the computed p-value of 0.041 showed a significant difference, indicating that the null hypothesis, which states that there is no significant difference in the level of learning motivation of students in Extrinsic, is rejected. This implies that the average family's monthly income, parents' highest educational attainment, and significance do not affect students' learning motivation in Extrinsic. However, it was revealed that age affects the level of learning motivation, where older respondents indicated a higher level of learning motivation than younger respondents. As older students approach graduation, they consider employment issues more than younger students and are more eager to succeed, resulting in higher external learning motivation.

Conclusions

In conclusions, students have sufficient knowledge of previous topics or may have encountered parallel situations. However, they have yet to be exposed to a variety of logical reasoning problems or have yet to have enough opportunities to practice applying logical reasoning in different contexts, leading to a lack of confidence.
Students have developed some emotional regulation skills but have yet to be fully confident in managing a wide range of emotions. They need more specific strategies or experiences in dealing with particular emotional states, making them less confident in coping with stress and emotional issues. In addition, students don't have sufficient opportunities to engage in behaviors related to behavioral self-efficacy. They rarely establish goals and make reasonable learning plans during the learning process. Moreover, students only study to obtain credits and must connect the knowledge with their future development. Likewise, they plan to use the knowledge not to obtain honors but to pass the exam. Furthermore, the major affects students' self-efficacy level in the area of Affective Self-efficacy, showing that exposure to different social activities contributes to greater self-efficacy. Finally, age affects the level of learning motivation, whereas older respondents revealed a higher level of extrinsic learning motivation as they consider employment issues after graduation. Results of this study calls for the Head of the Administration Department to set up some courses on logical reasoning, encourage students to actively with academic difficulties, and guide lower-grade students to develop career plans and master corresponding skills immediately.

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