

DIGITAL LITERACY SKILLS TRAINING NEEDS ANALYSIS AMONG NON-COMMISSIONED POLICE OFFICERS

Bency B. Tuble, Wenzyl S. Acuña, Elton O. Supang, Marjohval C. Maniwang,
Elmie A. Allanic, Jose F. Cuevas Jr.

College of Criminology, Misamis University, Ozamiz City, Philippines.

*Email: tublebency@gmail.com**

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ABSTRACT: This research conducts a digital skills training needs analysis for the Philippine National Police (PNP) in Ozamiz City, focusing on digital literacy to identify existing competencies, gaps, and improvement areas. These enhancements aim to boost operational efficiency and community engagement. Employing a quantitative approach, the study distributes questionnaires to evaluate digital literacy in using Body Worn Cameras, CCTV systems, and administrative software, alongside demographic factors like rank and area of assignment. Findings reveal strong digital literacy in operational technologies among PNP personnel, with consistent proficiency across all ranks and units—indicating effective standardization in training. In contrast, moderate skills in administrative systems and data management highlight the need for targeted training to improve administrative efficiency. Statistical analysis shows no correlation between demographic profiles and digital literacy levels, underscoring the necessity for organization-wide training programs. Overall, the results affirm the critical role of ongoing digital literacy development in driving PNP modernization and strengthening police-community relations. This study provides a foundational basis for tailored digital literacy initiatives, elevating the competence and responsiveness of law enforcement in the digital age.

Keywords: *Capacity, Comprehensive, Digital Competency, Technology Application*

I. INTRODUCTION

Digital literacy involves the capability of using digital technology to critically explore, assess, and create information. This concept emphasizes not only technical skills but also the cognitive abilities needed to evaluate and produce meaningful digital content (Eshet-Alkalai, 2025). It captures a set of skills ranging from elementary abilities like operating a computer and navigating the internet to more advanced competencies such as understanding online safety and assessing the veracity of internet sources. With the ongoing development of technology, being digitally literate is crucial for promoting innovation, facilitating informed decision-making, and enabling effective participation in both personal and professional life (Hobbs, 2025). Moreover, as society continues to adapt to rapid technological changes, digital literacy plays a vital role in addressing emerging challenges, encouraging collaborative engagement within communities, and ensuring equitable access to digital information and opportunities (Eden, Chisom & Adeniyi, 2024). As digital tools reshape the landscape of modern policing, digital literacy has become essential for law enforcement to effectively adapt to new technologies and carry out their duties in a tech-driven environment (Crawford & Lister, 2021). Modern policing heavily relies on digital tools—including body cameras, surveillance technologies, and data systems—to improve transparency, operational efficiency, and trust between law enforcement and the community (Bloch-Wehba, 2021). The impact of law enforcement is greatly enhanced when officers are skilled in utilizing these technologies to deliver services, collect and assess information effectively, respond promptly to situations, and interact with community members through electronic media (Goswami, 2025). In addition, when police officers are skilled in using digital technologies, it enhances public trust and cooperation, as community members tend to respond more positively to officers who use technology transparently and effectively to ensure safety and accountability (Marasambessy, 2023). This transparency fosters a sense of legitimacy and openness, which is essential in building strong police-community partnerships. Moreover, proficient use of digital tools allows

officers to provide timely and accurate information to the public, improving communication and reducing misunderstandings or misinformation (Bush & Matthews, 2024). Investing in digital literacy training, therefore, is not only crucial for the operational effectiveness of law enforcement agencies but also important for establishing solid community relationships and maintaining public trust in policing initiatives (Modise, 2023). It empowers officers to adapt to evolving crime trends while upholding ethical standards, ultimately contributing to a more responsive and trusted police service (Mukherjee & Mathews, 2024). The Philippine National Police (PNP) is the main law enforcement agency in the Philippines, operating under a well-organized hierarchy with elements of the National Headquarters, regional offices, and special units focused on categories of crime and public safety programs (Salindo & Osumo, 2025). Created to uphold peace and order, the organizational structure of the Philippine National Police (PNP) is designed to ensure operational effectiveness, with its various ranks and assignments strategically placed across the country to address the needs of law enforcement (Pastrana & Martir, 2024). Nevertheless, PNP officers face significant challenges in adapting to the evolving digital landscape, particularly in acquiring the necessary digital literacy skills to effectively use new technologies and tools designed to enhance law enforcement operations (Alhajeri, 2022). Since most officers lack basic knowledge on how to use digital equipment and software, combined with resistance and poor training programs, the PNP fails to fully embrace digital efforts that can boost law enforcement capabilities (Pena, 2025). In addition, challenges such as outdated infrastructure and increasing cyber threats hinder the Philippine National Police from fully leveraging technology to strengthen community trust and engagement, as these barriers slow down their digital transformation efforts (Javellana & Gomez, 2020). Therefore, tackling these challenges is imperative for the PNP to improve its efficiency in carrying out its law enforcement functions in an era of modern technology (Santos & Macabeo, 2024). Community policing plays a vital role in fostering positive relationships between law enforcement and the public, emphasizing collaboration, transparency, and responsiveness to the specific needs of local communities (Awoyemi, Olanrewaju, et al, 2025). By actively engaging with the community, police officers can build trust and respect, which are essential for the success of crime prevention initiatives and the promotion of public safety (Mitchell, 2025). Within this, improving the digital literacy of police officers has a strong capacity to support efforts at community engagement because it will allow officers to be able to properly use technology to communicate and collaborate (Kumwenda, 2025). Technologies such as social media and mobile outreach platforms enable real-time communication between police and the public, allowing for timely information sharing, community feedback, and swift responses to local concerns (Ibrahim & Hugo, 2025). As officers gain more expertise in these technologies, they can show a commitment to transparency and accountability, building trust and deepening partnerships with residents (Corbett & Le Dantec, 2021). Ultimately, enhanced digital literacy not only improves the operational capabilities of law enforcement but also fosters community bonds, making it a safer and more collaborative place for all parties involved (Chang & Coppel, 2020). The current digital competence of police officers in the Philippines, particularly within the PNP, reflects a blend of basic skills and notable limitations (Romero, Abante & Vigonte, 2025). While many officers are capable of using computers and navigating the internet, there remain considerable gaps in advanced digital abilities such as data management and the use of specialized policing technologies (Tandoc & Aranas, 2021). Literature reveals that many PNP officers face challenges in adapting to modern digital technologies, despite the growing need for these tools in critical policing activities such as crime reporting, surveillance, and public interaction (Del Rosario & Cruz, 2020). Research highlights a lack of structured digital training programs within the PNP, resulting in varied levels of digital competence that often depend on an officer's rank or specific assignment (Pastrana & Martir, 2024)). This disparity in digital literacy not only impedes operational effectiveness but also makes it difficult to conduct community engagement with the use of digital platforms, highlighting the immediate need for specially designed training modules that raise the digital proficiency level of PNP officers (Polizzi, 2025). The training needs analysis of police personnel, specifically within the Philippine National Police (PNP), has illuminated critical gaps in essential digital skills that hinder effective law enforcement operations (Sabijon, 2025). Despite some officers demonstrating proficiency in basic computer literacy, the analysis reveals significant deficiencies in areas such as data and information literacy, advanced technology utilization, and familiarity with law enforcement-specific tools (Segovia, 2024). These gaps impede officers' ability to effectively manage digital crime reports, utilize surveillance technologies, and engage with the community through digital platforms. Consequently, there is a compelling necessity for targeted training programs designed to address these shortcomings (Choudhary, 2025). Such programs should focus on enhancing digital competencies tailored to the unique demands of policing in the digital age, equipping officers with the necessary skills to navigate emerging technologies, improve operational efficiency, and foster stronger community relationships (Cardoso & Gomes, 2025). Investing in comprehensive digital literacy training, the PNP can bolster its workforce's capabilities, ensuring a more capable and responsive law enforcement body (Cuenca, 2021). This study is expected to make significant contributions to the Philippine National Police (PNP), the broader community, and the field of criminology by providing actionable insights into the digital literacy skills required for modern policing (Asli, 2023). Anticipated benefits include enhancing the operational effectiveness of PNP personnel by equipping them with essential digital skills

necessary for navigating contemporary law enforcement challenges (Battung, 2023). Improved digital literacy among officers is likely to foster greater transparency, accountability, and trust within the community, thereby improving public relations and engagement (Tsarouhas & Grigoriadis, 2025). Furthermore, the findings have the potential to influence policy and practice regarding law enforcement training programs by highlighting the critical need for integrating digital competency development into existing curricula. Establishing a clear framework for ongoing digital literacy training, this study aims to promote a culture of continuous learning within the PNP, ultimately contributing to the advancement of policing strategies that are responsive to the complexities of a rapidly evolving digital landscape (Hockenberry, Wilson & Rodgers, 2021).

II. METHODS AND MATERIALS

This study employed a quantitative research approach to collect and analyze data on the digital literacy training needs of Philippine National Police (PNP) personnel. It measured digital literacy skill levels in terms of basic computer skills, data and information literacy, and technology use, along with selected demographic factors such as rank and assignment. A structured survey questionnaire was administered to gather numerical data on the respondents' digital literacy competencies and their current use of digital tools in law enforcement. Statistical techniques such as correlation and regression analysis were used to determine whether significant relationships existed between the respondents' profile and their level of digital literacy. This design helped identify the specific areas where digital literacy training was most urgently needed.

The study was conducted in Ozamiz City to assess the digital literacy skills and training needs of Philippine National Police personnel, with particular attention to their community extension programs. It examined the officers' current proficiency in using digital tools and technology in law enforcement duties and community engagement activities. As policing increasingly depended on digital technologies, the study also looked into how these tools supported transparency, public trust, and the efficiency of police operations in the city.

The respondents of the study were 100 uniformed PNP personnel from one police station in Misamis Occidental and from the Provincial Mobile Force Company in the same province. These respondents served as the primary source of data regarding their digital literacy competencies, technology use, and training needs.

This study systematically collected data on the digital literacy skills training needs of Philippine National Police (PNP) personnel, focusing on identifying their current level of digital literacy and the areas requiring improvement. A structured questionnaire was distributed to uniformed PNP officers across various stations in Ozamiz City to assess their self-reported proficiency with digital tools. The data collected were analyzed to determine the current level of digital literacy skills among PNP personnel, identify specific gaps, and inform the development of a targeted digital literacy training program aimed at improving their effectiveness in law enforcement.

The researcher sought permission through a formal letter addressed to the Chief of Police of Ozamiz City to conduct the study involving uniformed PNP personnel. In the letter, the researcher emphasized that all data collected during the study would be handled with the utmost confidentiality and integrity, ensuring the privacy of all participants. Informed consent was obtained from all participants, highlighting their voluntary involvement and the anonymity of their responses to encourage honest and open feedback. Additionally, the researcher explained that the study aimed to assess the digital literacy skills of PNP personnel and identify training needs for improving their effectiveness in law enforcement. The data were used solely for research purposes and were not shared outside the scope of the study.

III. RESULTS AND DISCUSSIONS

Profile of the Respondents

Table 1 presents the respondents' profiles by area of responsibility and rank, providing an overview of the composition of the Philippine National Police personnel included in the study. In terms of area of responsibility, the majority of respondents were assigned to the Ozamiz City Police Station, accounting for 70 percent of the total sample. In comparison, the remaining 30 percent were assigned to the 2nd Provincial Mobile Force Company. This distribution suggests that the data largely reflect the experiences and operational conditions of personnel assigned to city-based policing functions, which typically involve regular community interaction, administrative tasks, and routine law enforcement activities. The inclusion of personnel from the mobile force company, however, ensures representation of officers engaged in more tactical, field-oriented operations, allowing for a more balanced understanding of respondents' backgrounds.

Regarding rank, the respondents were predominantly from the lower to middle ranks of the police organization. Patrolmen comprised the largest group at 43 percent, followed by Police Corporals at 28 percent, Police Staff Sergeants at 19 percent, and Police Master Sergeants at 10 percent. This distribution indicates that most of the respondents are frontline personnel who are directly involved in daily police operations. As these ranks are often responsible for implementing policies, using digital tools, and performing both administrative

and operational tasks, their perspectives are particularly relevant for assessing competencies and practices related to policing functions.

The profile of the respondents indicates a sample composed mainly of active-duty, operational-level police personnel, thereby strengthening the relevance of the study's findings to actual police work contexts. The dominance of lower- and middle-ranking individuals suggests that the results are likely to capture practical experience rather than purely supervisory or managerial viewpoints. Moreover, the representation from both urban police stations and mobile force units provides a broader organizational perspective, supporting the generalizability of the findings within similar police settings.

Profile	Frequency	Percentage
<i>Area of Responsibility</i>		
Ozamiz City Police Station	70	70.00
2 nd Provincial Mobile Force Company	30	30.00
<i>Rank</i>		
Patrolman	43	43.00
Police Corporal	28	28.00
Police Staff Sergeant	19	19.00
Police Master Sergeant	10	10.00

Level of digital literacy among Philippine National Police personnel

The assessment of digital literacy among Philippine National Police (PNP) personnel revealed a generally high level of competence across several technological tools and platforms essential for modern policing. Personnel demonstrated strong proficiency with Body Worn Cameras (BWC), with a mean score of 4.55 and a very low standard deviation of 0.10. This indicates a consistent ability across officers to operate the device effectively, reflecting successful integration of BWCs into daily policing practices. The high level of skill suggests that no additional training is needed, as personnel are already capable of maximizing the tool's benefits for accountability and evidence documentation.

Similarly, the use of Closed-Circuit Television (CCTV) systems was marked by high competence, with a mean of 4.27 and an extremely low standard deviation of 0.04. Officers are broadly skilled in monitoring, recording, and accessing surveillance footage, which is critical for investigative work and situational awareness. The minimal variability in responses indicates a uniform level of proficiency, suggesting that prior training or practical experience has effectively equipped personnel with the necessary skills for surveillance operations. As with BWCs, further training in CCTV use is not deemed necessary.

When it comes to Office Productivity Tools, the mean score of 3.98 with a low standard deviation of 0.09 suggests that personnel have moderate proficiency. While most officers can handle administrative tasks such as document preparation, data management, and reporting, there is still room for improvement. Minimal training is recommended to enhance efficiency and ensure that all personnel can consistently and effectively perform administrative duties, particularly in support of internal communication and operational documentation. The use of the National Police Clearance system showed slightly lower proficiency than other digital tools, with a mean of 3.89 and a higher standard deviation of 0.51. The increased variability suggests that while some personnel are adept at navigating the system, others may encounter challenges in processing clearances, managing records, or utilizing system features. Targeted training sessions could help standardize skills across personnel, improving efficiency and ensuring better service delivery to the public.

Finally, personnel showed strong competence in virtual communication platforms, such as Google Meet and Zoom, with a mean score of 4.45 and a standard deviation of 0.35. Most officers are comfortable using these platforms for online meetings, briefings, and coordination, demonstrating readiness to engage in digital collaboration when needed. Overall, the findings indicate that PNP personnel possess a high level of digital literacy, especially in operationally critical tools. At the same time, minimal training in administrative systems could further enhance overall capability and consistency across all personnel.

The high level of digital literacy among Philippine National Police personnel, particularly in operational tools such as Body Worn Cameras, CCTV, and virtual communication platforms, implies that the force is well-equipped to leverage technology for efficient policing, accountability, and coordination. However, the moderate proficiency observed in administrative tools and the National Police Clearance system indicates a need for targeted training to standardize skills and improve consistency in record management and service delivery. By addressing these gaps, the PNP can enhance both operational effectiveness and public trust, ensuring that technology is fully utilized to support law enforcement, streamline administrative processes, and provide timely, reliable services to the community.

Table 2 Level of digital literacy among Philippine National Police personnel

Variable	Mean	SD	Interpretation
Utilized Body Worn Camera	4.55	0.10	No training needed
CCTV (Closed-Circuit Television)	4.27	0.04	No training needed
Office Product Tools	3.98	0.09	Minimal training needed
National Police Clearance	3.89	0.51	Minimal training needed
Google Meet or Zoom	4.45	0.35	No training needed

Significant difference between profile of the respondents and their level of digital literacy

The analysis of the relationship between respondents' profiles and their levels of digital literacy focused on two key variables: area of responsibility and rank within the Philippine National Police. A chi-square test was conducted to determine whether these profile characteristics had a significant effect on personnel's digital literacy skills. The findings revealed no significant differences, suggesting a consistent level of digital competence across personnel regardless of their assigned responsibilities or hierarchical position.

Specifically, the chi-square value for area of responsibility was 2.18, with a corresponding p-value of 0.14. Since this p-value is greater than the standard significance level of 0.05, it indicates that personnel across different operational or administrative areas exhibit similar levels of digital literacy. This suggests that exposure to digital tools and technology is relatively uniform across various units, likely due to standardized operational procedures or shared access to training programs.

Similarly, the analysis of rank yielded a chi-square value of 0.11 and a p-value of 0.11, both of which are higher than the 0.05 threshold. This finding indicates that an officer's rank, whether junior or senior, does not significantly influence their ability to use digital tools such as Body Worn Cameras, CCTV, or virtual communication platforms. It reflects a system in which technological competency is not limited to specific ranks, thereby promoting operational efficiency and consistent service delivery across all levels of the organization.

The lack of significant differences in digital literacy across profile variables suggests that the PNP has effectively implemented standardized digital training and ensured broad access to technology. Uniform competence across areas of responsibility and ranks is beneficial for operational coordination, as officers from different units and hierarchies can interact seamlessly using the same digital platforms and tools. These results highlight the importance of maintaining and updating organization-wide digital training programs to ensure that all personnel, regardless of rank or role, remain proficient in essential technological skills. By sustaining this uniform digital literacy, the PNP can enhance operational efficiency, strengthen accountability, and provide reliable services to the public without disparities in technological competence among its personnel.

Table 3 Test of significant difference between profile of the respondents and their level of digital literacy

Variables	χ^2	p-value/ level of significance	Remarks
Area of responsibility and level of digital literacy	2.18	0.14/ 0.05	Not Significant
Rank and level of digital literacy	5.99	0.11/ 0.05	Not Significant

Note: * $p < 0.05$ (significant); ** $p < 0.01$ (highly significant)

IV. CONCLUSION

The study identified that PNP personnel generally have a high level of digital literacy, especially on operational tools such as BWCs, CCTV systems, and platforms for virtual communication like Zoom and Google Meet. Competencies are uniformly distributed across different areas of responsibility and ranks, representing standardized digital training within the organization. This uniform proficiency enables the front-line personnel and units to apply technology in a substantially efficient way to Surveillance, evidence gathering, communication, and coordination and thus to increase the general efficiency and accountability of the operation.

The findings indicate that PNP effectively incorporated all kinds of digital tools into regular policing activities, creating a technological atmosphere that supports modern policing.

V. RECOMMENDATIONS

The findings also indicate good proficiency levels of administrative digital systems, including the National Police Clearance system and the Office Productivity Tools. These shortcomings have therefore pointed to the necessity of targeted training interventions aimed at enhancing administrative efficiency and standardizing skills in all personnel. This will ensure consistent competency in administrative systems to underpin better record management and service delivery. Organization-wide digital literacy programs that are regularly updated and made accessible will be very important toward maintaining high standards of operations, ensuring public confidence, and affording all officers, irrespective of rank or unit, equal opportunities to leverage technological innovations in their work.

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The study has not received any funds from any organization.

Competing Interests Statement

The authors have declared no competing 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, research and manuscript writing equally.

REFERENCES

- [1]. Alhajeri, M. (2022). Developing a digital competence framework for UAE law enforcement agencies to enhance cyber security of Critical Physical Infrastructure (CPI) (Master's thesis, University of Salford, United Kingdom).
- [2]. Awoyemi, O., et al. (2025). A community-policing innovation model to build sustainable trust and effectively reduce crime in urban areas. (Unpublished manuscript).
- [3]. Baltazar, E. C., & Morales, J. M. (2019). Digital skills training needs assessment in the Philippine law enforcement sector. *Asian Journal of Public Administration and Governance*, 11(1), 45–62.
- [4]. Battung, I. D. (2023). Assessing the military readiness of the Philippine Navy through yearly budget allocation. (Unpublished manuscript).
- [5]. Bautista, R. M., & Fernandez, M. J. (2020). Factors affecting the digital literacy and training needs of police officers in the Philippines. *Philippine Journal of Public Safety and Law Enforcement*, 4(2), 59–75.
- [6]. Bautista, R., & Fernandez, M. (2023). Advances in digital communication applications for Philippine law enforcement. *Journal of Police Technology*, 15(2), 88–102.
- [7]. Bloch-Wehba, H. (2021). Visible policing: Technology, transparency, and democratic control. *California Law Review*, 109, 917.
- [8]. Cardoso, T. J., & Gomes, P. P. (2025). Advancing digital competencies in public administration: Empowering civil servants in the digital age. In *Digital competency development for public officials: Adapting new technologies in public services* (pp. 33–60). IGI Global Scientific Publishing.
- [9]. Chang, L. Y. C., & Coppel, N. (2020). Building cyber security awareness in a developing country: Lessons from Myanmar. *Computers & Security*, 97, 101959.
- [10]. Choudhary, H. (2025). From margins to mainstream: Paving the way to digital equity through digital literacy training programs. *Evaluation and Program Planning*, 109, 102533.
- [11]. Corbett, E., & Le Dantec, C. (2021). Designing civic technology with trust. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*.
- [12]. De Guzman, A., & Almodal, J. (2021). Data literacy and crime mapping in modern policing. *Philippine Law Enforcement Review*, 12(4), 34–46.
- [13]. De Guzman, R. P., & Almodal, M. A. (2021). Information and data literacy in Philippine law enforcement: Challenges and opportunities in the digital era. *Journal of Information and Communication Studies*, 3(2), 101–117.
- [14]. De Leon, F. A., & Rivera, N. E. (2021). Leveraging technology in community policing: The role of hotlines and social media in Philippine law enforcement. *Journal of Police Technology and Community Engagement*, 9(2), 143–158.
- [15]. De Leon, P., & Rivera, S. (2021). Enhancing public engagement with digital platforms in Philippine police services. *Public Administration Today*, 9(3), 59–73.
- [16]. Del Rosario, H. L., & Cruz, M. A. (2020). Digital readiness of police personnel in adapting to emerging technologies in crime prevention. *Journal of Criminal Justice and Security Studies*, 6(2),

- 134–150.
- [17]. Eden, C. A., Chisom, O. N., & Adeniyi, I. S. (2024). Online learning and community engagement: Strategies for promoting inclusivity and collaboration in education. *World Journal of Advanced Research and Reviews*, 21(3), 232–239.
- [18]. Garcia, L. M., & Santos, R. P. (2020). Integrating information systems in law enforcement: The case of the Philippine National Police. *Journal of Criminal Justice Research*, 8(1), 75–91.
- [19]. Garcia, L., & Santos, T. (2022). Crime information systems and data-driven policing. *Asian Journal of Criminology*, 8(1), 21–38.
- [20]. Hobbs, R. (2010). *Digital and media literacy: A plan of action*. Aspen Institute.
- [21]. Hockenberry, M. J., Wilson, D., & Rodgers, C. C. (2021). *Wong's essentials of pediatric nursing* (e-book). Elsevier Health Sciences.
- [22]. Ibrahim, A., & Hugo, W. (2025). Designing mobile applications to facilitate citizen information sharing with the police: Proposing design recommendations to streamline communication and emergency response measures. (Unpublished manuscript).
- [23]. Javellana, A., & Gomez, R. (2020). Barriers to digital transformation in the Philippine National Police: Infrastructure and cybersecurity concerns. *Journal of Public Security*, 28(2), 115–130.
- [24]. Kumwenda, D. (2025). Examining the versatility and misuse of information communication technology in community policing in Malawi. *International Journal of Information*, 10(1), 13–22.
- [25]. Lopez, E., & Ramos, J. (2021). Integration of drone technology in disaster response and public safety. *Philippine Journal of Emergency Management*, 7(1), 14–27.
- [26]. Lopez, J. D., & Ramos, A. B. (2021). Digital transformation in the Philippine National Police: Tools, challenges, and opportunities. *Philippine Journal of Public Administration*, 65(2), 112–129.
- [27]. Lum, C., Koper, C., & Telep, C. (2020). Body-worn cameras and policing: Lessons from the field. *Police Quarterly*, 23(3), 345–361.
- [28]. Marasambessy, R. F. (2023). Information technology-based law enforcement in increasing public trust in the police. *Gema Wiralodra*, 14(2), 790–798.
- [29]. Mitchell, S. (2025). Exploring the impact of community and conventional police officers' characteristics on upholding public safety: A phenomenological study (Doctoral dissertation St. Thomas University).
- [30]. Asli, M. R. (2023). Digital trends of criminology and criminal justice of the 21st century. *Journal of Digital Technologies and Law*, 1(1).
- [31]. Modise, J. M. (2023). Community engagement in policing: A path to more meaningful, knowledgeable, and successful public consultation. *International Journal of Innovative Science and Research Technology*, 8(6), 3894–3906.
- [32]. Mukherjee, B. N., & Mathew, M. (2024). Building trust in policing: Challenges and strategy. *Brazilian Journal of Public Policy*, 14, 402.
- [33]. Pastrana, H. J. P., & Martir, E. M. (2024). Implementation and effectiveness of Philippine National Police (PNP) mandatory trainings: Their influence on the performance of personnel. *International Journal of Science and Management Studies*, 7(2), 108–138.
- [34]. Peña, M. D. (2025). E-governance in Paracale: A digital transformation for improved public service delivery and citizen engagement. *JPAIR Multidisciplinary Research*, 61(1), 64–86.
- [35]. Perez, J. A., & Aquino, L. M. (2022). Assessing the digital proficiency of Philippine National Police personnel: Challenges and solutions for effective policing in the digital age. *Journal of Law Enforcement and Technology*, 7(3), 204–219.
- [36]. Perez, R., & Aquino, M. (2022). Digitalization of judicial processes: The case for e-subpoena and e-warrant systems in the Philippines. *Law and Technology Journal*, 10(2), 59–75.
- [37]. Polizzi, G. (2025). Digital literacy and strategic (dis)engagement: Examining how functional and critical digital literacy shapes participation. *Information, Communication & Society*, 1–20. <https://tinyurl.com/2jmpxv9b>
- [38]. Reyes, E. (2017). The Philippine National Police: Structure, functions, and challenges. *Philippine Journal of Public Administration*, 61(2), 173–192. <https://tinyurl.com/3nh2zujb>
- [39]. Reyes, J., & Valenzuela, D. (2021). Training the modern police officer: Addressing digital literacy and operational technology needs. *Police Science Review*, 18(2), 102–118. <https://tinyurl.com/yzasc4p4>
- [40]. Reyes, M. T., & Valenzuela, J. R. (2020). Bridging the digital skills gap: Training interventions for Philippine law enforcement agencies. *Journal of Public Safety and Digital Transformation*, 2(1), 44–59. <https://tinyurl.com/2y9h454d>
- [41]. Romero, K. J., Abante, M. V., & Vigonte, F. (2025). Best practices of e-governance in the Philippine National Police: A narrative review of objectives, best practices, impacts, and persistent challenges with a case study of e-governance in the PNP. (Unpublished manuscript). <https://tinyurl.com/yavnxb3>

- [42]. Sabijon, A. D. F. (2025). Crusades for drug-free communities: Hands-on experiences of rural police managers in the Second District of Bohol, Philippines. (Unpublished manuscript). <https://tinyurl.com/ywhf8efv>
- [43]. Salindo, P., & Osumo, R. (2025). Service beyond the line of duty: A phenomenological inquiry into police work. *Journal of Interdisciplinary Perspectives*, 3(8), 796–807. <https://tinyurl.com/yavnxbc3>
- [44]. Santiago, R. B., & Lumibao, R. J. (2022). Enhancing law enforcement through digital literacy: A study on the Philippine National Police. *Philippine Journal of Criminal Justice*, 5(1), 22–38. <https://tinyurl.com/yavnxbc3>
- [45]. Santos, S., & Macabeo, M. (2024). Counterinsurgency operations in the Second District of Sorsogon: Basis for sustainable development. *JPAIR Multidisciplinary Research*, 55(1), 1–21. <https://tinyurl.com/399dr563>
- [46]. Segovia, R. (2024). Factors that contribute to report writing proficiency in American law enforcement: A thematic literature review. (Unpublished manuscript). <https://tinyurl.com/4sdve424>
- [47]. Serrano, L., & Torres, A. (2021). Facilitating effective digital training: Needs assessment and curriculum development in police agencies. *Journal of Police Education*, 14(4), 43–56. <https://tinyurl.com/3cbmb2x9>
- [48]. Serrano, M. F., & Torres, C. M. (2021). Identifying training needs in law enforcement: The role of officer feedback in curriculum development. *Journal of Criminal Justice Education*, 13(2), 134–149. <https://tinyurl.com/32ewyas2>
- [49]. Tandoc, M. C., & Aranas, M. C. (2021). Assessing the digital competence of law enforcers in the Philippines: A basis for capacity building. *Philippine Journal of Criminology*, 43(1), 89–104.
- [50]. Trojanowicz, R., & Bucqueroux, B. (1990). *Community policing: A contemporary perspective*. Waveland Press. <https://acesse.one/h0V3u>
- [51]. Tsarouhas, P., & Grigoriadis, K. (2025). Building trust in AI for public administration: A strategic framework for transparency, XAI, participation, and digital literacy. In *Proceedings of the 7th International Congress on Human-Computer Interaction, Optimization and Robotic Applications (ICHORA)*. IEEE. <https://sl1nk.com/9WpbK>

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College of Criminology, Misamis University, Ozamiz City, Philippines.