

Correlating Learning Style with Challenges and Strategies Adopted by Board Topnotchers of Criminologist Licensure Examination: A Learning Model

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Abstract— *The Criminologist Licensure Examination (CLE) is a national examination for aspiring criminologists, with a low passing rate. However, many top-notch examinees have achieved outstanding ratings. The study revealed the demographic and academic profile of respondents, preferred learning styles, challenges encountered, and strategies adopted by 95 CLE board topnotchers in the last five years. The respondents were mostly males, aged 23-26, from the lower middle class, and a GWA of 1.51-2.00. Most respondents preferred for tactile, kinesthetic, individual, and auditory learning styles, with a minor preference for auditory. The majority of respondents were psychologically challenged and used intellectual strategies to overcome challenges. A positive correlation was found with almost all learning styles except group to individual learning style. No significant correlation was found between learning styles and respondent's profile, but a weak significant relationship was found between age and tactile, kinesthetic, and individual learning styles. A learning model was developed to train the mind, emotion, and health of board takers.*

Keywords: *Board topnotchers, Criminologist Licensure Examination, Criminology, Learning Style, Challenges, Strategies.*

I. INTRODUCTION

The Criminologist Licensure Examination evaluates potential criminologists nationwide according to established criteria provided for in The Philippine Criminology Profession Act of 2018 or Republic Act No. 11131. The legislation was implemented with the purpose of overseeing the field of criminology in the Philippines and guaranteeing that only duly qualified individuals are granted the opportunity to engage in the profession.

Based on the statistics retrieved from the PRC, the national passing rate in the CLE has been notably low in recent years. Over the last five years of the CLE, the average passing rate is at 36.64%. Among the board examinations held from June 2019 to February 2024, it achieved its highest passing rate in February 2024 at 48.27 and its lowest passing percentage in June 2022 CLE at 30.30%.

“The licensing examination for criminologists is one of the most difficult licensing examinations among the 46 boards administered under the supervision of the PRC or Professional Regulation Commission.” This was statement was mentioned by the Board of Criminology – Professional Regulation

Commission Chairperson during the oath taking ceremony of the newly Registered Criminologists last 2023. This was video-recorded and posted in TikTok, a social media platform, shared in different platforms such as Facebook, and X, and reached more than 1.4 million users. Thousands of reacts and comments were given by the netizens. One of the top comments posted which attracted the attention of people was a comment about the reason why CLE seems hard for examinees and why it has a low passing rate. According to the comments, Criminology students have a low intelligence quotient and poor study habits. They labelled Criminology students and graduates as “moron”, “lazy”, and other negative traits.

This should not be the case as Criminology and Criminologists play an important role in the society’s well-being. Criminology, a branch of sociology, focuses on studying crime and criminal behavior by utilizing sociological concepts and incorporating insights from fields like psychology, economics, statistics, and others. Criminology in a global perspective expands the traditional boundaries of the discipline by studying crime and the criminal justice system on an international scale. This broader perspective recognizes the interdependence of the world and the growing global nature of criminal activities. Criminologists are essential in the realm of criminology and criminal justice. Their research, analysis, policies, and advocacy efforts are crucial in advancing the core goal of Criminology, which is to enhance the safety and justice within our community (Maryville University, 2023).

In the Philippines, criminology and criminologists are crucial components of society, as they have a significant impact on several aspects of the country's criminal justice system. Criminologists work in various law enforcement agencies which includes Philippine National Police (PNP), Bureau of Fire Protection (BFP), and Bureau of Jail Management and Penology (BJMP), and National Bureau of Investigation (NBI). Some criminologists serve as expert witnesses in legal proceedings, offering expertise on criminal behavior, crime patterns, and offender characteristics. The criminology program, as outlined in CMO No. 5 series of 2018, aims to produce graduates who are professionally

skilled and ethically upright. These graduates are expected to provide competent and successful services in a number of areas such as crime prevention, crime detection and investigation, law enforcement, public safety, detention and rehabilitation of offenders, and criminological research. The program aims to involve educational institutions in producing graduates equipped with the essential knowledge, skills, attitude, and values to address the country's criminality issues effectively. These graduates should also have the character and competence to tackle the challenges of globalization in criminology. Every Higher Education Institution offers this program to meet the community's needs and interests.

To become a criminologist in the Philippines, an individual needs to have a bachelor's degree in criminology and successfully pass the Criminologist Licensure Examination administered by the Professional Regulation Commission (PRC). Under Section 22 of Republic Act (RA) 6506, "criminologist" is defined as any person who is a graduate of the degree of criminology, has passed the examination for criminologists, and is registered as such by the Board. As strengthened in RA 11131, a Registered Criminologist refers to a natural person who holds a valid certificate of registration and an updated professional identification card as criminologist issued by the PRC Board of Criminology and the Commission pursuant to this Act.

Despite the low passing percentage, many examinees achieved outstanding rating and made it to the list of board topnotchers. Becoming a top criminologist in the Philippines requires dedication, perseverance, and a deliberate approach to learning. Although intellectual ability is unquestionable, comprehending how people learn can lead to a greater level of knowledge and achievement. This study explores the relationship between learning styles, which are the distinct methods individuals use to process and remember information, and the difficulties and learning techniques used by successful candidates in the Criminologist Licensure Examination.

This study was grounded on many theories of learning styles like VARK Model, Kolb's Theory, Dewey's Theory, and Gardner's Multiple Intelligence Theory, which propose that individuals excel in thinking and learning through diverse methods. These distinctions do not stem from varying abilities but rather from choices in how specific categories of information are processed or in what manner information is processed. Learning styles refer to enduring cognitive, emotional, and social patterns that serve as reliable indicators of how individuals interpret, interact with, and respond to the learning environment (Romanelli, 2009). Learning strategies are the particular behaviors and procedures individuals choose to address unique learning challenges, distinct from learning styles (Leaver, 2005).

Little research has been conducted to board topnotchers per se, as well as their learning style, challenges, and strategies adopted. Most published studies focused on challenges of non-passers and passers. By uncovering the correlations between these factors, a learning model can be developed specifically tailored for aspiring criminologists to successfully hurdle the board examination and may also help increase the national passing rate of the CLE.

This research delved further than just pinpointing the optimal learning style or method. It acknowledged various learning styles and provided future criminologists with the necessary skills to excel in their unique pathways. Aspiring criminologists can enhance their chances of success in the board exam and future career through this learning model. This will help in building a more skilled and diverse workforce in the field of criminology.

This study has significant implications for both students and educators as well as institutions. Studying the learning habits and practices of board topnotchers may help improve teaching methods and learning tools for criminology students, creating a more helpful and inclusive learning environment.

II. METHODS

This study utilized a descriptive correlational design to identify and discuss the learning style, challenges encountered, and learning strategies adopted by CLE board topnotchers. The rationale for employing a quantitative approach is based on the suitability of the questionnaire as the data collection instrument for this method. Furthermore, the utilization of quantitative research is advantageous as it allows researchers to gather objective and quantifiable data, facilitating the application of statistical methods to demonstrate relationships and correlation between variables.

A total of ninety-five respondents from top 10 board topnotchers in the June 2019 to February 2024 CLE excluding the researcher was utilized for this study. The researcher utilized topnotchers between these years as they encompass the latest curriculum and the novel approach to education which is online learning. The researcher also opted to utilize the total population of ninety-eight (98) respondents but only ninety-five (95) respondents were available to answer the survey questionnaire which is 97% of the total population.

The study utilized a survey questionnaire consisting of four sections: demographic and academic profile, learning style, challenges faced by respondents, and learning strategies used to overcome these challenges during CLE preparation and examination. The researcher used the Perceptual Learning Style Preference Questionnaire by Joy Reid to identify the learning style of each participant, and a custom questionnaire to assess the challenges faced and the strategies used to overcome them.

The questionnaire was validated by three specialists in the discipline of Criminology and Research. Pilot testing was conducted to regional topnotchers in the CLE 2019 to 2023. Validity and reliability of the items/indicators were assessed using Cronbach's Alpha statistical test.

The outcome of the validity and reliability assessment from the Cronbach Alpha is as stated: The Financial Challenges was scored .935 and Physical Challenges scored .920 which were both under the classification of "Excellent"; Psychological Challenges scored .857, Intellectual Challenges with .828, Intellectual Strategies with .859, and Physical Strategies with .858—the aforementioned are classified as "Good". Under the "Acceptable" category was Financial Strategies with a score of .777 and Psychological Strategies with .706.

The data gathering was done through the following process: First, a list of topnotchers from June 2019 to February 2024 was taken and noted from the official PRC website. The researcher then looked for their social media accounts like Facebook or Instagram; the researcher also sought help from her friends from the academe and review centers to reach some of the respondents. Next, the questionnaire survey, which was encoded in Google Forms, was distributed to the respondents.

The data analysis utilized statistical tools such as frequency distribution, percentage, weighted mean, Pearson Correlation Test, Spearman, and Point Biserial Test. A frequency distribution and percentage were utilized to display the demographic profile, academic profile, and learning style preferences of the participants. The weighted mean was utilized to evaluate the difficulties faced and learning methods employed by the participants. Pearson Correlation Test, Spearman Correlation, and Point Biserial Test were employed to examine the association between learning styles when grouped by profile and among all factors.

The Likert Scale was utilized to evaluate the variable in the questionnaire, with the following ranges: 4.50-5.00 for Strongly Agree, 3.50-4.49 for Agree, 2.50-3.49 for Moderately Agree, 1.5-2.49 for Disagree, and 1.00-1.49 for Strongly Disagree. The data was analyzed using the statistical program SPSS version 26 with significance levels set at 0.05 and 0.01.

The report did not identify any specific names to maintain the confidentiality of the study. The responders' identities were kept confidential, only their status as board topnotchers was disclosed. The researcher presented information and results based solely on the acquired data, without expressing any personal opinions. The questionnaire contained a confidentiality agreement and consent form that complied with the Data Privacy Act of 2012. The questionnaire used was authorized by the University's Research Ethics Review Committee. Participants have the right to withdraw from the procedure and were informed of this option from the beginning. The researcher has no financial stake, and the study's results were only utilized for scholarly pursuits.

III. RESULTS AND DISCUSSION

Table 1 presents the frequency distribution of the demographic profile of the respondents in terms of age, sex, and family income. It could be gleaned from the table that age 24 received the highest frequency of 27 or 28.4 percent while age 29 and 32 received the same lowest frequency of 1 or 1.1 percent. It implies that most of the criminologist licensure examination board places are in the bracket age of 23 to 26. Out of 95 respondents, 66 or 69.5 percent belong to males, while females have a frequency of 29 or 30.5. It also shows the respondent's household income classification according to the Philippine Institute for Development Studies. It can be seen in the table that the Lower middle class with greater than or equal to PHP 21,194 but less than PHP 43,828 per month received the highest frequency of 44 or 46.3 percent while the Upper middle class with greater than or equal to PHP 76,669 but less than PHP 131,484 per month received the lowest frequency of 1 or 1.1 percent. It implies that respondents who

made it to criminology board topnotchers belong to lower middle-income earners, and it can be associated with the reason that they come from a working-class family who strive to improve and maintain a good quality of living. Most of the parents can also be told as professionals earning a good amount of money. This manifests that these graduates were influenced by their parents and other family members to invest in their self-improvement to have a decent living.

TABLE 1. Demographic Profile Distribution of the Respondents

Demographic Profile	Frequency (f)	Percentage (%)
Age:		
22 years old	4	4.2
23 years old	14	14.7
24 years old	27	28.4
25 years old	7	7.4
26 years old	22	23.2
27 years old	9	9.5
28 years old	6	6.3
29 years old	1	1.1
30 years old	4	4.2
32 years old	1	1.1
Sex:		
Male	66	69.5
Female	29	30.5
Family Income:		
Poor: less than PHP 10,957 per month	7	7.4
Low income: greater than or equal to PHP 10,957 but less than PHP 21,194 per month	25	26.3
Lower middle class: greater than or equal to PHP 21,194 but less than PHP 43,828 per month	44	46.3
Middle class: greater than or equal to PHP 43,828 but less than PHP 76,669 per month	18	18.9
Upper middle class: greater than or equal to PHP 76,669 but less than PHP 131,484 per month	1	1.1

The result implies that males outnumbered female respondents. This is because historically, criminology is a male-dominated field. This affirms the findings of the study of Gateley (2020) on *Awakening from Androcentrism: Calls for Measurement of Gender and Sexuality in Criminology* that criminology has been a male-dominated field because of the hypothesis that women are known in the justice system to become weak and passive. It is attributed to gender bias and the discussion on gender differences has been historically ignored in the criminology field and female has a small percentage of inclusion in the male-centered academy. In the study conducted by Lee et al. (2022), it examined family satisfaction and self-efficacy in low-income adolescents during the COVID-19 pandemic. The findings indicate that self-efficacy has a negative correlation with income and savings. Lee et al. (2022) found that there is less research on self-efficacy in low-income adolescents, and adolescents from wealthier homes generally had higher levels of self-efficacy compared to those from lower-income households. Kirk (2024) defines self-efficacy as confidence in achieving goals, noting motivated students often set high standards for themselves. These can be linked to students' upbringing and the working-class families' culture, which values thoughtfulness and striving for the life and profession that one

dreams of. Hard work, perseverance, and discipline are virtues that parents have instilled in their children. These young individuals will diligently accomplish their duties and take responsibility for their acts without shifting blame when they make mistakes. Students with self-efficacy tend to recover faster from failures and are more likely to achieve their goals in the long run (Kirk, 2024). These qualities were very helpful in assisting the criminology graduates to pass and top the licensure exam.

TABLE 2. Academic Profile Distribution of the Respondents

Academic Profile	Frequency(f)	Percentage (%)
General Weighted Average		
1.00 -1.50 or 100% to 93%	18	18.9
1.51 - 2.00 92% to 87%	62	65.3
2.01 - 2.50 or 86% to 81%	14	14.7
2.51 - 3.00 or 80% to 75%	1	1.1
Received Academic Awards		
Latin Honor recipient	21	22.1
Academic award recipient (Dean’s Lister, Honorable Mention, With Distinction)	23	24.2
None, ordinary graduate	51	53.7
School Graduated		
Private Higher Education Institutions	62	65.3
State Universities and Colleges	18	18.9
Local Colleges and Universities	13	13.7
Other Government Schools	2	2.1
Duration of Review		
6 months and below	57	60
6 months and 1 day to 1 year	25	26.3
1 year and 1 day to 1 year and 6 months	9	9.5
1 year, 6 months and 1 day to 2 years	2	2.1
2 years and 1 day and above	2	2.1

It can be seen on the table that the general weighted average of 1.51 – 2.00 or 92% to 87% got the highest frequency of 62 or 65.3 percent while 2.51 – 3.00 or 80% to 75% got the lowest frequency of 1 or 1.1 percent. The data imply that most of the topnotchers in the board exams were students with a General Weighted Average ranging from 87% to 92% and not only those with perfect 1.00 grades can excel in the board exam. It could also be gleaned from the table that respondents who graduated from Private Higher Education Institution received the highest frequency of 62 or 65.3 percent while respondents who graduated from Other Government Schools received the lowest frequency of 2 or 2.1 percent. As for the review duration, it shows that 6 months and below got the highest frequency of 57 or 60 percent while both 1 year, 6 months, and 1 day to 2 years and 2 years and 1 day and above received the lowest frequency of 2 or 2.1 percent.

The result affirms the findings of Barreda (2022) that board takers' performance on the licensing exam cannot be predicted by their academic achievement; while the study strategies they develop during the program can be helpful, they cannot be used solely for evaluating the quality of the answers they provide on the test. The results of the study by Barreda & Barreda (2023) on Results of Criminologist Licensure Examination (CLE): A Baseline Study of Solis Institute of Technology Bulan Sorsogon, Philippines, which found that grade point average had no impact on how well they performed on the examination due to the lack of a

significant correlation between academic performance and Criminologist Licensure Examination rating, support the result that general weighted bearing has no high bearing on the exam. It is stated that the emphasis is on the student's continuous efforts. Enhancing the course curriculum and mode of delivery of instruction are also key takeaways to consider in the preparation of students to ace the board examination (Pangngay & Merza, 2023).

The result also implies that even an average student might do exceptionally well on the board exam. Before taking the board exam, all students, regardless of academic distinction, undergo extensive study to ensure that their performance in college will not require them to retake the examination in the future. This aligns with the results of Ibarrientos' (2022) study, indicating that students with lower scores on the College Admission Test can nevertheless achieve high academic performance and do well on licensure examinations. It can be taken into account that the computation of the GWA as the basis for the awarding of academic excellence does include grades from minor subjects whereas the licensure examination focuses on the professional courses/subjects only. This is also a clear indication that criminology students have a high level of interest and knowledge in their professional subjects but with less prioritization on getting high grades on minor subjects which does affect their GWA and the type of academic award they receive.

Pulgarinas Jr. (2022) found a substantial association between academic characteristics, such as Nursing Care Management performance, Nurse Aptitude Test result, English Proficiency, and Nursing Enhancement Program result, and the Nurse Licensure Examination performance of nursing graduates. When assessing the performance of criminology graduates, a regression model can be utilized, following the example of other colleges and universities that use this strategy to predict licensing examination results. Thus, the academic performance of criminology students must be closely monitored from the first year of college until their graduation. During these years of stay of students in the academic institutions, tailored fit academic intervention programs can be provided.

It also implies that board places in the criminologist licensure examination came from private institutions some have strict policies to graduate and be able to take the board examination. This supported the study of Pangngay & Merza (2023) that higher education institutions produce high-quality professionals and provide competent curriculum-based learning relevant to taking board examinations. This also affirms the study of Amanonce et al. (2020) which revealed that school profile can also be an attribute that can be considered as an indicator of good performance in the licensure examination. According to the records of the Professional Regulation Commission (PRC), most of the top school performers in the previous criminologist licensure examinations at the national level were state universities, public colleges, and some private universities/colleges. These institutions have strict retention policies and ensure the quality of instruction and materials.

The Professional Regulation Commission's (PRC) new table of specifications (TOS) for CLE has specified the topics included and the type of exam questions that focus more on the analysis and application. Align with the implementation of the Republic Act 11131 also known as “An Act Regulating The Practice Of Criminology Profession In The Philippines, And Appropriating Funds Therefor, Repealing For The Purpose Republic Act No. 6506, Otherwise Known As "An Act Creating The Board Of Examiners For Criminologists In The Philippines", it became a challenge to pass the CLE. Amanonce et al. (2020) suggest that the educational level of teachers influences the performance of college graduates in licensure examinations. Their research indicates that Teacher Education Institutions (TEI) with a majority of faculty members holding doctorate degrees have higher ratings in the Licensure Examination for Teachers (LET) compared to TEIs where teachers mostly have master's degrees.

The study also shows that the board examination is not about how long the respondents spend time in reviewing the materials. The length of time spent in a review program does not seem to significantly affect the probability of passing the license examination, as indicated by the results. The pre-board review and the academic program's standard are closely related in predicting candidates' performance on the license examination. Terano (2018) stated that academic scores and pre-board examination performances were dependable predictors of the achievement of electronics engineering graduates from Camarines Sur Polytechnic Colleges (CSPC) in the licensing examinations.

Fiscal and Roman (2022) highlighted the importance of monitoring essential criteria to enhance the pass rate of instructors in the license test for teachers (LET). These characteristics encompass the outcomes of the pre-licensing examinations administered by higher education institutions before their students graduate. Academic institutions have included a pre-board review course/subject in their curriculum to strengthen students' understanding and to provide them with the skills to tackle board-style questions. Classroom instructions primarily aim to teach students knowledge and skills related to the subject matter. In contrast, the pre-board course or review is specifically designed to help students apply techniques and strategies for analyzing and answering board-style questions. Therefore, it is essential to monitor and utilize academic achievement in professional courses as a foundation for designing and implementing a pre-board review program. Success in the board examination depends on the students' solid academic foundation, which is developed from the first year to the last year of their course and refined through the pre-board course review/program. Success in the licensing examination is strongly influenced by the quality of training and assessment.

Table 3 shows the frequency distribution of the learning style of the respondents in terms of visual, tactile, kinesthetic, individual, auditory, and group learning. It can be seen on the table that in terms of visual learning, major learning style preference received the highest frequency of 67 or 70.5 percent while negligible received the lowest mean of 3 or 3.2 percent, 55 or 57.9 percent of the respondents have a major

learning style preference towards tactile learning while 8 or 8.4 percent are negligible, 50 or 52.6 percent of the respondents have a major learning style towards kinesthetic learning while 8 or 8.4 percent of the respondents are negligible, 66 or 69.5 percent of respondents' Major Learning Style Preferences were individual learning while 5 or 5.3 are negligible, 58 or 61.1 percent of the respondents have a Major Learning Style Preference towards auditory learning while 4 or 4.2 percent of the respondents are negligible, and 39 or 41.1 percent of the respondents have a Minor Learning Style Preference towards group learning while 22 or 23.22 percent of the respondents have Major Learning Style Preference on group learning.

TABLE 3. Frequency Distribution of the Learning Style of the Respondents

Learning Style	Frequency(f)	Percentage (%)
Visual Learning		
Major Learning Style Preference	67	70.5
Minor Learning Style Preference	25	26.3
Negligible	3	3.2
Tactile Learning		
Major Learning Style Preference	55	57.9
Minor Learning Style Preference	32	33.7
Negligible	8	8.4
Kinesthetic Learning		
Major Learning Style Preference	50	52.6
Minor Learning Style Preference	37	38.9
Negligible	8	8.4
Individual Learning		
Major Learning Style Preference	66	69.5
Minor Learning Style Preference	24	25.3
Negligible	5	5.3
Auditory Learning		
Major Learning Style Preference	58	61.1
Minor Learning Style Preference	33	34.7
Negligible	4	4.2
Group Learning		
Major Learning Style Preference	22	23.2
Minor Learning Style Preference	39	41.1
Negligible	34	35.8

The findings imply that criminology graduates learn effectively with reading materials from books, notes, board works, graphics, and illustrations. Main (2023) stated that this method utilizes the cognitive process by which pupils gain knowledge with the help of visual aids, making it a crucial technique for instructors to enhance understanding and retention of information. Empirical studies have demonstrated that visual learning improves memory retention by activating both the cognitive and visual systems. It is significant in the classroom, giving students a ladder to reach higher levels of comprehension and intellectual development. They tend to understand and absorb the concepts and information with guidance from learning materials either printed or softcopy. Curated learning materials such as video lectures, PowerPoint presentations, handouts, and textbooks with pictures and process illustrations are appreciated and effective means of learning for criminology students.

With the complexity of lessons and topics in Criminology Courses involving technical and legal topics, pictures and graphs are the easiest way to discuss and understand the concepts and information. With the emergence of digital

content from the COVID-19 pandemic's positive effects, students learn more about how to use and navigate electronic files from multiple sources. Raiyn (2016) supported that introducing various concepts through visual presentation improves students' analytical thinking skills based on problem-based learning (PBL). Utilizing a visual learning technique can enhance students' critical thinking abilities. The strategy consists of three essential components: an educator, a learner, and an educational process. The teacher's duty is overseeing the learning process to enhance higher-order thinking (HOT) skills effectively. French The use of various visual forms such as pictures, diagrams, charts, and interactive simulations improved students' higher-order thinking skills (HOT) (Raiyn, 2016). The study by Rujani (2019) noted that even university-level students require visual stimuli such as photos, videos, and movies. The absence of visual assistance can hinder the ability to concentrate on the discussions. According to classroom observation and current trends in pre-board and actual board review programs, students show a greater inclination to learn when the materials and manner of instruction are visually attractive and presented with illustrations.

It also shows that majority of the board topnotcher preferred the use of touch to learn. One part of this method is taking traditional notes, which aids in knowledge retention by transferring and summarizing the material in writing. Instead of reading all day, they would rather move around, have cards, and use models. This supports the concept of tactile learning as proposed by Main (2024), which is a technique that uses the student's sense of touch to study and understand what is around them. It enhances the learning environment by offering a variety of avenues for study, learning, and knowledge retention. This kind of instruction backs up the concept that students may comprehend and retain information better when they engage with materials hands-on. Tactile experiences have been shown by researchers to activate areas of the brain related to sensory processing.

This result also implies the majority of the respondents preferred hands-on training, active participation, or simulation type of learning to be able to experience the actual purpose of the materials. It affirms the study of Magulod Jr., (2019) that respondents perform better while they are learning hands-on or fully physically involved in the learning environment. The things they like to do are through practical implementation in the classroom and they exhibit a desire to take an interest in educational activities through experiments. Therefore, active engagement improves their ability to learn. Students with a kinesthetic learning style acquire and process knowledge by engaging in physical activities (Rujani, 2019).

Their inclination for engagement, activity, and mobility may provide challenges when they are required to maintain a seated position for an extended duration (Rujani, 2019). Hands-on learning, which involves physical interaction and manipulation, is essential for effective learning. It was also revealed in the findings of the study of Fadzillah *et al.* (2021) that students with visual learning styles perform better in their academics compared to those with auditory and kinesthetic learning styles. Thus, it can be noted that in the regular class

sessions combination of visual, auditory, tactile, and kinesthetic learning styles would be beneficial for the students however, in the board examination review and preparation visual learning style is more appropriate.

As each person learns at a different pace, the results suggest that board topnotchers in the criminologist examination preferred to study alone and adhere to a study routine that suits them. It helps them concentrate and enables them to be more self-reliant, productive, and autonomous with little help from others. This supports the findings of Rubrico (2019) study on Learning Styles and Academic Achievement of Criminology Students, which found that every person is a different learner and that the process of learning on an individual basis encompasses a wide range of preferences for information processing and absorption. Everybody learns and thinks differently, and every group of learners has different learning traits, especially when it comes to information processing.

It also suggests that respondents are more engaged in listening to the information. They perceive information when it is explained to them verbally. In a study conducted by Laput and Melmar (2023), it was found that criminology graduates from one university showed a preference for auditory and kinesthetic learning styles as their primary learning styles, while individual learning methods were considered the least favored. Moreover, it was emphasized that there is a significant association between the favored learning methods of Criminology graduates and their results in the board exam. Various learning styles such as visual, tactile, kinesthetic, auditory, group, and individual styles influence performance in the criminologist's license exam (Laput & Melmar, 2023).

It implies that not all top-performing respondents in the criminologist licensure examination are into collaborative learning. Some found group learning to be time-consuming, full of distractions, and often lead to communicating with one another rather than studying. This supports the findings of the study by Ciasha & Dela Cerna (2019) that more of the respondents preferred individual learning over group learning. They are more focused on learning at their pace because they are introverted learners.

Topnotchers may benefit from studying with visual, auditory, kinesthetic, and tactile learning styles, but they will not be as productive as they are when other board takers preparing are around.

Table 4 shows that among the experiences cited for exam preparation, procuring strong internet subscriptions posed the greatest financial obstacle as it has a weighted mean of 2.81, followed by "My family was not able to provide board and lodging which is conducive for review" and "My family was not able to provide sufficient personal allowance" which has a weighted mean of 2.75 and 2.69.

This finding is supported by a study conducted by Korkmaz *et al.* (2022) which states that having financial struggle to procure adequate internet access is a challenge to students and results in education inequality. On the contrary, as indicated by the table's weighted mean of 2.23, paying the Philippine Regulation Commission (PRC) exam filing fee in

advance appeared to be the least experienced financial obstacle for the respondents.

The findings regarding the top-ranked financial challenge, which pertains to the affordability of strong internet subscriptions, underscore a significant obstacle faced by respondents in accessing online resources and review materials. Mullens and Hoffman (2023) found that Open Educational Resources (OER) characterized by their electronic format and copyright under a license permitting free student access, emerging as a promising avenue to alleviate the financial strain and academic burden induced by the soaring costs of traditional instructional materials. It reveals that both students and faculty hold positive views of OER, considering them to be comparable in quality to paid instructional materials. Among these barriers, the affordability of internet subscriptions emerges as a critical concern, particularly given the increasing reliance on online resources for academic endeavors. It highlights the impact of OER adoption on student achievement, indicating that students using OER demonstrate stable academic performance across course grades, exam grades, and retention rates. The potential of OER to level the playing field and enhance educational outcomes, particularly for economically disadvantaged students who may face barriers to accessing traditional educational materials. In light of these, it becomes evident that addressing the affordability of strong internet subscriptions is essential for ensuring equitable access to educational resources and fostering academic success.

TABLE 4. Financial Challenges Experienced by the Respondents While Preparing for and Taking the Criminologist Licensure Examination

Indicators	Weighted Mean	Verbal Interpretation	Rank
I was not able to provide the PRC examination filing fee ahead of time.	2.23	Disagree	10
I was not able to get documentary requirements and clearances ahead of time.	2.53	Neutral	4
I was not able to provide transportation expenses.	2.27	Disagree	9
I was not able to enroll in well-known review center.	2.28	Disagree	8
I was not able to acquire latest and comprehensive review materials.	2.34	Disagree	7
I was not able to buy nutritious food.	2.47	Disagree	5
I was not able to have strong internet subscriptions.	2.81	Neutral	1
My family was not able to provide sufficient personal allowance.	2.69	Neutral	3
My family was not able to provide board and lodging which is conducive for review.	2.75	Neutral	2
My family was not able to provide gadgets for the review such as cellphone, tablet, and/or laptop.	2.4	Disagree	6
Composite Mean	2.48	Disagree	

It was also revealed that one of the top challenges of the board takers is the insufficient allowance they get from their

family. However, this challenge did not prevent them to top the licensure examination. The study conducted by Moneva (2020) found no significant correlation between school allowance and students' motivation in academic pursuits. Students' level of determination to learn does not affect the amount of educational aid they receive, whether high or low. This finding contradicted the findings of Kausar's (2022) study, which showed that parental support in terms of social, economic, and emotional factors, as well as socioeconomic position, significantly influence adolescents' academic performance.

Albina, et al. (2021) conducted a study that revealed a notable issue for those who failed the exam was the insufficient financial and spiritual assistance from their parents during college and exam preparation. While in college, some students faced financial difficulties since their parents did not provide enough allowance, affecting their academic endeavors, as indicated by the study's results.

TABLE 5. Psychological Challenges Experienced by the Respondents While Preparing for and Taking the Criminologist Licensure Examination

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. I felt that my preparation to take the board exam is not enough yet.	3.66	Agree	4
2. I felt overwhelmed with the extensive coverage of the examination.	3.73	Agree	3
3. I felt pressured by my family's expectation.	3.21	Neutral	9
4. I felt pressured by my friends' expectation.	3.46	Neutral	7
5. I felt pressured by my school's expectation.	3.43	Neutral	8
6. I felt pressured by my review center's expectation.	3.19	Neutral	10
7. I felt pressured by my self-imposed need to pass the board examination.	4.24	Agree	1
8. I became socially isolated from my friends and relatives.	3.61	Agree	5
9. I experienced heightened stress as a result of my tendency to delay tasks.	3.81	Agree	2
10. I lack concentration to deeply understand all the review materials.	2.73	Neutral	11
11. I underwent emotional problems.	3.55	Agree	6
12. I experienced mental block during the examination due to extreme nervousness.	2.57	Neutral	12
Composite Mean	3.43	Neutral	

Legend: 4.50 – 5.00 = Strongly Agree; 3.50 – 4.49 = Agree; 2.50 – 3.49 = Neutral; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

Table 5 presents the psychological challenges encountered by the respondents. Self-imposed pressure to pass the board

exam, which has a weighted mean of 4.24, was the psychological barrier that respondents reported experiencing the most frequently, followed by experiencing heightened stress as a result to their tendency to delay tasks with a weighted mean of 3.81, and they felt overwhelmed with the extensive coverage of the examination with a mean of 3.73. With a weighted mean of 2.57, the table indicates that the least encountered psychological challenge was experiencing mental block during the examination due to extreme nervousness.

Feeling pressured by one's self-imposed need to pass the board examination is a deeply ingrained psychological challenge that permeates the journey of many exam takers. This internal pressure often originates from a multitude of sources, ranging from personal ambitions and aspirations to societal expectations and cultural influences. For many individuals, passing the board examination represents not only a significant academic achievement but also a crucial milestone in their professional development and personal fulfillment.

According to the study conducted by Sumicad (2023), one of the psychological factors that affected the takers of the psychometrician board examination was self-imposed pressure because they were ashamed of what the result of the examination would be. They felt that they were a burden to the family and used this as motivation to pass the licensure examination.

A study conducted in 2022 by Svartdal emphasizes that procrastination, which is characterized as the consistent postponement of academic assignments to the point where it negatively affects performance, well-being, and health, is a widespread problem among students. The study indicated that engaging in procrastination can result in adverse outcomes, including reduced efficiency, subpar achievement, and heightened levels of stress and anxiety.

Another study published in 2024 by Kooren in Education Sciences found that both active procrastination (intentionally delaying tasks due to preference for pressure) and passive procrastination (unintentional delay due to poor self-regulation) have a negative impact on academic performance. The meta-analysis showed a moderate negative correlation between procrastination and academic performance.

A study conducted by Zhu (2023) looked at the positive and negative aspects of procrastination. This study has shown that engaging in active procrastination can actually enhance productivity and creativity, particularly when deadlines draw near. Engaging in work under time constraints can also evoke a feeling of accomplishment and satisfaction.

A qualitative study conducted by Constante et. al (2020) revealed the experiences of the respondents. According to them, there were additional topics in taxation and law because the Board of Accountancy revised the syllabus for the coverage of the CPALE as early as 2016 and implemented it immediately the following year which made a wider scope of the exam. Most of them do not have enough knowledge especially in the new topics included in the board.

The study conducted by Iranagh et al. (2019) aimed to examine the impact of academic preparation in reducing test anxiety and improving academic performance of public health

students in Urmia, Iran. The study revealed that the intervention group, which underwent study preparation training, had reduced levels of test anxiety and achieved greater results on exams in comparison to the control group. The study indicates that engaging in study preparation might effectively mitigate test anxiety and enhance academic achievement which would decrease the probability of experiencing mental block.

Table 6 shows the intellectual challenges encountered by the respondents. Based on the table, the most common intellectual challenge experienced by the respondents was that some topics were not discussed in their respective schools which had a weighted mean of 4.06, followed by some topics in the exam were not fully emphasized in school, and some topics were not discussed in the review center with a weighted mean of 4.05 and 3.51 respectively.

The table also suggests that the least common intellectual challenges with a weighted mean of 2.43 were they lacked the ability to apply and comprehend certain concepts in practical situations and not being able to evaluate and justify their answers in the board examination.

Cabahug et al. (2024) reported that the study participants offered input on the instructional methods of the BTLED program conducted by the university. The respondent's academic progress may have been negatively impacted since some specific themes were not thoroughly explored or discussed due to time constraints and a focus on mandatory courses for the major. If instructors do not prioritize essential courses, students may obtain low grades on board examinations. Multiple variables contribute to the worsening of this problem, such as the instructor's insufficient proficiency in the subject matter, ineffective teaching methods, and inaccurate information and prior knowledge. Teacher preparation programs may not necessarily ensure a comprehensive grasp of a subject for their graduates. Furthermore, some individuals claim that their training programs inadequately prepared them for the teaching profession or the test.

A study conducted by Flores (2020), although the faculty made significant efforts to address all the main themes stated in the Commission of Higher Education Memorandum Order for BS Civil Engineering, there were still several sub-topics that were not covered in the classroom yet appeared on the exam. This was further corroborated by the research conducted by Constante (2020), which revealed that a majority of respondents lacked sufficient expertise, particularly in the newly introduced subjects covered in the board exams. Additionally, these subjects were found to be very challenging and were not addressed in their undergraduate coursework.

It was concluded that the least experienced intellectual challenge of the board topnotchers was, first, they lacked the ability to apply certain concepts and second, they were not able to evaluate and justify their answers. Albite (2019) found that top LET performers made reading an essential tool for learning and reviewing subjects. Their intense motivation prompted them to persist in reading all the resources they collected from college, including borrowed review materials from acquaintances who had already passed the LET exam.

They appreciated the fact that reading those resources not only helped them achieve their goals, but also provided instructive, enjoyable, and pleasant experiences. To achieve overlearning, participants reported going beyond standard reading practices by establishing connections between concepts, synthesizing information using a visual organizer, employing schema, and practicing self-monitoring and comprehension.

TABLE 6. Intellectual Challenges Experienced by the Respondents While Preparing for and Taking the Criminologist Licensure Examination

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Some topics in the exam were not discussed in school.	4.06	Agree	1
2. Some topics in the exam were not discussed in review center.	3.51	Agree	3
3. Some topics in the exam were not fully emphasized in school.	4.05	Agree	2
4. Some topics in the exam were not fully emphasized in review center.	3.24	Neutral	5
5. There were words in the review materials that I do not fully understand.	3.05	Neutral	6
6. I was not able to cover and review some topics included in the exam due to insufficient time.	3.46	Neutral	4
7. I was not able to properly analyze some questions in the exam because of time constraint.	2.88	Neutral	7.5
8. I had difficulty in retaining and retrieving some specific information that I had previously read.	2.88	Neutral	7.5
9. I was not familiar with the words used in the board examination.	2.6	Neutral	10
10. I was not able to understand and identify some complex ideas and concepts in the board exam.	2.73	Neutral	9
11. I lacked the ability to apply and comprehend certain concepts in practical situations.	2.48	Disagree	13.5
12. I was not able to analyze and criticize some complicated questions in the board exam.	2.58	Neutral	11
13. I was not able to evaluate and justify my answers in the board exam.	2.43	Disagree	13.5
14. I was not able to create and develop a comprehensive study guide that would've helped me confidently answer the board examination.	2.55	Neutral	12
Composite Mean	3.04	Neutral	

Legend: 4.50 – 5.00 = Strongly Agree; 3.50 – 4.49 = Agree; 2.50 – 3.49 = Neutral; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

Table 7 shows the physical challenges experienced by the respondents. Based on the table, the most commonly experienced physical challenge by the respondents was having back pains due to lack of physical activity which had a weighted mean of 3.89, followed by losing or gaining weight because of nutrition neglect while they were preparing for the board examination and experiencing frequent migraine attacks due to changes in their sleep pattern and eye strain with a weighted mean of 3.66 and 3.57 respectively. The table also suggests that the least common physical challenge with a

weighted mean of 2.66 were they experienced high blood or low blood pressure due to stress and unhealthy daily routine.

TABLE 7. Physical Challenges Experienced by the Respondents While Preparing for and Taking the Criminologist Licensure Examination

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. I lost my appetite due to the stress of board examination.	2.84	Neutral	9
2. I lost or gained weight because I neglected nutrition while preparing for the board examination.	3.66	Agree	2
3. I had an acne breakout, dryness, and other skin problems due to stress.	3.36	Neutral	5
4. I had body aches and back pains due to lack of physical activity.	3.89	Agree	1
5. I had increased my screen time and affected by eye health.	3.53	Agree	4
6. I experienced frequent migraine attacks due to change in sleep pattern and eye strain.	3.57	Agree	3
7. I failed to religiously do my personal care routines such as showering, grooming, or relaxation activities due to my busy study schedule.	2.73	Neutral	10
8. I had increased or decreased my blood sugar due to stress and unhealthy eating habits.	2.97	Neutral	8
9. I had experienced high blood or low blood pressure due to stress and unhealthy daily routine.	2.66	Neutral	11
10. My immune system was compromised.	2.98	Neutral	7
11. I was not in my best physical condition during the actual board examination.	3.21	Neutral	6
Composite Mean	3.22	Neutral	

Legend: 4.50 – 5.00 = Strongly Agree; 3.50 – 4.49 = Agree; 2.50 – 3.49 = Neutral; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

This was supported by the study of Mathon, et al. (2019), which discussed that lower back discomfort is a pervasive health concern that impacts individuals across all age groups and occupational sectors. With an estimated 80% of the adult population encountering low back discomfort at some stage in their lives, this musculoskeletal disorder is among the most prevalent on a global scale. Further, low back pain is a leading contributor to disability on a global scale, resulting in significant consequences for productivity, mental health, and quality of life, which are all essential to an individual preparing for board examinations. A study was also conducted to medical students of Saudi Arabia which indicated that due to studying and reading which requires prolonged sitting and due to lack of physical activity, it contributed to an elevated

risk of low back discomfort among medical students (Taha, 2023).

In Nabila et. al.'s (2022) study, it was found that students saw a notable rise in stress-related eating, overeating, consumption of fast food, and meal skipping during their final year compared to their third year. Additionally, there was a substantial decline in the consumption of nutritious food during the last year in comparison to the third year. In the third year of school, stress levels were heightened due to the strain of the academic workload. In the final year of study, stress levels were influenced by both gender and the pressure of completing an undergraduate thesis. The findings suggest that variations in academic pressure throughout successive years of study can impact the stress levels and eating habits of college students. Their study was reaffirmed by AlJaber et al. (2019), stating that there existed a robust correlation between the degree of stress and detrimental eating patterns. As stress levels rise, a significant number of students tend to develop bad eating habits, such as consuming nutritionally poor foods.

Bag et al. (2023) found that there is a notable positive link between the frequency of headaches and the global PQSI score. This suggests that individuals with more frequent migraine attacks tend to have poorer subjective sleep quality. People with chronic migraines have poor subjective sleep quality, take longer to fall asleep, sleep for shorter durations, have lower sleep efficiency, and experience increased sleep disturbances. The study conducted by Ismail et. al. (2019) found that individuals suffering from migraine headaches have a higher likelihood of experiencing associated dry eye disease (eye strain) in comparison to the general population.

Changes in the blood pressure was experienced least by the respondents. A study by Florezet al. (2022) revealed a significant correlation between academic performance and VO2 max, diastolic blood pressure, and breathing-related insomnia. The low academic performance group exhibited notably higher diastolic blood pressure and insomnia levels, along with significantly lower VO2 max scores compared to the high academic performance group.

TABLE 8. Composite Table of the Financial Challenges, Psychological Challenges, Intellectual Challenges, and Physical Challenges

Challenges	Mean	Median	SD
Financial Challenges	2.48	2.4	1.01
Psychological Challenges	3.43	3.5	0.807
Intellectual Challenges	3.04	3	0.628
Physical Challenges	3.22	3.27	0.828

Table 8 presents the composite table of the financial challenges, psychological challenges, intellectual challenges, and physical challenges. It can be seen on the table that psychological challenges got the highest average mean of 3.43, followed by physical challenges with an average mean of 3.22, then intellectual challenges with an average mean of 3.04. On the other hand, financial challenges got the lowest mean of 2.48. This implies that the majority of individuals are facing pressure from family members, friends, schools, and review centers and it has a great impact as a stressor in the preparation for their licensure examination. It is a reason why a positive reinforcement from family, friends, schools, and

review centers is important to further the chance of the criminology graduate to perform well in the licensure examination. A standard deviation of 0.807 indicates a slightly lower level of variability compared to that observed in financial issues. Albina et al. (2022) discovered that the home and family aspect has a considerable effect on accomplishment in CLE, while the student, school, review center, and personal factors have a moderate impact as reported by non-passers.

It is important to keep in mind that several higher learning institutions integrate a pre-review course into the curriculum for the CLE review course. A CLE review center is another requirement that some universities have for their graduates. Graduates in criminology have a financial burden and challenges in the form of review fees from outside review centers, review allowances, requirement costs, and board exam filing fees. However, in addition to the regular fee for the subject units, students must pay an additional cost. The expense of employing review lecturers, administering exams, and providing study materials is covered by this funding. Before being eligible to apply for the licensing examination after graduation, students had to meet the academic requirements for a mock board test.

These results present a sample in which the participants generally experience more psychological challenges, followed by physical and intellectual challenges and, to a lesser extent, financial challenges. The data shows that while there is some variation in how participants are affected by these challenges, the majority face them significantly.

Table 9 presents the financial strategies adopted by the respondents to counter the challenges experienced. It can be gleaned that the top financial strategy performed by the respondents was to utilize free review materials available on the internet with a weighted mean of 3.69 and a verbal interpretation of Agree, followed by applying scholarship in review centers, and borrowing review materials from friends, which both had a verbal interpretation of Neutral. Amongst all, the least financial strategy adopted was soliciting financial assistance to government offices to supplement their expenses with a mean of 1.72, Disagree.

It was supported by the study conducted by Algharaibeh (2020), which discussed that when considering academic help-seeking behavior, scholarly investigations have demonstrated that consulting authoritative or unofficial sources of assistance can foster favorable learning trends, bolster self-confidence, and improve academic achievement. This study suggested that students may benefit from utilizing the internet to pursue academic assistance.

Binayao (2020) performed a study which found that individuals taking board exams utilized various methods to obtain resources for review and to enhance their competencies in preparation for the LET exam. For all groups, the most convenient way to obtain review materials is through internet sources. It has become a worldwide phenomenon, but the participants failed to verify the credibility of the sources or websites from which they obtained the materials. It is imperative to assess the sources and ascertain the quality of the information obtained via the internet.

TABLE 9: Financial Strategies Adopted by the Respondents

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. I applied for a part time job to supplement my expenses for the board examination.	2.25	Disagree	9
2. I applied for a scholarship in the review center.	2.95	Neutral	2
3. I self-reviewed.	1.94	Disagree	10
4. I enrolled for online review classes at a reduced cost.	2.71	Neutral	5
5. I solicited financial assistance to government offices to supplement my expenses.	1.72	Disagree	12
6. I borrowed money from my friends and/or relatives to supplement my expenses.	2.72	Neutral	4
7. I borrowed review materials from my friends and colleagues.	2.91	Neutral	3
8. I utilized free review materials available on the internet.	3.69	Agree	1
9. I visited libraries to read and study related books and journals for free.	2.62	Neutral	7
10. I borrowed gadgets to be able to attend online review classes.	2.28	Disagree	8
11. I utilized the internet connection available at my relative's and/or friend's residences to attend my online review classes.	2.68	Neutral	6
12. I enrolled for the final coaching only.	1.76	Disagree	11
Composite Mean	2.52	Neutral	

Legend: 4.50 – 5.00 = Strongly Agree; 3.50 – 4.49 = Agree; 2.50 – 3.49 = Neutral; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

Applying for scholarship in review centers has been one of the top financial strategies adopted by the respondents. Scholarships has helped thousands of students to finish their degree and even pass their licensure examination. It decreased the stress of the student and their family especially It was supported by Capinig, Godoy et. al. (2023) who found that scholarship recipients express satisfaction with the excellent program offered by the Commission on Higher Education (CHED). This program has effectively alleviated their stress by reducing their educational expenses through subsidies.

According to Nayak (2022), scholarships not only cover the expenses of obtaining a higher education, but they also enhance the quality of students' lives. The impact of scholarships might vary from alleviating the financial strain of increasing college tuition expenses to enabling students to dedicate more time and effort to their studies instead of engaging in part-time employment.

The respondents also sought help from their friends by borrowing their review materials. This has been seen as a great help to board takers in terms of financial and intellectual aspects. Binayao's (2020) study found that all participants

received substantial social support from their friends, colleagues, co-workers, and instructors, which they considered essential for their journey in the LET program. The support offered includes tangible help like study materials and financial aid from the barangay, assessment, efficient coping strategies, prayers, guidance, practical exam tips, and emotional support.

A study was undertaken to investigate the impact of financial aid on students' academic progress. It was found that both scholarship and non-scholarship students put in equal effort to improve their academic performance (Shaikh, et al. 2023). Another study conducted by Kushebayev, (2022) concluded that correlation between state funding or education assistance from the government and student performance revealed no significant statistical correlation.

TABLE 10: Psychological Strategies Adopted by the Respondents

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. I structured and followed my strict study schedule.	3.91	Agree	3
2. I reviewed more than 8 hours per day.	3.79	Agree	6
3. I opted to extend my review period into the next season/s to allow for more comprehensive preparation.	3.06	Neutral	9
4. I moved out from my family's house to concentrate on the review.	2.98	Neutral	10
5. I became temporarily socially unavailable.	3.96	Agree	2
6. I have uninstalled my social networking applications in order to prioritize my preparation for the examination.	3.79	Agree	6
7. I allocated a free day/s and spent it with my family and friends.	3.47	Neutral	8
8. I rewarded myself with in-between breaks during review.	4.09	Agree	1
9. I sought emotional support from my family and/or friends.	3.79	Agree	6
10. I sought professional help for my mental health.	1.83	Disagree	11
11. I recited daily positive affirmations to myself.	3.8	Agree	4
Composite Mean	3.5	Agree	

Legend: 4.50 – 5.00 = Strongly Agree; 3.50 – 4.49 = Agree; 2.50 – 3.49 = Neutral; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

Presented in Table 10 are the psychological strategies adopted by the respondents. Giving in-between breaks during review as self-reward ranked first in the eleven (11) psychological strategies with a mean of 4.09 – Agree, second in rank is that they became temporarily socially unavailable and third, they followed a strict study schedule, with a

weighted mean of 3.96 and 3.91 respectively. There are three strategies ranking 6th in the table with a mean of 3.79 and verbally interpreted as Agree, which includes reviewing more than 8 hours per day, uninstalling social media applications, and seeking emotional support from family and/or friends. Seeking professional help for their mental health ranked the last among the strategies, with a mean of 1.83, and verbally interpreted as Disagree.

Rewarding oneself with in-between breaks during the review process for an exam is a vital aspect of maintaining balance, managing stress, and optimizing study effectiveness. These breaks serve as valuable opportunities for candidates to recharge, rejuvenate, and regain focus, thereby enhancing their overall well-being and cognitive performance. Incorporating short breaks into their study routine, candidates can prevent burnout, alleviate mental fatigue, and sustain their motivation and productivity levels over an extended period. These interludes provide a chance to engage in activities that promote relaxation and stress relief, such as stretching, deep breathing exercises, or brief walks outdoors.

Moreover, Sarbassova et al. (2023) shows that taking regular breaks enables candidates to consolidate their learning, process information more effectively, and enhance memory retention. Research suggests that spaced repetition and deliberate rest periods contribute to long-term knowledge retention and comprehension, as they allow the brain to encode and consolidate newly acquired information more efficiently. Alternating between focused study sessions and brief intervals of rest, candidates can optimize their cognitive functioning and maximize their learning outcomes. Furthermore, rewarding oneself with breaks during the review process cultivates a positive mindset and reinforces a healthy study habit. Through associating study efforts with moments of relaxation and self-care, candidates create a positive feedback loop that promotes intrinsic motivation and resilience. These self-reward mechanisms encourage candidates to stay committed to their study goals, persevere through challenges, and maintain a sense of balance and well-being throughout the review journey.

According to OnlineSchools.org (2023), multiple studies have demonstrated that taking a little pause to unwind and recharge is crucial for attaining individual productivity, success, and an optimistic perspective on the future. Despite the fact that it may be difficult to set aside critical assignments or exam preparation, this research indicated that taking frequent pauses will increase the chances of succeeding.

Khan et al. (2020) asserted that despite students' academic success, they continue to struggle with maintaining a harmonious balance between their academic and personal-social lives. Tan et. al. (2020) emphasized the significance of maintaining a balance between student responsibilities and personal life. Academic-related anxiety, depression, and stress are frequently linked to undergraduates, and these symptoms can have a poor impact on their academic performance. Therefore, while it is necessary to prioritize one's goals, it is also crucial not to overlook the importance of being socially engaged.

Alyami et al. (2021) asserted that time management behaviors or skills can improve students' ability to effectively manage their curriculum and achieve learning goals, leading to academic excellence. Ultimately, based on students' perspective, engaging in advance preparation of their studies has been advantageous for their academic achievement. Khan et al. (2020) confirmed that efficient time management results in improved academic achievement and decreased stress, tension, and anxiety in students.

A study toward students' attitudes toward psychological help-seeking conducted by Ramdass, et al. 2020, concluded that students concern on confidentiality, accessibility, and confidence are the most significant obstacles to seeking professional psychological assistance. As a result, they incline towards alternative support systems such as talking to peers, etc. A study of college students' attitudes toward seeking psychological help found that students had negative perceptions due to concerns about costs, perceived lack of competent counselors, and doubts about the effectiveness of the board (Yelpaza et al. 2019).

TABLE 11: Intellectual Strategies Adopted by the Respondents

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. I utilized review materials from different sources.	4.13	Agree	6
2. I enrolled in more than one review center.	2.36	Disagree	13
3. I reviewed the subjects per area.	4.53	Strongly Agree	2
4. I reviewed the subjects according to its difficulty.	3.64	Agree	9
5. I completed self-administered assessments to track my progress.	4.21	Agree	4
6. I related my readings to real-life situations.	4.15	Agree	5
7. I read dictionary to improve my vocabulary.	3.87	Agree	8
8. I sought assistance from mentors for the topics and terms that were too difficult to understand.	3.59	Agree	10
9. I answered easy questions first during the board examination.	3.93	Agree	7
10. I skipped the questions that I found difficult to answer.	4.36	Agree	3
11. I read all the questions first before I started to answer the examination.	3.29	Neutral	12
12. I used the process of elimination during the examination.	4.61	Strongly Agree	1
13. I wrote down everything I remembered before I began to answer.	3.37	Neutral	11
Composite Mean	3.85	Agree	

Legend: 4.50 – 5.00 = Strongly Agree; 3.50 – 4.49 = Agree; 2.50 – 3.49 = Neutral; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

Table 11 shows the intellectual strategies employed by the respondents while preparing for and while taking the board examination. There are thirteen (13) intellectual strategies included, and the use of the process of elimination ranked first

with a mean of 4.61 and a verbal interpretation of strongly agree, ranking second is that they reviewed the subjects per area with a weighted mean of 4.53, and third, they skipped the questions which they found difficult to answer with a weighted mean of 4.36. Getting the lowest mean of 2.36, and verbally interpreted as disagree, is the intellectual strategy of enrolling in more than one (1) review center.

Fraidan's (2019) study investigated how test-taking strategies, like clue-word orientation and multiple-choice elimination, affect the accuracy of language exams by influencing the test-taker's ability to choose an answer. The examination of these tactics unveiled that their efficacy is entirely contingent upon their appropriate application in certain circumstances.

Yuan (2022) conducted a study which found that spacing or studying by categories has a large positive impact on memory strength. This is because it helps to alleviate several neurocognitive and behavioral aspects of learning that are negatively affected by cramming. In addition to analyzing its significance in science education, the spacing effect can also offer advantages in developing lasting conceptual comprehension and the development of introspective skills. The utilization of self-selected spaced study, particularly spaced retrieval practice, enhances student achievement (Hartwig & Malain, 2021).

Moreover, a study by Fuente (2021) found that enrollment in a review facility and review mode do not significantly predict passing licensure examinations.

Table 12 presents the physical strategies adopted by the respondents. Among the eleven (11) physical strategies, taking in-between naps during the review ranked first with a mean of 3.62, verbally interpreted as Agree, followed by utilizing sufficient amount of light and proper room temperature during review time, and taking vitamins and food supplements with a weighted mean of 3.54 and 3.08. While planning a healthy daily menu ranked last with a mean of 2.01, Disagree.

As opposed to maintaining consciousness during a break, daytime sleep is more advantageous for long-term memory, according to Cousins et al. (2019). This discovery demonstrates the effectiveness of taking breaks in a practical learning setting and has practical implications for using breaks as study tools.

Napping can help restore alertness levels that have lowered during the circadian dip, leading to less tiredness before learning and improved memory. Researchers found that sleep improved learning as much as drilling for the same amount of time. Thirty minutes after acquiring knowledge, information retention was significantly greater than that of a respite, an hour of sleep, or cramming.

In their study, Chen et al. (2021) found that exposure to a well-lit environment had positive effects on maintaining circadian rhythm, cognitive function, and mood status in individuals working long shifts in closed environments. These findings can also be used to students who stay up all night to study.

Contreras-Espinoza et al. (2019) discovered the investigation reveals that reducing classroom temperatures from 30°C to 20°C can lead to an average improvement of

20% in the performance of psychological exams and school tasks. Furthermore, it indicates that the temperature for optimal performance is below 22°C. This relationship is applicable exclusively to temperate climates. Therefore, this study concludes that variations in climate or room temperature have an impact on cognitive ability, which in turn impacts the academic achievement of pupils.

TABLE 12: Physical Strategies Adopted by the Respondents

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. I took vitamins and food supplements.	3.08	Neutral	3
2. I slept 6-8 hours a day.	2.77	Neutral	6
3. I took in-between naps during the review.	3.62	Agree	1
4. I used ergonomic table and chair.	2.68	Neutral	7
5. I utilized sufficient amount of light and proper room temperature during my review time.	3.54	Agree	2
6. I did a skin care routine.	2.16	Disagree	10
7. I followed a strict screen time schedule.	2.82	Neutral	5
8. I wore anti-radiation eyeglass.	2.64	Neutral	8
9. I exercised daily.	2.31	Disagree	9
10. I planned my daily healthy menu.	2.01	Disagree	11
11. I practiced deep breathing exercises to improve body relaxation, over-all health, and have a stronger immune system.	3.04	Neutral	4
Composite Mean	2.79	Neutral	

Legend: 4.50 – 5.00 = Strongly Agree; 3.50 – 4.49 = Agree; 2.50 – 3.49 = Neutral; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

In their study, Aljuaid et al. (2022) determined that the intake of omega-3 fatty acids resulted in enhanced cognitive functions, including learning, memory, and overall brain health, as well as increased blood circulation in the brain. These advantages can be highly beneficial to individuals of all age groups, with a particular emphasis on students. Pillay and Pillay (2019) define a dietary supplement as a product designed to enhance the nutritional content of a person's diet. College students often use dietary supplements to improve academic performance, increase energy levels, and support overall health.

Research indicates a positive association between a nutritious diet and academic achievement. Sedan's (2021) study found that the food quality and nutritional content of meals in the mess influence students' dietary habits and academic performance. Moreover, the survey results demonstrate a noteworthy and beneficial association between the quality of food and the academic learning of students. The study revealed that nutritional deficits are a contributing factor to a lack of academic concentration.

But several research also say healthy diet costs more than unhealthy diet. Lewis et al. (2021) found that the cost of the recommended diet has increased by 17.9%, primarily due to a substantial rise in the prices of nutritious foods. The costs of fruit, vegetables, legumes, healthy fats/oils, cereals, and meats/alternatives have increased by 12.8% in the past year. Conversely, the price of the unhealthy food and beverages in the regular diet rose by a modest 9.0% between 2019 and 2022, and by 7.0% between 2021 and 2022.

Another research conducted by Lee et al. (2021) showed that the expenses associated with dietary consumption experienced an upward trend from 2019 to 2020, primarily due to the escalating costs of the majority of nutritious food categories.

Food costs have continuously increased since 2020 because to a variety of variables, such as global, national, and regional shocks and stressors. The factors mentioned are climate change impacts, escalating extreme weather occurrences like bushfires and floods, the Russian invasion of Ukraine, and shifting demographics like decreased immigration and rising internal migration to rural regions (Malik 2022). Additionally, disruptions to food production and supply have occurred due to the impact of COVID-19-related public health restrictions on workforces which also lead to increase of food prices. These elements additionally led to the escalated expenses of fuel, feed, and fertilizer, hence worsening the rising food prices (Glauber 2022).

TABLE 13: Composite Table of Financial Strategies, Psychological Strategies, Intellectual Strategies, and Physical Strategies

Strategies	Mean	Median	SD
Financial Strategies	2.52	2.5	0.668
Psychological Strategies	3.5	3.45	0.708
Intellectual Strategies	3.85	3.92	0.645
Physical Strategies	2.79	2.73	0.765

Table 13 presents the composite table of financial strategies, psychological strategies, intellectual strategies, and physical strategies. It can be seen in the table that intellectual strategies received the highest mean of 3.85, followed by psychological strategies with an average mean of 3.5, then physical strategies with an average mean of 2.79, while the lowest mean of 2.52 belongs to financial strategies. The data implies that the sample group employs intellectual strategies the most, followed by psychological, physical, and financial strategies. The strategies show varied usage levels, with intellectual strategies consistently reported as highly used across the sample, indicating a possible preference or perceived effectiveness among the respondents. The lower variability in the use of financial strategies suggests a more uniform approach to managing financial challenges. Students can employ effective ways to prepare for licensing tests, such as attending review sessions, obtaining support from peers and important others, persevering through challenges, and fostering a growth mindset that sees failures as chances for personal development and acquiring knowledge.

The research carried out at Pangasinan State University, investigated the challenges faced in acquiring proficiency in management skills, comprehending teaching principles, being

cognizant of educational trends, attaining high levels of performance, and engaging in interactions during the online review process. The findings indicated that graduates encountered minor difficulty in these domains, with interpersonal relationships having a crucial role in influencing these obstacles. Notable relationships were observed between problems and criteria such as course specialization and GPA, highlighting the necessity for customized assistance. Nevertheless, gender had no substantial effect on the obstacles encountered. The study emphasized the need for customized support programs that target individual obstacles, emphasizing the need to promote engaging online learning environments.

Suggestions comprised the implementation of specialized assistance initiatives that concentrate on fundamental abilities, the use of interactive online platforms to augment student engagement, and personalized support for kids with lower grade point averages. It was also recommended to incorporate new educational trends and offer ongoing professional development for educators. Implementing these tactics could enhance the preparedness of graduates, guaranteeing their triumph in teaching professions and their capacity to adjust to the constantly evolving educational environment (Guinto, 2023).

Table 14 shows the partial correlation table of the relationship between different learning styles—visual, Tactile, Kinesthetic, Individual, Auditory, and Group—while controlling for various other variables such as Age, Family income classification, General Weighted Average, Received Academic Awards, Duration of review, Sex, and School graduated.

It can be seen from the table that Pearson’s correlation analysis revealed a positive relationship between visual learning and individual learning, with Pearson’s r of 0.522 and p -value of $< .001$. It is found to be statistically significant and shows that respondents who prefer visual learning are also inclined to individual learning. In tactile learning style to visual learning style, Pearson’s r of 0.378 and a p -value of $< .001$ show that they are moderately and positively correlated. On the other hand, tactile learning style has a strong positive correlation with kinesthetic learning style with Pearson’s r of 0.621 and a p -value of $< .001$. This result shows that tactile learners have a similar preference to kinesthetic learners where they utilize their learning process with the use of physical movement.

The analysis shows that kinesthetic learning style demonstrates a positive correlation with auditory learning style and group learning style with Pearson’s r of 0.442 and a p -value of $< .001$ and Pearson’s r of 0.327 and a p -value of $< .01$, respectively. This suggests that respondents who preferred the kinesthetic learning style also favored with auditory and group learning system of studying or reviewing for the licensure examination. Moreover, in terms of auditory learning style, it has a weak but positive correlation with individual learning style with Pearson’s r of 0.225 and a p -value of $< .01$. On the other hand, Pearson’s r of 0.254 and a p -value of $< .05$ shows a weak positive correlation with group learning style. Group learning style has a moderate negative correlation with Pearson’s r of -0.338 and a p -value of $< .01$

with individual learning style, which suggested that respondents may prefer learning collaboratively but not individually in the learning system.

TABLE 14: Partial Correlation Table of the Relationship Between Different Learning Styles

		Partial Correlation									
		V		T		K		I		A	
V	Pearson's r	—									
	p-value	—									
T	Pearson's r	0.378	***	—							
	p-value	<.001		—							
K	Pearson's r	0.164		0.621	***	—					
	p-value	0.126		<.001		—					
I	Pearson's r	0.522	***	0.087		0.034	—				
	p-value	<.001		0.422		0.751		—			
A	Pearson's r	0.206		0.404	***	0.442	***	0.225	*	—	
	p-value	0.054		<.001		<.001		0.035		—	
G	Pearson's r	0.163		0.343	**	0.327	**	-0.338	**	0.254	*
	p-value	0.13		0.001		0.002		0.001		0.017	

Note. controlling for 'Age', 'Family income classification (Philippine Institute for Development Studies)', 'General Weighted Average', 'Received Academic Awards', 'Duration of review', 'Sex', and 'School graduated'

Note. * p < .05, ** p < .01, *** p < .001

Legend: V = Visual, T = Tactile, K = Kinesthetic, I = Individual, A = Auditory, G = Group

The table shows significant positive correlations among most of the learning styles, except for a negative correlation between Individual and Group styles. The significance levels marked by asterisks indicate the strength of evidence against the null hypothesis of no correlation, with "denoting a firm rejection, "a strong rejection, and " a moderate rejection of the null hypothesis. The controlled variables suggest that these correlations are specific to the learning styles and are not merely a byproduct of the demographic and educational characteristics controlled for. Student education provides a wider range of knowledge, a deeper comprehension of facts, a broader collection of wisdom, and a more comprehensive understanding of life. These aspects contribute to the cultivation of more responsible and morally upright individuals. In this study, the researcher used an ex-post facto research design to assess the academic performance of the participants in the disciplines covered by the Professional Education Components. Based on the academic achievement of graduates in CDI courses, it is evident that they have successfully acquired the necessary concepts and abilities related to this specific topic component of the CDI. Applying the fundamental principles of criminal investigation accurately in different crime scenarios, along with utilizing scientific information in the field of criminal investigation, is crucial for effectively detecting and preventing crime. Based on their experience in the field as law enforcement agents and investigators, the graduates have demonstrated a high level of performance, indicating that they have effectively retained their understanding of the essential aspects of law enforcement and investigative work. The presence of sufficient learning facilities and equipment enhances the licensure performance of Criminology graduates (Taguba, 2022).

It can be seen from the next table that the correlation between family income classification, general weighted average, received academic awards, duration of review and learning styles such as visual, tactile, kinesthetic, individual, and auditory are not significant and has a very weak relationship.

However, it can also be gleaned from that there is a significant but weak relationship between age and tactile learning style with an r-value of -0.223 and a p-value of 0.030. Between age and kinesthetic learning style, it revealed a significant but weak relationship with an r-value of -0.232 and a p-value of 0.024. Between age and individual learning style, it has significant and weak relationship with an r-value of -0.336 and a p-value of 0.001.

On the other hand, there is no point biserial correlation between sex and visual, tactile, kinesthetic, individual and auditory. It revealed a very weak relationship and not significant.

Table 15 shows the correlation of each learning style to demographic and academic profile of the respondents. According to the study conducted by Mangkuyudan, et. (2020) on the influence of gender on students' learning styles, the results showed that gender does not influence students' learning styles. Marantika's study in 2022 contradicted the findings of this study by suggesting a correlation between learning styles, gender, and learning outcomes, emphasizing their impact on language abilities. A study with medical students demonstrated a notable correlation between gender and their preferences for learning styles (Raj S., 2019).

According to the study conducted by Mangkuyudan, et. (2020) on the influence of gender on students' learning styles, the results showed that gender does not influence students' learning styles. Marantika's study in 2022 contradicted the findings of this study by suggesting a correlation between learning styles, gender, and learning outcomes, emphasizing their impact on language abilities. A study with medical students demonstrated a notable correlation between gender and their preferences for learning styles (Raj S., 2019).

The table indicates a weak but substantial correlation between age and kinesthetic, individual, and tactile learning styles. Corbin (2017) conducted a study that found substantial age variations in participatory, collaborative, autonomous, avoidant, and competitive learning styles. His research found

that independent and avoidant learning methods strongly influenced students' academic achievement.

TABLE 15: Correlation Table of Each Learning Style to Demographic and Academic Profile

Spearman Correlation of Profile and Learning Styles					
		r-value	Relationship	p-value	Significance
Family income classification	V	.010	Very Weak	0.927	Not Significant
	T	-0.098	Very Weak	0.342	Not Significant
	K	-0.062	Very Weak	0.553	Not Significant
	I	-0.136	Very Weak	0.188	Not Significant
	A	-0.045	Very Weak	0.666	Not Significant
	G	0.080	Very Weak	0.441	Not Significant
General Weighted Average	V	-0.033	Very Weak	0.748	Not Significant
	T	0.129	Very Weak	0.214	Not Significant
	K	-0.040	Very Weak	0.701	Not Significant
	I	-0.033	Very Weak	0.753	Not Significant
	A	-0.035	Very Weak	0.735	Not Significant
	G	0.055	Very Weak	0.598	Not Significant
Received Academic Awards	V	0.093	Very Weak	0.369	Not Significant
	T	0.025	Very Weak	0.809	Not Significant
	K	0.117	Very Weak	0.259	Not Significant
	I	-0.019	Very Weak	0.852	Not Significant
	A	0.005	Very Weak	0.960	Not Significant
	G	0.036	Very Weak	0.727	Not Significant
Duration of review	V	0.115	Very Weak	0.268	Not Significant
	T	0.025	Very Weak	0.814	Not Significant
	K	0.019	Very Weak	0.858	Not Significant
	I	0.071	Very Weak	0.494	Not Significant
	A	-0.002	Very Weak	0.981	Not Significant
	G	0.100	Very Weak	0.335	Not Significant
Pearson Correlation Between Profile and Learning Styles					
Age	V	0.115	Very Weak	0.268	Not Significant
	T	-0.223	Weak	0.030	Significant
	K	-0.232	Weak	0.024	Significant
	I	-0.336	Weak	0.001	Significant
	A	-0.046	Very Weak	0.658	Not Significant
	G	-0.163	Very Weak	0.114	Not Significant
Point Biserial Correlation Between Profile and Learning Styles					
Sex	V	0.063	Very Weak	0.545	Not Significant
	T	-0.012	Very Weak	0.906	Not Significant
	K	-0.100	Very Weak	0.335	Not Significant
	I	-0.025	Very Weak	0.814	Not Significant
	A	0.045	Very Weak	0.667	Not Significant
	G	-0.163	Very Weak	0.114	Not Significant

Legend: V = Visual, T = Tactile, K = Kinesthetic, I = Individual, A = Auditory, G = Group

This study's findings indicated that there was no substantial correlation between family income classification and learning styles. However, this contradicts the findings of a study by Dayanti, et al. (2021) which demonstrated a notable association among learning styles, economic status, family income, and parent's educational history. A study on first-year medical students found that family income significantly affected academic performance, whereas the students' learning methods did not have a noticeable impact on their academic success (Mohd, 2020).

As for the relationship between General Weighted Average and learning style, there is no significant relationship between

them. This is opposed to the student conducted by Corbin (2017), which revealed that students who shown a greater inclination towards independent learning styles achieved better Grade Point Averages (GPAs), while students who exhibited a greater inclination towards avoidant learning styles achieved lower GPAs.

The study demonstrated a tenuous correlation between learning style and academic performance. Hidayah's study in 2022 found a moderate positive link between students' learning styles and academic achievement. The student's academic development is not mainly affected by their learning style. The examination of the student's learning styles indicates that the visual learning style is the most common and impactful in shaping the student's academic achievements.

The correlation matrix contains various learning styles, challenge types, and corresponding strategies. Pearson's r values indicate the strength and direction of the relationship between two variables, with 1 being a perfect positive correlation, -1 being a perfect negative correlation, and 0 indicating no correlation.

It can be seen from the table below that there is a moderate positive correlation between visual learning style and tactile learning style with Pearson's r of 0.408 and a p-value of <.001, and it suggests that respondents who have a major learning style preference towards visual may also benefit from tactile learning style. On the other hand, kinesthetic learning style has a strong relation to tactile learning with Pearson's r of 0.637 and a p-value of <.001, which suggests that respondents who prefer a learning style that includes physical movement may also prefer tactile learning which has a style that requires hands-on experience.

In individual learning style, it has a Pearson's r of 0.51 and a p-value of <.001 which reflects a positive correlation with visual learning style. This result suggests that individual learners may benefit from adopting a visual learning style. Furthermore, there is a significant positive correlation between auditory learning tactile learning style, and kinesthetic learning style with Pearson's of 0.433 and 0.487, respectively, and with the same p-value of <.001. On the other hand, in terms of, it shows a weak positive correlation with auditory learning style with Pearson's r of 0.286 and a p-value of 0.005, but it has a moderate negative correlation with the individual learning style, showing a Pearson's r of 0.319 and a p-value of 0.002. The result suggests that individuals who prefer to work with other people may not get used to learning individually.

It can also be seen from the table that in terms of challenges, financial challenges, show a positive correlation with financial strategies with Pearson's r of 0.525 and a p-value of <.001. It implies that respondents use strategies to find a solution when they are challenged financially.

A Pearson's r of 0.428 and a p-value of <.001 show the moderate positive correlation of psychological challenges with intellectual strategies. While a slight positive correlation of psychological challenges with physical strategies has a Pearson's r of 0.294 and a p-value of 0.004. This suggests that those facing psychological challenges use intellectual and physical coping strategies.

TABLE 16: Correlation of Learning Styles, Challenges, and Strategies

	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4
1.1 Pearson's r	—													
df	—													
p-value	—													
1.2 Pearson's r	0.4	—												
df	08	—												
p-value	<.0	—												
1.3 Pearson's r	0.2	0.6	—											
df	37	37	—											
p-value	0.0	<.0	—											
1.4 Pearson's r	0.5	0.1	0.0	—										
df	1	07	57	—										
p-value	<.0	0.3	0.5	—										
1.5 Pearson's r	0.2	0.4	0.4	0.2	—									
df	63	33	87	32	—									
p-value	0.0	<.0	<.0	0.0	—									
1.6 Pearson's r	0.2	0.3	0.3	0.2	0.2	—								
df	11	64	73	0.3	86	—								
p-value	0.0	<.0	<.0	0.0	0.0	—								
2.1 Pearson's r	0.1	0.0	0.0	0.1	0.1	0.0	—							
df	23	57	0.0	03	46	0.0	—							
p-value	0.2	0.5	0.5	0.9	0.1	0.8	—							
2.2 Pearson's r	0.2	0.1	0.2	0.1	0.2	0.1	0.0	0.1	—					
df	2	47	14	58	07	11	83	—						
p-value	0.0	0.1	0.0	0.1	0.0	0.9	0.0	0.0	—					
2.3 Pearson's r	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.2	—				
df	72	1	48	13	09	27	28	99	—					
p-value	0.0	0.2	0.6	0.2	0.2	0.0	0.0	0.0	0.0	—				
2.4 Pearson's r	0.0	0.1	0.2	0.1	0.0	0.0	0.5	0.1	0.4	0.2	—			
df	36	64	64	43	4	—								
p-value	0.7	0.1	0.0	0.7	0.6	0.7	0.9	<.0	0.0	0.0	—			
3.1 Pearson's r	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	0.0	0.1	0.0	—		
df	67	46	11	13	18	0.0	25	89	77	33	—			
p-value	0.5	0.6	0.9	0.9	0.8	0.5	<.0	0.0	0.4	0.1	0.0	—		
3.2 Pearson's r	0.2	0.2	0.3	0.0	0.3	0.1	0.1	0.2	0.0	0.2	0.1	0.0	—	
df	78	71	04	8	77	74	52	94	54	3	8	—		
p-value	0.0	0.0	0.0	0.4	<.0	0.0	0.1	0.0	0.6	0.0	0.0	0.0	—	
3.3 Pearson's r	0.2	0.2	0.3	0.1	0.3	0.1	0.0	0.4	0.1	0.3	0.2	0.5	0.0	—
df	4	84	48	4	68	46	86	28	25	89	65	76	—	
p-value	0.0	0.0	<.0	0.3	<.0	0.1	0.4	<.0	0.2	<.0	0.0	<.0	0.0	—
3.4 Pearson's r	0.1	0.1	0.2	0.39	0.1	0.3	0.29	0.3	0.4	0.63	0.24	0.48	0.5	—
df	2	04	06	55	44	—								
p-value	0.2	0.3	0.0	0.7	0.1	<.0	0.7	0.2	0.7	0.5	0.2	<.0	0.0	—
	46	18	45	05	35	01	77	09	03	42	33	01	15	—

Legend: 1.1 = Visual LS; 1.2 = Tactile LS; 1.3 = Kinesthetic LS; 1.3 = Individual LS; 1.5 = Auditory LS; 1.6 = Group LS; 2.1 = Financial Challenges; 2.2= Psychological Challenges; 2.3 = Intellectual Challenges; 2.4 = Physical Challenges; 3.1 Financial Strategies; 3.2 Psychological Strategies; 3.3 = Intellectual Strategies; 3.4 = Physical Strategies

On the other hand, psychological strategies show a moderate negative correlation with auditory learning style with Pearson's r of -0.377 and a p-value of < .001 and

kinesthetic learning styles with Pearson's r of -0.304 and a p-value of 0.003, indicating that individuals who favor these learning styles might be less likely to use psychological strategies. Intellectual challenges correlate moderately with Physical strategies with Pearson's r of 0.57 and a p-value of < .001, suggesting a relationship where those who face intellectual challenges might also apply physical strategies.

The matrix also suggests that specific strategies have negative correlations with various learning styles; for example, Intellectual strategies have significant negative correlations with Kinesthetic (r = -0.348, p < .001) and Auditory (r = -0.368, p < .001) styles, hinting that these learning styles might not coincide with the use of intellectual strategies.

The matrix indicates that certain learning styles are related to each other and that there are specific challenges and coping strategies. For example, kinesthetic learners employ fewer intellectual strategies. Additionally, the use of specific strategies is related to facing certain types of challenges. The matrix helps to understand the complex relationships between different learning styles, the challenges individuals face, and the strategies they might employ to overcome these challenges.

Comprehensive Learning Model for Future Board Takers

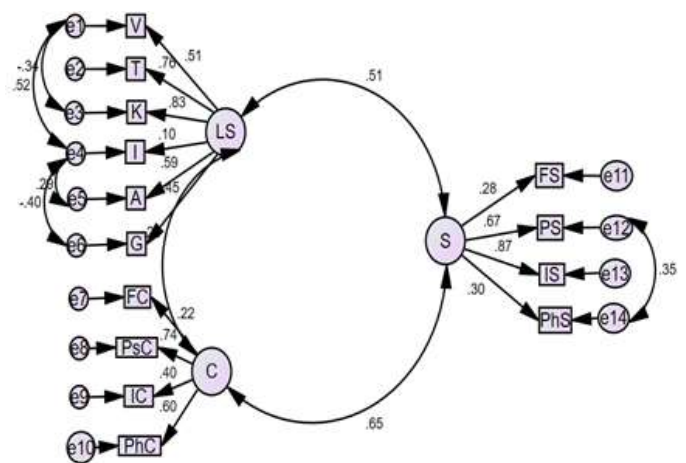


Fig. 1

Legend: V=Visual, T=Tactile, K= Kinesthetic, I=Individual, A=Auditory, G=Group, FC=Financial Challenges, PsC=Psychological Challenges, IC=Intellectual Challenges, PhC=Physical Challenges, FS=Financial Strategies, PS=Psychological Strategies, IS=Intellectual Strategies, PhS=Physical Strategies, LS=Learning Styles, C=Challenges, S=Strategies

Figure 1. Initial Structural Equation Model showing the standardized estimates on the correlation among the variables—Learning Styles, Challenges, and Strategies.

The framework shows that Learning Styles includes the following factors: Visual, Tactile, Kinesthetic, Individual, Auditory, and Group. Meanwhile, Strategies includes factors such as Financial Strategies, Psychological Strategies, Intellectual Strategies, and Physical Strategies. Lastly, Challenges has factors Financial Challenges,

Psychological Challenges, Intellectual Challenges, and Physical Challenges. The result of Covariance-based SEM revealed that there was no statistically significant relationship among the three constructs—Learning Styles, Challenges, and Strategies ($p>0.05$). Meanwhile, the factor loading of Visual (0.51), Tactile (0.76), Kinesthetic (0.83), Auditory (0.59), and Group (0.45) were all greater than 0.30, implying that these factors well-represent the measured variable—Learning Styles. However, Individual got a factor loading (0.10) less than the threshold of 0.30, signifying that this factor does not represent the Learning Style construct. Furthermore, the factor loading of Psychological Strategies (0.67), Intellectual Strategies (0.87), and Physical Strategies (0.30) were also greater than the threshold of 0.30, indicating that these factors well-represent the measured variable—Strategies. Nonetheless, Financial Strategies obtained a low factor loading of 0.28, indicating that the factor does not represent the Strategies construct. Lastly, the factor loading of Financial Challenges, Intellectual Challenges, and Physical Challenges were less than 0.70, implying that the factors are not reliable, while Psychological Challenges got a value of 0.74, which implying acceptable reliability.

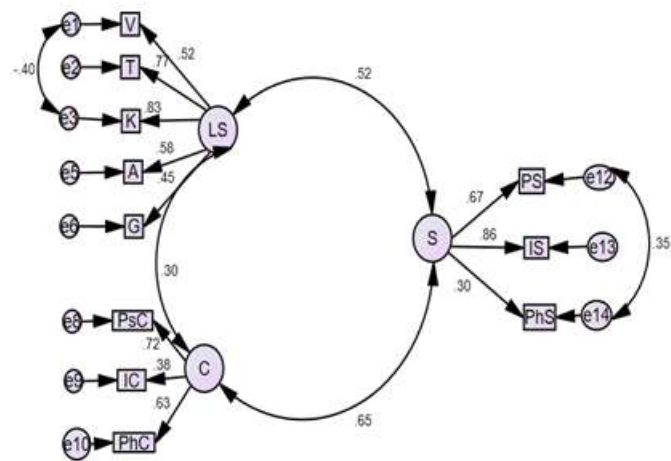


Fig. 2

Legend: V=Visual, T=Tactile, K= Kinesthetic, I=Individual, A=Auditory, G=Group, FC=Financial Challenges, PsC=Psychological Challenges, IC=Intellectual Challenges, PhC=Physical Challenges, FS=Financial Strategies, PS=Psychological Strategies, IS=Intellectual Strategies, PhS=Physical Strategies, LS=Learning Styles, C=Challenges, S=Strategies

Figure 2. Final Structural Equation Model showing the Standardized Estimates on the Correlation among the Variables

Figure 2 displays the final Structural Equation Model (SEM) showing the standardized estimates on the correlation among the variables—Learning Styles, Challenges, and Strategies. The new framework shows that Learning Styles includes the following factors: Visual, Tactile, Kinesthetic, Auditory, and Group. Additionally, Strategies includes factors such as Psychological Strategies, Intellectual Strategies, and Physical Strategies. Finally, Challenges has factors Psychological Challenges, Intellectual Challenges, and Physical Challenges. The framework shows that after deleting the factors Individual, Financial Challenges, and Financial

Strategies per construct, the model fit had improved, and the factor loadings were greater than 0.30, which indicates that all the factors per construct well-represent the measured variables—Learning Styles, Challenges, and Strategies.

TABLE 17: Measures of Fit Summary

Measure of Fit	Estimated model Prior to Removal of Factors	Estimated model after Removal of Factors	Criteria	Interpretation (Prior to Removal of Factors)	Interpretation (After Removal of Factors)
ChiSq/df	1.527	1.098	$2 < \chi^2 < 5$	Acceptable Fit	Acceptable Fit
RMSEA	0.075	0.032	< 0.05	Acceptable Fit	Goof Fit
GFI	0.881	0.928	> 0.90	Acceptable Fit	Good fit
AGFI	0.818	0.879	Close to 1	Good fit	Good fit
RMR	0.049	0.036	< 0.10	Good fit	Goof Fit
NFI	0.754	0.851	> 0.90	Acceptable Fit	Acceptable Fit
TLI	0.858	0.977	Close to 1	Good fit	Goof Fit
CFI	0.892	0.984	> 0.90	Acceptable Fit	Goof Fit

The measures of fit of the Model prior to the removal of factors with low factor loading show that the model fit was acceptable based on ChiSq/df, Goodness of Fit Index (GFI), Root Mean Square Estimates of Approximation (RMSEA), Normed Fit Index (NFI), and Comparative Fit Index (CFI), while the Adjusted Goodness – of– Fit Index (AGFI), Root Mean Square Residual (RMR) and Tucker – Lewis Index (TLI) indicate that the model reached good fit index. Furthermore, after deleting the factors Individual, Financial Challenges, and Financial Strategies per construct, the model fit has improved based on RMSEA, GFI, AGFI, RMR, TLI, and CFI.

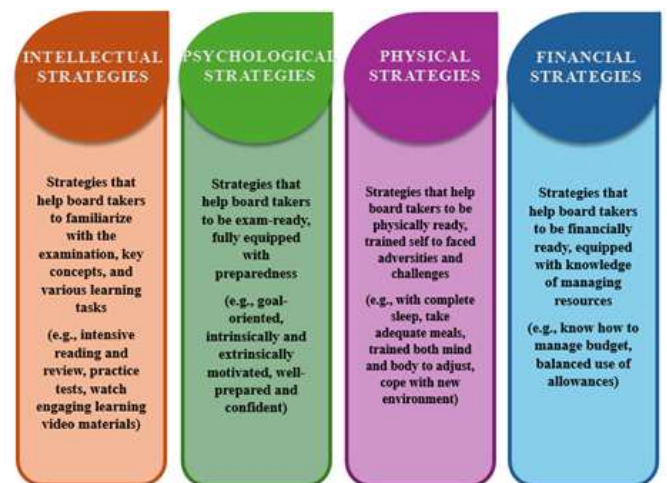


Figure 3: Comprehensive Learning Model

The comprehensive learning model for future board takers consists of intellectual, psychological, physical, and financial strategies to help them become familiar with the examination, be exam-ready, become trained to face challenges, and be equipped with knowledge in taking the Criminologist Licensure Examination. In the intellectual strategies, the future board takers are encouraged to gather reliable sources such as published textbooks, handouts or reviewers from known reliable sources, to build a strong foundation regarding key concepts, to determine their learning style by trying various

learning strategies and to strengthen it, to determine the strengths and weaknesses among all subjects, enter a review center if financial condition permits, monitor progress by conducting pre-tests and post-tests, and by mastering the techniques in test-takings such as the process of elimination. A review schedule will help us in determining our priorities. In psychological strategies, future board takers should be mentally and emotionally prepared for the examination, deleting social media applications and becoming socially unavailable to friends and events may help retain the momentum and focus for the board examination as this will minimize distractions. Future board takers should also be physically ready and to train themselves to face adversities as sleepless nights and hours of reading and studying will come. Proper and healthy meal must be taken, staying hydrated, use of anti-radiation glasses, proper posture and use of ergonomic chair, proper lighting and ventilation are also important. In between breaks, and sufficient sleep may also help board takers to become physically prepared. In financial strategies, they should be equipped with knowledge of managing resources. They must know their financial priorities while preparing for the board examination. Board takers may seek academic scholarship both in school and review centers, as well as applying scholarship to the government and financial assistance programs for board takers.

IV. CONCLUSIONS

Board topnotchers in the Criminologist Licensure Examination are from the early adulthood stage and most of them are males, coming from the lower middle class, who earned an above-average general weighted average, and the length of their review is less than a year. Most of the respondents have major learning style preferences towards tactile learning style, kinesthetic learning style, individual learning style, and auditory learning style, but it is only a minor learning style preference when it comes to group learning. The majority of the respondents are more challenged emotionally or psychologically, while the least of their worries are financial challenges during the preparation for the examination. Most of the respondents used their intellectual strategies, followed by their psychological strategies which helped them overcome the challenges they encountered during the preparation or review and actual licensure examination.

Board places in the Criminologist Licensure Examination demonstrated a positive correlation to almost all variables of learning style for their preparation and actual examination excluding group learning to individual learning style which shows a negative correlation. Most of the demographic and academic profile of the respondents have no significant correlation and have a very weak relationship. However, there is a significant but weak relationship between age and individual, tactile, and kinesthetic learning style.

The challenges and employed strategies of the respondents are correlated and some learners use a specific strategy that is in line with the same type of challenges they encountered, and which are found to be useful when used to a different challenge to cope. The comprehensive learning model is provided with four different strategies designed to train the

mind, emotion, and health of the board takers to be prepared for the licensure examination and it will be done by having intensive reading and review, being motivated and confident, keeping the mind and body healthy, and be disciplined in finances.

V. RECOMMENDATIONS

1. The Higher Education Institutions may require a retaining grade or conduct a qualifying examination every academic year to challenge the students to maintain a competitive grade which is a factor in passing and topping the CLE. The HEIs may also conduct seminars on junior high and senior high school students and discuss the career opportunities in the field of criminology to encourage them and have a more diverse and skilled pool of professionals in the field of criminology. Criminology students and future board takers may apply for scholarship programs both in undergraduate and review season for them to still be able to study and review, and at the same time the future takers will be able to hone their knowledge with minimal expense. Doing this helps them maintain their grade and chances to not only pass the board exam, but to top it without having to extend their review.
2. The HEIs and the review centers may enhance their mode of instruction by performing outcome-based activities such as conducting actual laboratory examinations and mock crime scene investigations. They may also conduct regional and national academic and skills competition such as quiz bees, debates, mock crime scene processing, mock trial, combat shooting, and the like. The government and the PRC may conduct further study on providing licensure examinations which are given not only through reading but also through listening, as well as including practical examinations such as forensic science examination as part of the licensure examination.
3. The HEIs offering criminology courses may firmly implement mental health breaks, conduct scheduled and free counseling services to their students and board takers, and spearhead extra-curricular activities not only within the department, but also within the province, region or country. They may also conduct morale booster seminar or activity to board takers. The Criminology department in partnership with the university's counseling center may require an evaluation to assess the psychological preparedness of the board takers to the licensure examination. The HEIs may conduct a group discussion to the board takers, their parents or family, and faculty members or mentors, to provide a comprehensive lecture on the challenges they may encounter while preparing and during the board examination, and how can the student, family, teachers, and school aid the takers in the most specific way.
4. The family members may help the board takers and become their strong support system by understanding and helping them provide their needs financially, psychologically, physically, and intellectually. The government may provide financial assistance specific to those who are board takers to assist them in providing for their review needs. The government and the HEIs may provide free documentary requirements such as clearances, good moral documents, etc.

The Commission on Higher Education may provide provisions that teachers who are teaching major subjects in Criminology must have specialization or certification in certain area or subject to strengthen student's learning not only based on books, but its concept and practical application. The PCAP in partnership with the HEIs offering criminology courses may design an e-library which consists of various reliable books, reviewers, and references which board takers may access for free.

5. The HEIs and review centers, may permanently offer and provide hybrid learning to criminology students and board takers that can cover various learning styles to accommodate different learning styles and optimize knowledge retention and performance in exams. The HEIs accrediting bodies such as the Philippines: Philippine Accrediting Association of Schools, Colleges and Universities (PAASCU) and Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA) may firmly require that on schools offering Criminology courses should possess complete laboratories, proper alignment of faculty members and their specialization, certifications on subjects taught to maintain a more competent graduates and board takers, before being given an ISO status, and/or accredited to a higher level of competency. An accrediting body may also be created specifically responsible to monitor the performance review centers. They may lay down rules and regulations that a review center must possess prior to offering Criminology review.

6. The Dean and the Program Chair for Criminology may require faculty members to develop and perform different types of activities which includes written, oral, practical, and skills-type activities. They may also conduct seminar or workshop on making test questions which is aligned to the TOS of the CHED and PRC.

7. Students and board examination takers may adopt and test the learning model developed based on this study, and future researchers may also examine the effectiveness of this learning model.

8. The HEIs may recommend this learning model to Criminology students and board takers. They may conduct pre-board examinations or battery examinations to graduating students to determine the preparedness of the students for the board examination. Through this, they may filter students who are board-exam ready, and give focus to those who are not—who will undergo rigorous review first and adopt the learning model stated above for them to be fully equipped for the board examination. Students and board examination takers may adopt and test the learning model developed based on this study, and future researchers may also examine the effectiveness of this learning model.

9. Future researchers may conduct a qualitative study using these variables and to further study using relevant variables to provide a broader understanding on the best practices employed by board topnotchers.

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