

Trend Analysis in Criminologist Licensure Examination Performance

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Abstract:- This quantitative study investigates the performance trends of criminologist licensure examination candidates from December 2021 to July 2024, with a focus on both first-time examinees and retakers across seven exam schedules. By employing a time series plot for trend analysis, the study visually tracks the fluctuations in passing rates, revealing significant variations over the specified period. Notably, a marked improvement in passing rates for both groups begins in August 2023, continuing through 2024. The study explores various factors that may have influenced these changes, including potential alterations in exam formats, shifts in preparation strategies, or systemic interventions aimed at enhancing candidate performance. The analysis offers valuable insights into the impact of these factors, providing a deeper understanding of how they may have contributed to the observed trends in exam outcomes, and underscores the evolving nature of licensure examination performance over time.

Keywords:- Criminologist Licensure Examination, Exam Outcomes, Licensure Examination Performance, Passing Rates, Performance Trends, Preparation Strategies, Retakers, Significant Variations, Systemic Interventions.

I. INTRODUCTION

Passing the licensure examination, which is administered by the Professional Regulation Commission (PRC), is one of the biggest accomplishments of all board program graduates here in the Philippines (Gabasa, et al., 2021). Board exams are crucial for criminology graduates, as they validate academic achievements and open doors to various career opportunities within the criminal justice system (Bangaysiso et al., 2024). By demonstrating their skill in these exams, graduates can not only promote their qualifications to potential employers but also build the framework for attaining fulfilling and gratifying careers in criminology-related fields (Case, et al, 2021). It is a prerequisite to becoming a recognized expert in one's specific discipline.

The BS Criminology Licensure Examination serves as a crucial benchmark for assessing professional competency and credibility (Alday et al., 2020). Evaluating the knowledge, skills, and abilities of aspiring criminologists ensures adherence to industry standards and promotes public safety (Ali et al., 2020). This comprehensive evaluation not only validates the competence of individuals entering the field but also fosters trust among stakeholders in the criminology

profession (Habbal et al., 2024). Furthermore, the results of these examinations inform educational institutions and policymakers about areas for improvement in criminology education and training programs (Engel et al., 2020).

Analyzing performance trends is instrumental in pinpointing recurring patterns and areas suitable for enhancement (Mukred et al., 2023). By thoroughly examining historical performance data, this analysis provides actionable insights to optimize training programs and bolster overall exam preparation strategies (Fagarasan et al., 2023). Moreover, a thorough understanding of performance trends enables stakeholders to adapt curricula and teaching methodologies to better align with evolving industry standards and practices (Popoola et al., 2024). This holistic approach not only enhances the quality of education but also ensures that graduates are equipped with the necessary skills and knowledge to excel in the dynamic field of criminology (Kilag et al., 2023).

The study examined historical performance data and proposed enhancements to optimize BS Criminology Licensure Exam outcomes (Taguba, 2022). By identifying patterns and areas for improvement, the study seeks to contribute to the ongoing refinement of criminology education and professional standards (Bradbury et al., 2022). This comprehensive approach aims to ensure that aspiring criminologists are adequately prepared to meet the evolving demands of the field and uphold the highest levels of professionalism (Tidmarsh, 2022). By addressing deficiencies and aligning educational practices with industry standards, this study aims to elevate the quality and relevance of criminology education, ultimately benefitting both aspiring professionals and the broader community (Welsh, 2021).

The objective of this study is to determine the fluctuating patterns in criminologist licensure exam performance within a designated timeframe (Dalal et al., 2020). By examining these trends, insights can be gleaned to enhance training and preparation strategies. Trend analysis in exam performance offers valuable insights into identifying patterns, strengths, and areas for improvement (Paul et al., 2024). By systematically examining these trends, educators and policymakers can implement targeted strategies to enhance the overall quality of criminology education and training (Fisher et al., 2023). This continuous improvement process not only enhances the effectiveness of the licensure exams but also ensures that criminologists remain well-equipped to address emerging challenges in the field

(Motseki et al., 2021). Furthermore, this results in a more knowledgeable and reputable workforce capable of upholding high standards in the criminology profession.

II. METHODS

This study employed a retrospective research design, analyzing existing archival data from the College of Criminology at Misamis University, Ozamiz City, covering the years 2020-2024. Archival data, previously collected for administrative or research purposes, was used to identify trends and patterns. The study did not involve participants but relied on records provided by the university. Ethical guidelines were followed, including compliance with the Data Privacy Act of 2012. Time series analysis was employed

to examine trends over time and identify long-term and short-term variations in criminology-related factors, offering insights into the field's dynamics.

III. RESULTS AND DISCUSSIONS

This section of the Study presents the results obtained from analyzing the licensure examination data of criminologists.

➤ *Trend Analysis on the Results of the First-Timer Criminologist Licensure Examination*

Figure 1 presents the results of the criminologist licensure examination for the first timer from December 2021 until July 2024.

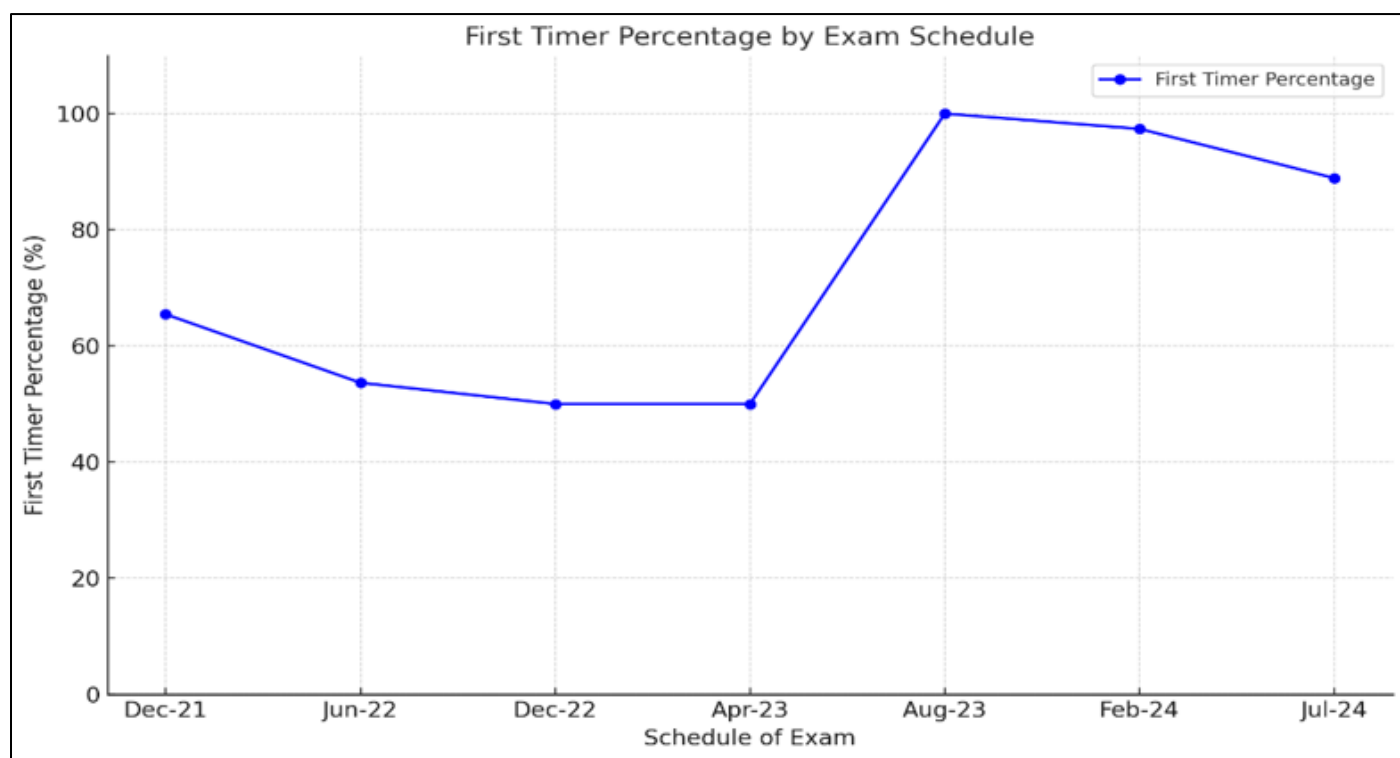


Fig 1 Graphical Presentation of the Results of the First-Timer Criminologist Licensure Examination

The line graph depicts the "First Timer Percentage" across various licensure examination schedules for criminologists from December 2021 to July 2024. The data highlights significant fluctuations in performance over time. Initially, the percentage steadily declined from 65.45% in December 2021 to 50.00% in December 2022 and April 2023. This decline suggests potential challenges faced by first-time examinees, such as preparedness, evolving exam standards, or external factors affecting test-takers during this period.

However, the graph shows a sharp increase starting in August 2023, where the "First Timer Percentage" peaked at 100%. This improvement may indicate the impact of enhanced review programs, changes in exam preparation strategies, or adjustments to licensure policies. The trend remains high, with 97.37% in February 2024 and 88.89% in July 2024, demonstrating sustained progress. The remarkable rise after April 2023 could also reflect systemic interventions or increased emphasis on supporting first-time examinees,

fostering a more favorable environment for success. This trend underscores the importance of continuous analysis to identify contributing factors and maintain high performance levels.

The significant fluctuations in the "First Timer Percentage" across various licensure examination schedules for criminologists from December 2021 to July 2024 imply that changes in external factors, such as exam difficulty, preparation programs, or policy adjustments, can have a profound impact on performance. The initial decline suggests that first-time examinees may have struggled with increasing exam challenges or lacked adequate preparation, which could have been due to evolving standards or external disruptions. However, the sharp rise starting in August 2023 indicates that interventions, such as improved review programs or adjustments in licensure policies, likely played a key role in boosting success rates. This sustained improvement emphasizes the importance of continuously evaluating and

adapting educational and support systems for first-time examinees to maintain high performance and ensure consistent success in future examinations.

➤ *Trend Analysis on the Results of the First-Timer Criminologist Licensure Examination against the Overall Passing Rate*

This result illustrates the trends in First-Timer Percentage and National Passing Percentage across multiple

exam schedules from December 2021 to July 2024. The data highlights significant fluctuations, with the First-Timer Percentage showing a notable peak in August 2023 and a steady improvement after that. Meanwhile, the National Passing Percentage demonstrates a gradual upward trend, reaching its highest level in 2024. Figure 3 presents the trend analysis on the results of the first-timer criminologist licensure examination against the overall passing rate.

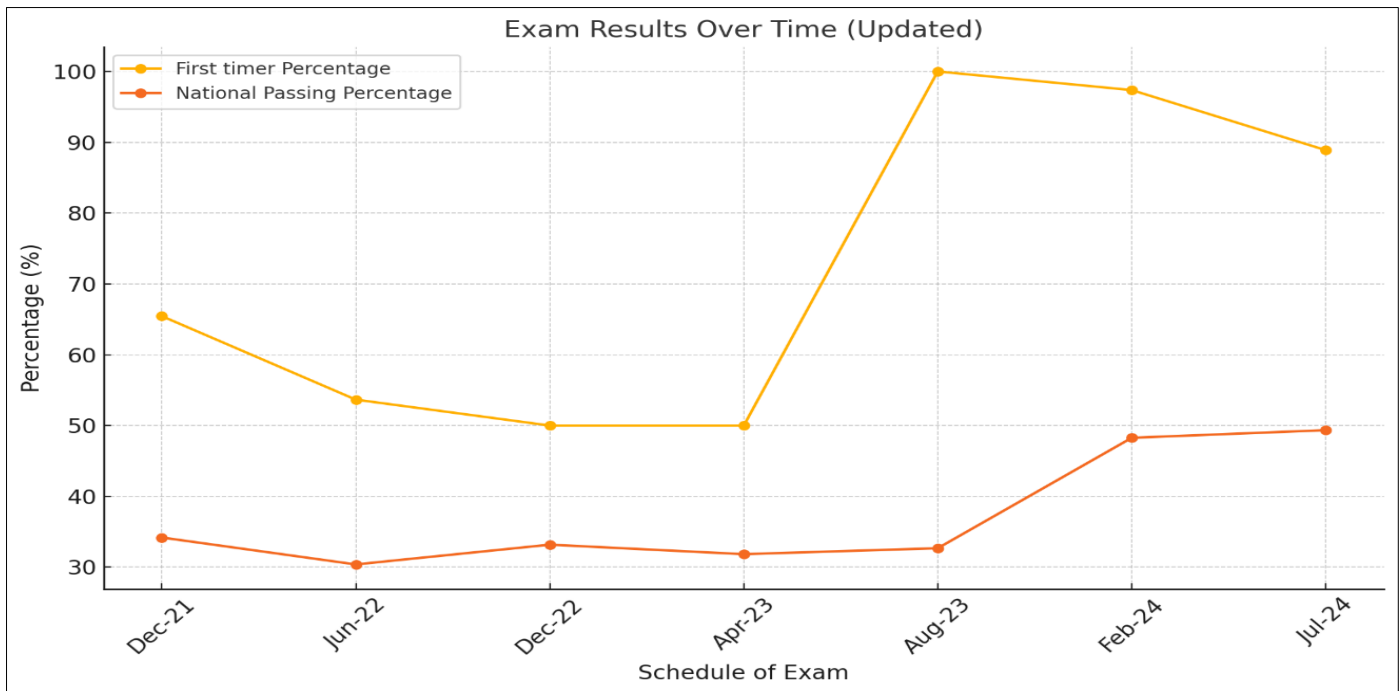


Fig 2 Graphical Presentation on Trend Analysis on the Results of the First-Timer Criminologist Licensure Examination against the Overall Passing Rate

Table 3 showcases the performance of first-time takers and the national passing trends over seven exam periods. First Timer Percentage reveals a mixed pattern, with a significant decline from 65.45% in December 2021 to 50% by April 2023. However, an extraordinary surge occurred in August 2023, where 100% of first-timers passed, marking a critical improvement point. This peak aligns with a rise in the National Passing Percentage, though it was less pronounced at only 32.68%. The data suggests that the August 2023 exam saw conditions or preparation efforts highly favorable to first-time candidates, leading to an unusual spike in success rates.

The National Passing Percentage demonstrates a steadier progression compared to the First Timer Percentage. Starting at 34.19% in December 2021, it showed minimal fluctuations around 30%-33% until February 2024. The breakthrough occurred in February 2024, when the rate climbed to 48.27%, followed by a slight increase to 49.35% in July 2024. This consistent improvement coincided with the high First Timer Percentage during the same period, hinting at possible systemic changes in exam preparation, policies, or candidate readiness. The alignment between these trends suggests a broader improvement in exam outcomes beyond first-time takers, reflecting enhanced support or strategies for all candidates.

These trends have significant implications for educators, policymakers, and aspiring examinees. The spike in the timer Percentage and the gradual rise in the National Passing Percentage indicate that targeted preparation efforts or reforms may positively influence outcomes. Institutions may consider studying the factors behind the August 2023 and February 2024 improvements to replicate their success. Additionally, the data highlights the importance of sustaining support systems for candidates over time, as consistent upward trends are linked to incremental systemic changes. Overall, this analysis suggests that strategic interventions can lead to sustained improvements in exam performance at both individual and national levels.

➤ *Trend Analysis on the Results of the Retakers Criminologist Licensure Examination*

This analysis focuses on the performance trends of retakers in the Criminologist Licensure Examination across various exam periods. Retakers' passing rates are often influenced by factors such as exam difficulty, preparation strategies, and support systems. Understanding these trends provides valuable insights into the challenges faced by repeat examinees and potential areas for improvement in examination success rates. Figure 4 presents the results of the criminologist licensure examination from December 2021 until July 2024 for the first timer.

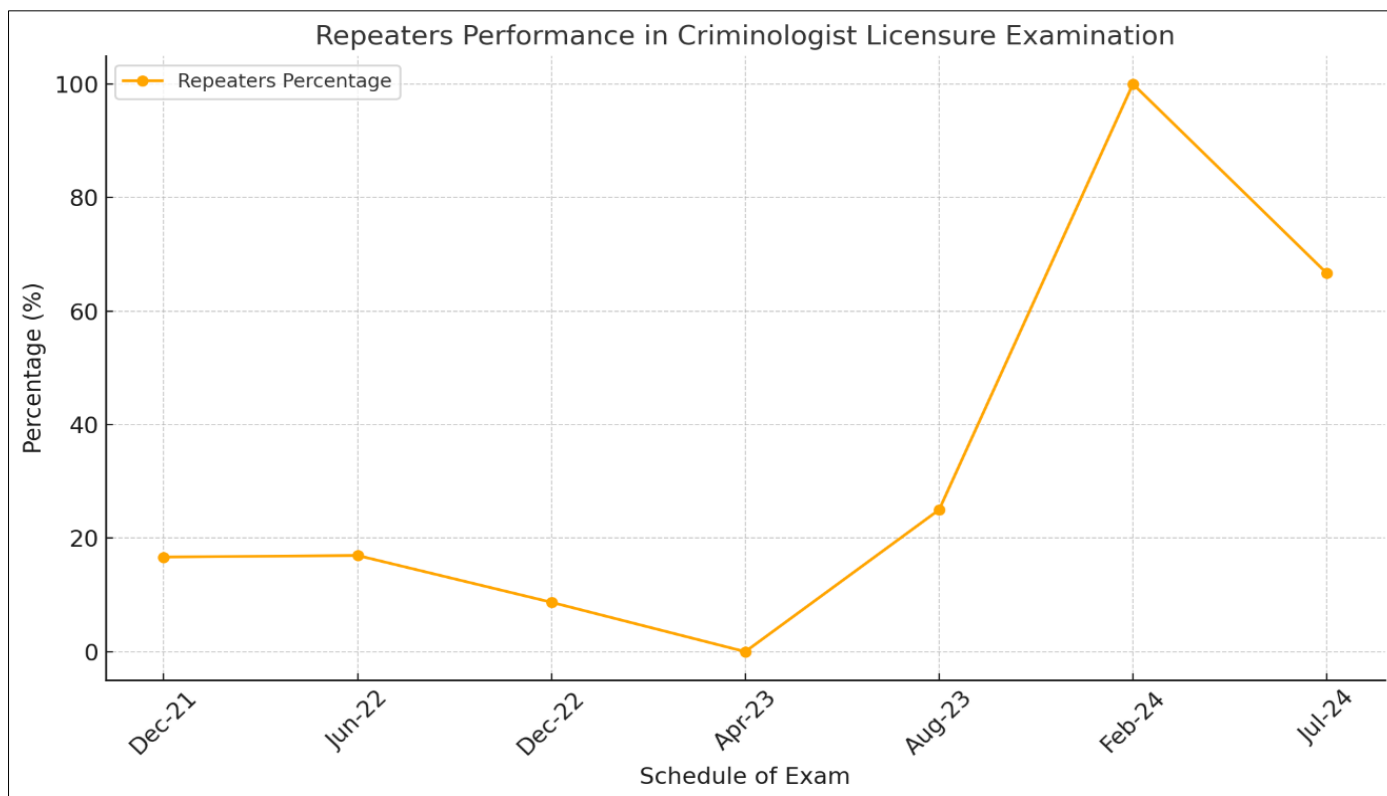


Fig 3 Graphical Presentation of the Results of the Retakers Criminologist Licensure Examination

The data reveals fluctuating trends in repeaters' passing percentages over seven exam periods. From December 2021 to April 2023, repeaters' performance was consistently low, with a decline from 16.67% in December 2021 to 0% in April 2023. This period highlights significant challenges faced by repeaters, possibly due to inadequate preparation or unchanged exam-taking strategies. The consistent underperformance during this time indicates a need for targeted interventions to improve repeaters' success rates.

A noticeable shift occurred starting in August 2023, where the Repeaters Percentage rose to 25%, marking an improvement from the earlier downward trend. A dramatic spike followed this increase in February 2024, where 100% of repeaters passed the exam. This exceptional performance may be attributed to significant changes in the exam process, enhanced review systems, or stronger support for repeat takers. Such a sudden improvement highlights the potential impact of effective interventions and external factors on repeater outcomes.

After the February 2024 peak, the Repeaters Percentage dropped to 66.67% in July 2024, although this rate remained significantly higher than in earlier periods. This decline could suggest the temporary nature of the extraordinary success in February 2024 or a return to normal conditions. Despite this drop, the sustained improvement compared to pre-2023 data indicates that some positive changes have taken root. The

relatively high success rate in July 2024 underscores the importance of maintaining momentum to support repeaters in future examinations.

These trends have important implications for both examinees and institutions. The drastic improvement in February 2024 demonstrates the potential of strategic interventions, such as better preparation programs or revised exam policies, in boosting repeater success rates. However, the decline in July 2024 suggests the need for consistent and long-term support to sustain high passing percentages. Institutions should analyze the factors that contributed to the February 2024 success and implement them systematically. By addressing the unique challenges faced by repeaters, exam bodies can promote equitable opportunities and improve overall licensure outcomes.

➤ *Trend Analysis on the Results of the Retakers Criminologist Licensure Examination against the Overall Passing Rate*

This analysis examines the trends in retakers' performance in the Criminologist Licensure Examination compared to the overall passing rate across various exam schedules. It highlights patterns of alignment or divergence between the success rates of retakers and the general examinee population. Understanding these dynamics provides insights into the unique challenges faced by retakers and their impact on overall examination outcomes.

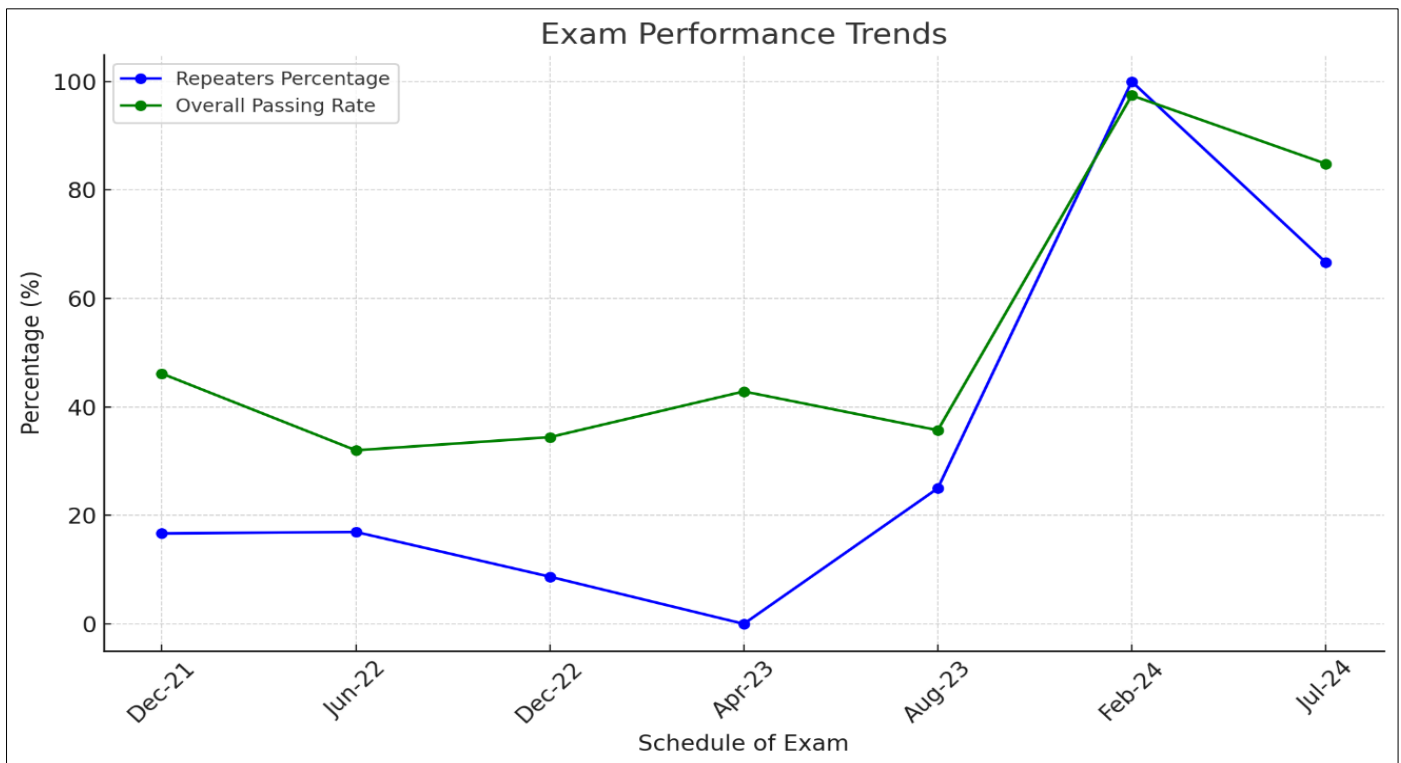


Fig 4 Graphical Presentation on Trend Analysis on the Results of the Retakers Criminologist Licensure Examination against the Overall Passing Rate

The graph showcases trends in repeaters percentage and overall passing rate across different exam schedules. A consistent pattern can be observed between the two metrics, where an increase in repeaters generally coincides with a rise in the overall passing rate. For instance, February 2024 shows a sharp spike in repeaters (100%) accompanied by a significant increase in the overall passing rate (97.44%). Conversely, in periods like April 2023, where no repeaters were present, the passing rate remained moderate at 42.86%. This relationship suggests that the inclusion of repeaters can significantly influence the passing rate, potentially due to their prior experience with the exams.

The period between December 2021 and August 2023 indicates stable but moderate passing rates, with slight fluctuations in repeaters percentages. The passing rate during these intervals remained within the 30-46% range, regardless of whether the repeaters' percentage was low (8.70% in December 2022) or relatively higher (25% in August 2023). However, this trend shifted dramatically in Feb-24, where the passing rate surged alongside an unprecedented number of repeaters. By July 2024, while the repeaters percentage dropped to 66.67%, the passing rate remained high at 84.85%. It highlights a potential turning point in examination trends, possibly influenced by external factors such as policy changes or increased preparation resources.

The rise in passing rates in February 2024 and July 2024 could indicate an evolving examination environment or improved preparation among candidates. The spike in repeaters during this period reflects a growing willingness among students to retake exams or institutional incentives for doing so. Despite this, earlier schedules, such as April 2023,

show that consistent passing rates can also be achieved without repeaters, suggesting that other factors like the difficulty of the exams or preparation levels of first-time takers are also at play. Additionally, the data indicates that managing repeaters can be a strategic tool to enhance overall exam performance. However, excessive reliance on repeaters might mask underlying issues with first-time success rates.

These trends imply that educational institutions should evaluate their policies regarding repeaters and their impact on overall performance. While the presence of repeaters has been shown to positively influence passing rates, over-reliance on this group may undermine efforts to improve first-attempt success rates. Institutions could consider balancing support for repeaters with programs aimed at enhancing preparation for first-time takers. Furthermore, the steep increases observed in February 2024 and July 2024 may warrant a review of changes in exam structure, candidate support systems, or external factors that could have contributed to these trends. Ultimately, leveraging these insights could help develop more equitable and effective examination practices.

➤ Trend Analysis on the Results of the Retakers Criminologist Licensure Examination against the National Passing Rate

This trend analysis examines the performance of retakers in the Criminologist Licensure Examination in relation to the national passing rate across multiple exam schedules. The data highlights fluctuations in the percentage of repeaters and their potential influence on overall passing rates, offering insights into patterns over time. By comparing these trends, this analysis seeks to understand the role of

repeaters in shaping national outcomes and to identify implications for future examination policies and preparation strategies.

The analysis reveals a dynamic relationship between the retakers' performance and the national passing rate. Periods with a high percentage of repeaters, such as February 2024 and July 2024, correspond to notable increases in the national passing rate, suggesting that repeaters play a crucial role in

boosting overall outcomes. Conversely, during periods with fewer or no repeaters, such as April 2023, the national passing rate tends to stabilize at lower levels. Retakers may benefit from their previous experience, allowing them to perform better and positively influence national metrics. These findings underscore the importance of understanding the impact of repeaters on overall exam success, which could guide strategies for improving both first-time taker and retaker performance.

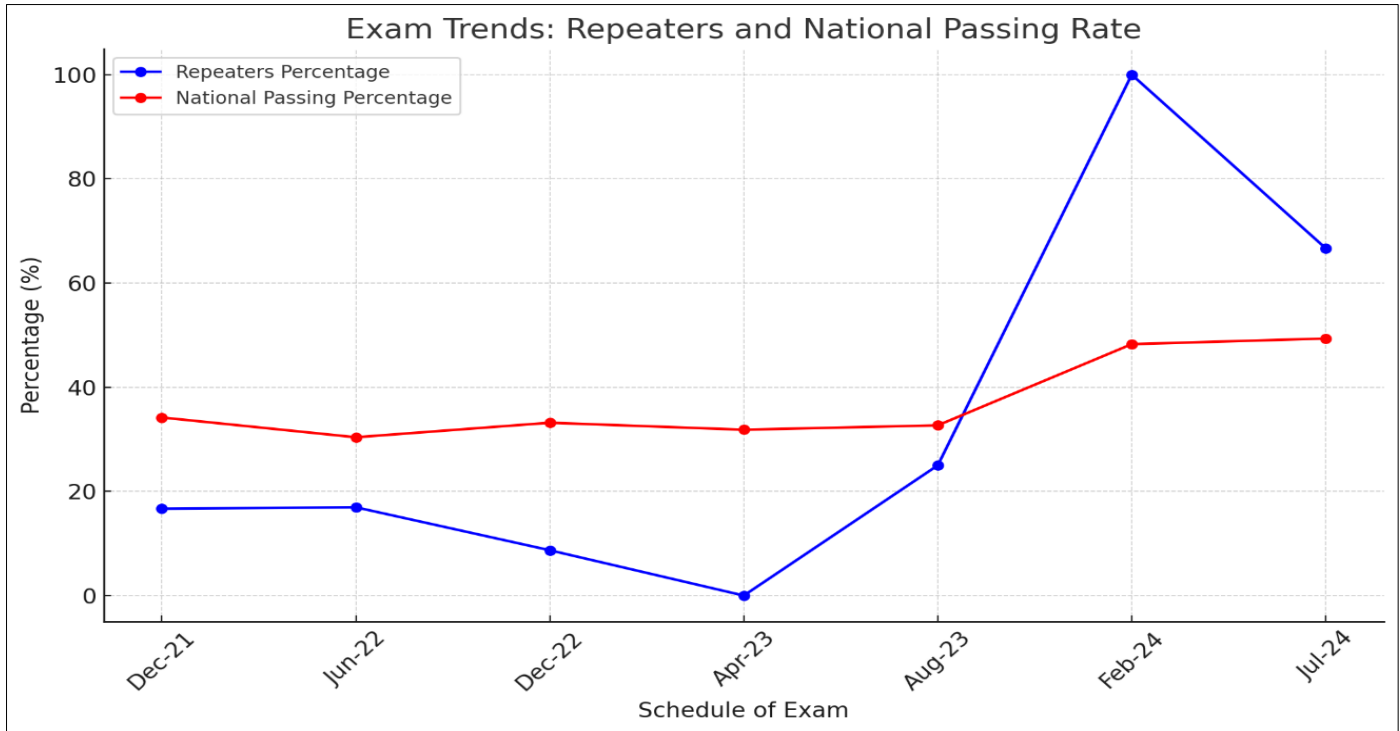


Fig 5 Graphical Presentation on Trend Analysis on the Results of the Retakers Criminologist Licensure Examination against the National Passing Rate

The graph highlights trends in the Repeaters Percentage and the National Passing Percentage, showcasing how repeaters' performance relates to national exam outcomes. From December 2021 to August 2023, the repeaters percentage remained relatively low, ranging from 0% to 25%, while the national passing percentage fluctuated within a narrow band of 30.39% to 34.19%. These periods suggest that the national passing rate remained stable despite variations in the proportion of repeaters. It indicates that during these schedules, the national passing rate may have been primarily influenced by first-time takers rather than repeaters.

The periods of February 2024 and July 2024 reveal a significant change in the trends, with the repeater's percentage reaching unprecedented levels of 100% and 66.67%, respectively. It corresponds with national passing rates of 48.27% and 49.35%, marking a substantial improvement from earlier periods. These results suggest that repeaters played a crucial role in elevating the national passing percentage, leveraging their previous experience to enhance their performance. The steep rise in both metrics during these periods underscores the critical contribution of repeaters to national examination outcomes.

Despite the apparent correlation between repeaters and the national passing percentage in later periods, earlier trends suggest that a balanced approach is essential. The stable national passing percentages in schedules with fewer repeaters indicate that first-time takers also significantly impact national outcomes. Thus, the effectiveness of repeaters in boosting national rates must be complemented by efforts to improve first-time taker success. Addressing both groups can create a more robust and sustainable improvement in national performance.

The trends highlight the need for targeted interventions to optimize the performance of both repeaters and first-time examinees. Institutions and policymakers can leverage the success of repeaters to uplift national passing rates while investing in programs that improve the preparation and performance of first-time candidates. Additionally, understanding the factors behind the sharp increase in February 2024 and July 2024 could guide the development of strategies to replicate such success in future examinations. A dual-focus approach can enhance overall outcomes while fostering fairness and equity in national licensure examinations.

IV. CONCLUSION

➤ *Based on the Findings of the Study, the Following are the Conclusions of the Study:*

- The study concludes that targeted interventions, such as improved preparation programs and adjustments to licensure policies, played a key role in boosting the success rates of first-time examinees starting in August 2023. Continuous evaluation and adaptation of support systems are essential to maintain high performance and ensure consistent success in future criminologist licensure examinations.
- The study concludes that the sharp improvement in first-time examinee performance starting in August 2023, alongside the rise in the overall passing rate in February 2024, indicates that targeted interventions and changes in exam preparation strategies were effective. These findings highlight the importance of systemic reforms in enhancing success rates for both first-time and repeat examinees.
- The study concludes that focused interventions, such as enhanced exam preparation and support systems, significantly contributed to the improved performance of first-time examinees and the national passing rate. The alignment of high first-timer success rates with the overall upward trend in national passing percentages indicates that systemic changes benefited both new and repeat candidates.
- The study concludes that strategic interventions, such as enhanced review programs and changes in exam policies, were crucial in driving the dramatic improvement in repeater success rates, particularly in February 2024. However, maintaining consistent support is essential to ensure these gains are sustained and that repeaters continue to perform at higher levels in future exams.
- The presence of repeaters significantly impacts the overall passing rate, suggesting that their prior experience enhances their success. However, consistent performance in periods with fewer repeaters highlights the importance of maintaining high preparation standards for first-time takers.
- Repeaters significantly influence the national passing rate, with their prior experience contributing to higher success rates in periods of high repeater participation. However, the stable national passing rates during earlier periods demonstrate the critical role of first-time takers in maintaining consistent performance trends.

RECOMMENDATIONS

➤ *The Following are the Recommendations of the Study based on the Findings and Conclusions:*

- To sustain the positive trend in passing rates, it is recommended that review programs be further enhanced and that first-time examinees be continuously supported. Additionally, periodic assessments of licensure policies and exam formats should be conducted to ensure they align with evolving educational standards and effectively support candidate preparedness.

- To sustain the high success rates observed in recent years, it is recommended that review programs and exam preparation strategies continue to be enhanced. Additionally, periodic reviews of exam formats and policies should be conducted to ensure they remain effective in supporting both first-time and repeat examinees.
- To maintain the positive trends observed in recent years, it is recommended that preparation programs and support systems for both first-time and repeat examinees be further enhanced. Additionally, exam formats and policies should be regularly evaluated to ensure they continue to foster improvements in candidate performance across all exam schedules.
- To maintain the positive trend observed in 2024, it is recommended that support systems and review programs for repeat examinees continue to be strengthened. Additionally, ongoing adjustments to exam policies and preparation strategies should be made to ensure repeaters' consistent success in future criminologist licensure examinations.
- Institutions should implement balanced strategies, focusing on both enhancing first-time taker preparation and supporting repeaters to sustain high passing rates. Additionally, further investigation into the factors behind the sharp increases in February 2024 and July 2024 could provide valuable insights for replicating this success in future exams.
- Institutions should adopt a dual strategy by supporting repeaters through targeted review programs and addressing gaps in first-time taker preparation. Further investigation into the success factors driving the February 2024 and July 2024 outcomes can help refine preparation strategies for future examinees, ensuring improved and sustainable national passing rates.

DECLARATIONS

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This study did not receive any grant from funding agencies in the public, commercial, or not-for-profit sectors.

➤ *Competing Interests Statement*

The authors declare no competing financial, professional, or personal interests.

➤ *Consent for Publication*

The authors declare that they consented to the publication of this study.

➤ *Authors' Contributions*

All the authors took part in literature review, analysis, and manuscript writing.

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