

DEVELOPMENT AND VALIDATION OF A POLICE PERCEIVED MISCONDUCT MEASURE: A MIXED-METHOD DESIGN

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Abstract

Police in Nigeria have been alleged to be involved in misconduct in daily papers across various states of Nigeria. This aberrant behaviour among the police called for an investigation into police misconduct. Therefore, this study aimed to develop and validate the PPM scale to fill the knowledge gap. The study used a mixed-method design involving qualitative and quantitative methods. The study was conducted in two phases. The first phase involved item generation through Focus Group Discussion (FGD), and twenty police officers were involved. The second phase involves the administration of a questionnaire, and 1,275 sampled police officers attend to the questionnaire. The cross-validation design through Exploratory Factor Analysis (EFA) yielded six-dimensional factors that explain the 75.57% variability on the scale, including humiliation, emotion, authority, mutilation, victimization, and assault. Confirmatory factor analysis (CFA) through goodness-of-fit statistics was run as a composite of EFA and yielded four factors after some questionable items and two factors were eliminated. The reliability analysis revealed that the scale is reliable. The newly developed scale can be applied to diagnose the involvement of police personnel in misconduct, allowing police administrators and police service commissions to formulate policies that will eliminate police misconduct. The scale can also be integrated into the police personnel training manual to give them a better and more comprehensive understanding of the psychological aspects of police misconduct and their implications for police and security.

Keywords: Police misconduct, psychometric properties, victimization, assault, humiliation.

Introduction

In criminal justice, the police institution is on the front line of the criminal justice system. Furthermore, the police force is the security arm that is very close to citizens compared to other security outfits such as the Nigerian army, navy, and air force. The Nigerian police force is primarily responsible for enforcing social law and order and maintaining peace. Furthermore, police are empowered to prevent and detect crime and legally arrest and prosecute suspects with the due process of law of the Federal Republic of Nigeria and the Nigeria Police Act. In most cases, police officers abuse the power and authority bestowed on them by the constitution and evidence reported in the literature and,¹ which has triggered a public debate on many occasions. In Nigeria, the power and authority of police to make arrests and prosecute offenders are prescribed in the Nigerian Criminal Procedure Act (2004) Sections 2, 10, 17 to 20.² The Act allows police officers to apply all fair and reasonable means to secure the arrest of offenders of the law. The Nigeria Police Act (2004) also explains the procedure in Sections 4,

¹ Iwuoha, V. C., & Aniche, E. T., Protests and blood on the streets: Repressive state, police brutality and EndSARS protest in Nigeria. *Security Journal*, 35(4), 2022. 1102-1124. <https://doi.org/10.1057/s41284-021-00316-z> ; Barnbas, S., & Fred, A., Human rights violations by the police: The Nigerian experience in democracy (2000–2006). *International Journal of Research in Social Sciences*, 5(3), 2015. 1-28. <https://www.researchgate.net/publication/268213712> Jain, A., Sinclair, R., & Papachristos, A. V., Identifying misconduct-committing officer crews in the Chicago police department. *PLoS ONE*, 17(5), e0267217. 2022. <https://doi.org/10.1371/journal.pone.0267217> [L. s. 10.10.2025].

² NCPA. Nigerian Criminal Procedure Act-Law of the Federation of Nigeria, Sections 2,10 & 17-20. Abuja, Nigeria. 2004. <https://lawsfnigeria.placng.org/laws/C41.pdf> [L. s. 10.10.2025].

23 to 30 of Chapter 1.³ Section 30 of the same Act expresses that "severe force shall not be used to secure an arrest." Section 10 further stated that "a person arrested shall not be handcuffed, bound, or subjected to unwarranted prohibition except by order of the court, a magistrate, or justice of the peace.

There are variations in police misconduct and multipliers; in other words, it is a complex concept expressed in administrative and organizational misconduct.⁴ It could also be a physical or verbal assault on suspects and citizens.⁵ It should be noted that police and citizens are subject to the same social laws; therefore, the same law guides both behaviours. The police officers acted outside the law by abusing the authority given to them by the law, which contradicts the trust that the constitution and society have given them. Police, as a government institution, is labelled with a proneness to maladaptive social behaviours such as abuse of human rights⁶ and are also accused of unwarranted torture, beating, and kicking,⁷ robbery, sexual harassment, and brutal unwarranted force on suspects and citizens,⁸ also found to be involved in an excessive amount of alleged and actual misconduct.⁹

Measures on police misconduct are scarce; very few or no psychological measures have been developed to assess police misconduct, and the available ones are culturally based. It may be due to difficulties in data collection or the complex nature of police misconduct. To understand police misconduct and its forms, particularly in Nigeria, a psychological measure of this nature is imperative and essential. Therefore, this study aimed to develop and validate the scale of perceived police misconduct among officers.

1. Literature Review

Early studies on police misconduct have associated some variables with police misconduct. For example, demographic factors such as age¹⁰ and gender¹¹ are implicated in police misconduct. Race,¹² education,¹³ length of service,¹⁴ rank and employment problems,¹⁵ and organizational commitment¹⁶ are being associated with police misconduct. Other scholars have tried to uncover individual and

³ TNPA. "The Nigerian Police Act, Law of the Federation of Nigeria" Sections 4, 23-30. Abuja, Nigeria, 2004. <https://statehouse.gov.ng/wp-content/uploads/2023/02/Nigeria-Police-Act-2020.pdf> [L. s. 10.10.2025].

⁴ Cheong, J., & Yun, L., Victimization, stress, and use of force among South Korean police officers. *Policing: An International Journal of Police Strategies and Management*, 34(4), 2011. 606-624. <https://doi.org/10.1108/13639511111180234>.

⁵ Adegbite, O. S., & Ishola, A. A. The moderating intelligence on the relationship between extraversion personality trait and unethical aggressive behavior among Nigerian police officers. *The Journal of Positive Psychology and Counselling*, 3(1), 2019. 210-221. <https://www.researchgate.net/publication/334671494> [L. s. 10.10.2025].

⁶ Akinyetun, T. S., Policing in Nigeria: A socioeconomic, ecological and sociocultural analysis of the performance of the Nigerian police force. *Africa Journal of Public Sector Development and Governance*, 5(1), 2022. 196-219. <https://doi.org/10.55390/ajpsdg.2022.5.1.9>.

⁷ Aborisade, R. A., & Obileye, A. A., Systematic brutality, torture, and abuse of human rights by the Nigerian police: Narratives of inmates in Ogun State prisons. *The Nigerian Journal of Sociology and Anthropology*, 15(1), 2017. 1-16. [https://doi.org/10.36108/NJSA/7102/51\(0110\)](https://doi.org/10.36108/NJSA/7102/51(0110)).

⁸ Domoro, O. O & Agil, S. O., The influence of organizational culture on police corruption in Libya. *IOSR Journal of Business and Management*, 2(5), 20212. 33-38. <https://www.iosrjournals.org/iosr-jbm/papers/vol2-issue5/F0253338.pdf> [L. s. 10.10.2025].

⁹ Jain, A., Sinclair, R., & Papachristos, A. V. Identifying misconduct-committing officer crews in the Chicago police department. *PLoS ONE*, 17(5), 2022. e0267217. <https://doi.org/10.1371/journal.pone.0267217>.

¹⁰ Cubitt, T., Wooden, K., Kruger, E., & Kennedy, M. A predictive model for serious police misconduct by variation of the theory of planned behavior. *The Journal of Forensic Practice*, 22(4), 2020. 251-263. <https://doi.org/10.1108/JFP-08-2020-0033>.

¹¹ Hickman, M. J., Piquero, A. R., Lawton, Brain A., & Greene, J. R. Applying tittle's control balance theory to police deviance. *Policing: An International Journal of Police Strategies and Management*, 24(4), 2001. 497-520. <https://doi.org/10.1108/EUM00000000006497>.

¹² King, W. R. Police officer misconduct as normal accidents: An organizational perspective. *Criminology and Public Policy*, 8(4), 2009. 771-776. <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1745-9133.2009.00592.x> [L. s. 10.10.2025].

¹³ Lersch, K. M., & Mieczkowski, T. Violent police behavior: Past, present, and future research directions. *Aggression and Violent Behavior*, 10(5), 2005. 552-568. <https://doi.org/10.1016/j.avb.2004.10.002>.

¹⁴ Hickman, M. J., Piquero, N. L., & Piquero, A. R. The validity of Niederhoffer's cynicism scale. *Journal of Criminal Justice*, 32(1), 2004. 1-13. <https://doi.org/10.1016/j.jcrimjus.2003.10.001>.

¹⁵ Greene, J. R., Piquero, A. R., Hickman, M. J., & Lawton, B. A. Police integrity and accountability in Philadelphia: Predicting and assessing police misconduct. National Institute of Justice. 2004. <https://nationalinstituteofjustice.gov> [L. s. 10.10.2025].

¹⁶ Haarr, R. N. They are making a bad name on the department. *Policing: An International Journal of Police Strategies and Management*, 20(4), 1997. 786-812. <https://doi.org/10.1108/13639519710194812>.

organizational variables associated with police misconduct.¹⁷ These could help policymakers create and formulate policies to reduce the incidence of individual and organizational factors associated with police misconduct.

It is a fact that the job of the police is stressful. It is characterized by situations where officers must decide whether to arrest, use additional force, or engage in physical brutality to achieve organizational goals. In this situation, police officers are expected to possess psychological and professional skills that will enable them to arrest without coercing force. Such professional skills require police knowledge to secure arrests without violating the fundamental rights of suspects.¹⁸ stated that there are certain instances in which police officers were found guilty or put on trial for the use of excessive force. They aggressively push suspects when they are not resisting arrest and use their tools unnecessarily.

In Nigeria, the 1999 constitution of the Federal Republic of Nigeria still regards a suspect as innocent in police custody. Suspects can still enjoy fundamental human rights until they are found guilty of the offense committed by a court of law. Police are not allowed by law to offer punishment without a court injunction. In many cases, police officers mutilate suspects unlawfully, and these acts are not recognized by law. The literature also reveals that the nature of the offense committed influences the use of coercing force, the strength of evidence available to the police officer about the suspect¹⁹ and, the personal characteristics of the suspect.

Field studies on police misconduct in Nigeria show a high prevalence of the violation of detainee rights in police custody.²⁰ Other studies from Nigeria further demonstrated that detainees in police custody suffer different injuries and imbalance states due to the horrifying punishment they experienced in police custody.²¹ Furthermore, concluded that police engaged in misconduct behaviours ranging from physical violence against citizens, extortion, and intimidation, which was previously confirmed in the study conducted by²² that citizens suffer many injuries and sustain disabilities due to police misconduct. In addition, a study supported previous studies on the prevalence of police misconduct when police officers with low emotional intelligence were highly involved in unethical aggressive behaviour.

Evidence in the literature revealed police misconduct, violation, and human rights abuse during suspects' arrest, investigation, and prosecution. Many of the allegations are refuted by police administrators, who describe them as misleading and unverifiable to the personality of the police. 7 also expressed their concern about police misconduct when ex-detainees confirmed their painful torture, kicking, beating with a gun, electric wire, raped, fists, and other forms of humiliation in police custody. These were previously confirmed in the study by, which stated that detainees suffered many inhuman treatments at the hands of police. In another related study by,²³ organizational justice was confirmed to

¹⁷ Kane, R. J., & White, M. D. Bad cops: A study of career-ending misconduct among New York City police officers. *Criminology and Public Policy*, 8(4), 2009. 737-769. <https://doi.org/10.1111/j.1745-9133.2009.00591.x>; Wolfe, S. E., & Piquero, A. R. Organizational justice and police misconduct. *Criminal Justice and Behavior*, 38(4), 2011. 332-353. <https://doi.org/10.1177/0093854810397739>.

¹⁸ Weisburd D., Greenspan R., Hamilton E., Bryant K & Williams H. "The Abuse of Police Authority". A National Study of Police Attitudes, 2001. p28-30. Police Foundation Washington. <https://www.policinginstitute.org/wp-content/uploads/2015/06/Weisburd-et-al.2001-The-Abuse-of-Police-Authority.pdf> [L. s. 10.10.2025].

¹⁹ Donner, C. M. 'The best predictor of future behavior is...': Examining the impact of past police misconduct on the likelihood of future misconduct. *Journal of Crime and Justice*, 42(3), 2019. 300-315. <https://doi.org/10.1080/0735648X.2018.1537882>.

²⁰ Amnesty International. Welcome to hell fire: Torture and other ill-treatment in Nigeria In: Amnesty International London. 2014. <https://www.amnesty.org/en/documents/afr44/011/2014/en/> [L. s. 10.10.2025].; Egede, E. Bringing human rights home: An examination of the domestication of human rights treaties in Nigeria. *Journal of African Law*, 51(2), 20007. 249-284. <https://doi.org/10.1017/S0021855307000290>.

²¹ Boxer, P., Middlemass, K., & Delorenzo, T. Exposure to the violent crime during incarceration: Effects on psychological adjustment following release. *Criminal Justice and Behavior*, 36(8), 2009. 793-807. <https://doi.org/10.1177/0093854809336453>; NOPRIN. Criminal force: Torture, abuse, and extrajudicial killings by the Nigerian police force. Open Society Institute 2010. <http://www.noprin.org.com> [L. s. 10.10.2025].

²² Udosen, A. M., Etiuma, A. U., Ugare, G. A., & Bassey, O. O. Gunshot injuries in Calabar, Nigeria: An indication of increasing societal violence and police brutality. *African health sciences*, 6(3), 2006. 170-172. <https://doi.org/10.5555/afhs.2006.6.3.170>.

²³ Fridell, L. A., Maskaly, Jon., & Donner, C. M. The relationship between organizational justice and police officer attitudes toward misconduct. *Policing and Society*, 31(9), 2021. 1081-1099. <https://doi.org/10.1080/10439463.2020.1834558>.

be related to attitudes toward misconduct among police officers.²⁴ opined that police brutality and abuse of power are alarming and gruesome challenges to world countries. further expresses that no one stands above the law and that torture can never be justified, even in the case of the suspect. Youth have often lamented the harrowing experiences with police that are meant to protect their safety and life.²⁵ also reported consistent involvement of police in different forms of misconduct when conventional explanation reports reveal that half of the police officers are involved and connected in misconduct ties in broader networks of misconduct.

2. Methods

This study used a mixed-method design involving qualitative and quantitative methods. The qualitative method includes focus group discussions (FGD) used to generate items for this study and gain more insight into the content of this study. The quantitative aspect of this study addresses the interpretation of the results data, which was carried out in two phases.

2.1. Phase I: Generation of Items

The generation of items for this study was done through a literature search and FGD as recommended by.²⁶ The literature search included journals, articles, paper presentations, published textbooks, research theses, and online questionnaires that yielded 17 items. The FGD yielded 21 items, and 38 were generated as a pool of items for the PPM scale. After that, these items were subject to expert validation. Three practicing social psychologists, sociologists, barristers at law, and police officers in the rank of deputy police superintendent judged the suitability of the items. Nine items that fall below (80%) of the agreement support of the expert were discarded. The remaining thirty-one items that received 80% appropriate expert support were retained for further analysis.²⁷

Participants

A sample of 20 police officers was conveniently chosen for the FGD of the Oyo state police command. Nineteen 19 (90%) of the participants were male, and their age range was between 28 and 46 years with a mean age of ($\bar{x} = 34.3$, $SD = 7.8$). The frequency distribution of the sociodemographic characteristics of the participants involved in the FGD shows that 16 (80%) were between 28 and 40 years old, while 4 (20%) were 41 years and older.

Measure

The researcher developed an interview question guide to gain much information about police misconduct. The guide has eight open-ended questions validated by experts in psychology, arranged, and used in a logical sequence. The questions addressed the study's specific objectives, and sociodemographic information from the respondents was also obtained.

Procedure

The FGD program was conducted in a conducive FGD room with selected police officers in attendance. Before opening the discussion, participants were kept informed about the study objectives. Consent for participation and permission for audio recording were sought with the assurance of absolute confidentiality of their responses. The essence of audio recording was to get the respondents right without ambiguity and to ensure that the participants' information was reported correctly. Additionally,

²⁴ Ashok, A. The abuse of police power and police brutality. 2020. <https://www.legalbites.in/abuse-of-police-power-police-brutality>.

²⁵ Wood, G., Roithmayr, D., & Papachristos, A. V. The network structure of police misconduct. *Socius* (5) 2019. 2378023119879798. <https://doi.org/10.1177/2378023119879798>.

²⁶ Gaur, A. S., & Gaur, S. S. "Statistical methods for practice and research: A guide to data analysis using SPSS", Sage Publisher, 2009. p. 89. http://sk.sagepub.com/book/mono/statistical-methods-for-practice-and-research-2e/toc#_=_ [L. s. 10.10.2025].

²⁷ Bohnsack, R. "Group discussion and focus groups". In U. Flick, E. von Kardorff, & I. Steinke (Eds.), "A companion to qualitative research", Sage publisher 2004. p. 214–221. https://hu.kln.ac.lk/units/rc/media/attachments/2021/09/17/a_companion_to_qualitative_research.pdf [L. s. 10.10.2025].

the field note recorder took notes on the appropriateness of the information. The rules guiding the conduct of the participants in the FGD room were established, and the group leaders were chosen through the ballot for each group. Before the beginning of the FGD, chairs, tables, and other written materials were adequately arranged in the FGD room for the participants' comfort. Twenty participants selected for discussion were divided into four groups of five participants. The researcher adopted complementary and argumentative interaction methods to accomplish the purpose and objectives of this study. The discussion lasted 60 minutes for each group, two groups were held in one day, and the program lasted 4 hours in two days. Therefore, participants were compensated for their participation in the study.

2.2. Phase II: Items Reduction and Psychometric Properties

Research Design

This study adopted a cross-validation research design to achieve the objectives and complement the items generated in the first phase of this study.

Participants

The participants in this study consist of 1,275 police officers and men conveniently selected from the Oyo State police command with a sample size of 427, the Ekiti State police command with a sample size of 417, and the Kaduna State police command with a sample size of 431.²⁸ sample size calculation formula justifies the sample size. The age distribution category of the participants falls between 26 and 52 years of age. 875 (68.8%) of the participants were male, and 400 (31.4%) were female. Descriptive statistics also show that 385 (30.2%) were constables, 255 (20%) were corporals, 350 (27.5%) were sergeants, and 285 (22.4%) were inspectors. The marital distribution of the participants indicates that 874 (68.5%) were married, 277 (21.7%) were single, 62 (4.9%) claimed to be divorced, 51 (4%) were separated, and 11 (1%) claimed to be widowed. The distribution by the religion of the participants shows that 708 (55.5%) were Christians, 482 (37.8%) were Muslims, and 85 (6.7%) were of other religions.

Measure

The PPM scale items developed in phase 1 of this study were used to obtain data from the participants. The scale has 31 items in five Likert response formats, ranging from 1 = Not true for me to 5 = Very often true for me. The scale has six subdimensions, namely: Humiliation misconduct, emotional misconduct, authority misconduct, mutilation misconduct, victimization misconduct, and assault misconduct. The validity of the content and construct of the scale was affirmed by three social psychologists, three sociologists, three practising lawyers, and three police officers. Scale reliability was calculated using IBM SPSS, and an α value of 0.91 was recorded for the overall scale ($N = 1275$, $\bar{x} = 66.85$, $SD = 24.37$) to establish a norm. The scoring on the scale implies that scores above the mean score standard deviation are regarded as high participation in police misconduct behaviour. Scores below the mean and standard deviation indicate low participation in police misconduct.

Aggressive behaviour scale²⁹ was administered with the currently developed PPM scale as a related comparison scale. It consists of 29 items rated in the Likert response style, ranging from 1 = extremely uncharacteristic to 5 = extremely characteristic of me. The scale has four subdimensions: physical, verbal, anger, and hostility. The scale was used as a comparison to the newly developed scale. The reliability of the coefficient alpha for the overall scale was $\alpha 0.87$, as reported by the author.

Validity and Reliability of the PPM Scale

²⁸ Yamane, T., "Statistics: An introductory analysis" (3 ed.). Harper and Row 1973. P.167.
<https://journals.sagepub.com/doi/abs/10.1177/001316446402400434> [L. s. 10.10.2025].

²⁹ Buss, A. H., & Perry, M. The aggression questionnaire. *Journal of personality and social psychology*, 63(3), 1992. 452-459.
<https://doi.org/10.1037/0022-3514.63.3.452>.

The validity of the scale elements in this study was ensured by subjecting the elements to the appropriateness of the content and face validity, as recommended by.³⁰ Thirty-one items received 80% of the support of experts, such as (psychologists, sociologists, practising lawyers, and police officers) were retained for further analysis.³¹ The scale was administered to 1275 police participants and was later subjected to a varimax-rotated factor loading analysis using IBM SPSS. Twenty-five items loaded above 0.5 were retained, while six items loaded below 0.5 loading factor analysis were discarded.³²

The structural construct reliability method was applied to determine the scale's reliability using factor analysis, and the scale's reliability was measured through Cronbach's alpha. The scale's reliability was determined because the responses of the 1275 selected police participants indicated that the original 31 items produced an α value of 0.89, and the Cronbach coefficient alpha based on the standardized item α was 0.90. When the six (6) items loaded below the 0.5 loading factor were removed from the analysis, the Cronbach alpha increased to α of 0.91. The Cronbach alpha based on standardized items also increases to 0.92, while the Cronbach alpha for split-half part 1 is 0.87, and the second part is 0.85. The correlation between forms was 0.72, while the Spearman-Brown coefficient alpha for equal and unequal length was 0.84. The Guttman split by half was 0.83. The fore-mentioned indicates the significant reliability of the scale items. This assertion was supported by,³³ that a reliable scale must demonstrate internal consistency. This scale can produce consistent responses when used repeatedly.

Procedure

Data collection involves administering questionnaires to 1275 conveniently selected police officers from the Oyo, Ekiti, and Kaduna State police commands. Before administering the instrument, permission was sought from officers and men. Instrument administration was carried out with the help of two undergraduates trained to administer the instrument in each of the state commands involved in this study. The investigator conveniently selected 470 officers from the Oyo State police command. Four hundred and seventeen police officers from the Ekiti State police command and four hundred and thirty-one police officers from the Kaduna State police command. Questionnaires and other writing materials were distributed to selected police officers. The researcher told them that all options were suitable with no wrong answers. They were assured that all their responses would receive desirable confidentiality and that scale administration would last six weeks.

Data Analysis

The generated data were analyzed using IBM SPSS version 27, and standardized scores were calculated for all items. The Pearson product-moment correlation matrix was used to determine the intercorrelation of the PPM scale with the existing scale and the relationship between the dimensions of the two scales. The Cronbach alpha coefficient was calculated to determine the scale's internal consistency and homogeneity reliability, as recommended by. Additionally, the principal component factor analysis (PCA) was calculated to determine the factor structure, the six outlined factors, and the factorability of the correlation matrix. Scree plots and eigenvalues were also calculated to determine the number of factors on the scale.

Furthermore, confirmatory factor analysis (CFA) was performed and the diagonally weighted least squares (DWLS) estimation method was also presented as recommended in the literature³⁴ suitable for the variables. The Comparative Fit Index (CFI) as well as the Tucker-Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). Standardized root mean square residual (SRMSR)

³⁰ Yu, C. H. "Test-retest reliability". In K. Kempf-Leonard (Ed.), *Encyclopedia of social measurement*. Academic Press 2005. <https://www.sciencedirect.com/referencework/9780123693983/encyclopedia-of-social-measurement> [L. s. 10.10.2025].

³¹ Finch, H., French, B. F., & Immekus, J. C. "Applied psychometrics using SPSS and AMOS", Information Age Publishing 2016. p.135. <https://psycnet.apa.org/record/2016-38555-000> [L. s. 10.10.2025].

³² Olapegba, P. O. Perceived quality of life: Towards a generic measure in Nigerian culture. *Ibadan journal of the social sciences*, 7(2), 2009. 137-142. DOI:10.36108/ijss/9002.70.0250.

³³ Kaplan, R. M., & Saccuzzo, D. P. "Psychological testing: Principles, applications, and issues". Cengage Learning, 2017. p. 127.

https://books.google.com.ph/books/about/Psychological_Testing_Principles_Applica.html?id=NI7EDQAAQBAJ&redir_esc=y [L. s. 10.10.2025].

³⁴ Morán, V., Curi, V., Fabbro, N., & Alessandrini, L. Validation of the Social Connectedness Scale in Argentinean adult sample. *Revista Psychologica* 65, 2022. 2-18. https://doi.org/10.14195/1647-8606_65_3.

and the Weighted Residual Mean Square (WRMR) were also employed to evaluate the fit of the model factors. The expected value for comparative fit index (CFI) and Tucker-Lewis Index (TLI) between .80 and .90 or higher are considered acceptable for an excellent fit, while Values ranging between .05 and .08 are expected for Root Mean Square Error of Approximation (RMSEA) and obtained values lower than 1 for the Standardized Root Mean Residual (WRMR) as recommended by.

3. Results

In the table below, the result of the correlation matrix between the newly developed Perceived Police Misconduct Measure (PPMM) and the Aggression Scale developed by Buss and Perry was presented. The PPMM has six sub-divisions, while AS has four sub-divisions. The aim is to examine the relativity of the newly developed scale with the existing scale as composite validity.

Table 1: Pearson product-moment correlation matrix between the PPM scale and the existing Aggression scale

Variable	$\bar{x}$	SD	1	2	3	4	5	6	7	8	9	10	11
PPM	66.85	24.37	1										
HM	20.34	9.88	.82**	1									
EM	10.06	4.99	.63**	.26**	1								
AM	7.40	3.63	.75**	.54**	.52**	1							
MM	3.09	1.84	.58**	.27**	.49**	.38**	1						
VM	4.39	2.16	.60**	.27**	.49**	.42**	.61**	1					
AM	4.15	1.89	.53**	.22**	.56**	.28**	.46**	.48**	1				
AS	90.88	21.02	.11**	.17**	0.06*	.12**	0.07*	.17**	0.07*	1			
PA	26.68	7.90	.11**	.10**	.04	.10**	0.06*	0.07*	.04	.87**	1		
VA	15.17	4.54	-.07*	-.02	-.06*	.10**	-.06*	.17**	-.07*	.79**	.66**	1	
AA	22.12	6.23	-.10**	-.15**	-.02	.10**	-.06*	-.07*	-.08*	.83**	.56**	.58**	1
HA	27.02	6.46	-.10**	-.16**	-.07*	-.05	-.05	.16**	-.07*	.83**	.61**	.49**	.64**

Note: HM = Humiliation Misconduct, EM = Emotional Misconduct; AM = Authority Misconduct; MM = Mutilation Misconduct; VM = Victimization Misconduct; AM = Assault Misconduct; AS = Aggression Scale; PA = Physical Aggression; VA = Verbal Aggression; AA = Anger Aggression; HA = Hostility Aggression; ** = $p < 0.01$ level (2-tailed); * = $p < 0.05$ level (2-tailed)

The Pearson product-moment correlation matrix in Table 1 above shows the intercorrelation of the newly developed PPM scale with Buss and Perry's aggression scale. The result shows a significant positive relationship between the PPMM scale and the Buss and Perry aggression scale ($r = 0.11$, $p < 0.001$), which affirmed the convergent validity of the scale. This result indicates that participants who score high on the Buss and Perry aggression scale also score high on the newly developed PPMM scale. As the scores on the Buss and Perry aggression scale increase, the scores on the PPMM also increase. Physical aggression, a subdimension of the Buss and Perry aggression scale, was significantly correlated with the humiliation misconduct subscale of PPMM, $r = 0.10$, $p < 0.001$. Furthermore, the Authority misconduct subscale in PPMM was significantly related to the physical aggression subscale of Buss and Perry $r = 0.10$, $p < 0.001$, verbal aggression $r = 0.10$, $p < 0.001$, and anger aggression $r = 0.10$, $p < 0.001$. The PPM victimization misconduct subscale was significantly correlated with physical aggression $r = 0.07$, $p < 0.05$, verbal aggression $r = 0.17$, $p < 0.001$, anger aggression $r = -0.07$, $p < 0.05$, and hostility aggression ($r = 0.16$, $p < 0.001$) in the Buss and Perry subscales of aggression.

3.1. Exploratory Analysis

Exploratory Analysis was performed to obtain components divisions for the scale, get the eigenvalues, variance explained by each factor, total variance explained by the items, extract the commonalities, ascertain the sampling adequacy for the scale and to obtained validity values for items in the scale.

Table 2: Summary of the result of the factor analysis for the PPMM scale with the extraction of commonalities (H^2), eigenvalues, variance explained by each factor, and total variance explained ($N = 1,275$)

Items	PPMB	F1	F2	F3	F4	F5	F6	H2
13	I have sometimes said things like; look at his head, 'thief,' and 'robber' to make jokes about suspects.	0.90*						0.80
2	I have forced suspects to participate in gymnastic events, such as jumping into a frog, standing for a long time, and positions aimed at humiliating them.	0.90*						0.79
1	I have beaten or hit the suspect with a police baton or stick to injure them when on duty post	0.89*						0.62
12	I have sometimes said, "an idiot," "you are mad," and "you are a fool" to suspect my superiority.	0.85*						0.81
7	I have suspended the suspect off the floor by the wrists or ankles and supplemented him with flogging to show my authority over them.	0.78*						0.81
14	I yelled and shouted at a suspect hostilely during arrest and patrol.	0.75*						0.85
24	I beat, slap, kick, or torture the suspect when the suspect resists arrest.	0.65*						0.49
11	I intentionally ignored the suspects to cause them to suffer unnecessarily.	0.55*						0.77
10	I have sometimes suspended suspects in different torture positions on the tree to force them to confess.		0.77*					0.83
9	I have sometimes deprived detainees of sleep, food, and water to torture them.		0.76*					0.74
8	To make them confess, I have sometimes exposed suspects to climatic stress, such as facing the sun, damp cells, and hot water.		0.73*					0.75

15	I have aggressively said, "I will shoot you," when provoked during a stop and search.		0.66*					0.78	
16	I shoved and shoved the suspect into the cause of arrest to humiliate them.		0.64*					0.74	
3	I have used tear gas or pepper spray on the suspect to make them suffer unnecessarily.		0.58*					0.61	
21	I use greater force when a suspect mocks, curses, or degrades police officers.			0.82*				0.87	
22	I have sometimes said, "you are a criminal," to innocent suspects confrontationally.			0.58*				0.84	
23	Sometimes, I have twisted the arms, legs, or other parts of a suspect's body to make them uncomfortable.				0.61*			0.65	
25	I beat, slap, kick, or torture people when arresting those protesting the government.				0.60*			0.67	
19	I have sometimes threatened lawyers who come to the aid of suspects because they threatened my interest.					0.79*		0.80	
18	I have sometimes detained people/people who visited police stations for a suspect.					0.68*		0.74	
17	I have detained suspects longer than the law requires for unofficial reasons.					0.62*		0.81	
5	I have tortured suspects using a hot iron, a flame, or an electric shock to force them to confess to a crime.						0.57*	0.72	
6	I have sometimes kicked and hit the suspect with my boot during interrogation.						0.54*	0.75	
4	I have sometimes slammed the suspect's head against the wall or floor when arguing with me.						0.52*	0.77	
	Variance explained	23.52%	15.01%	10.63%	9.03%	8.95%	8.43%		
	Eigenvalues	8.46	4.40	1.94	1.60	1.30	1.20		
	FC α	0.93	0.84	0.84	0.50	0.70	0.72		
	Overall Coefficient α								0.91
	The total variation is explained by								75.57%

Notes. **Varimax-rotated factor loading (component matrix) for 25 items loadings above 0.50 bold; F1 = Humiliation Misconduct; F2 = Emotional Misconduct; F3=Authority Misconduct; F4 = Mutilation Misconduct; F5=Victimization Misconduct; F6=Assail Misconduct; FC = Factor Coefficient.

Orthogonal rotation of the principal component analysis (PCA) with the varimax method was performed using IBM SPSS version 28 on 25 items of the scale. The Kaiser–Meyer–Olkin measure asserted the sampling adequacy for the analysis, KMO = 0.83, and all KMO values for individual items were $p < 0.74$, as recommended by,³⁵ which is well above the acceptable limit of 0.5. The Bartlett sphericity test of sphericity $\chi^2 (300) = 27083.84$, $p < 0.001$, informed the researcher that the correlations between the

³⁵ Field, A. "Discovering statistics using SPSS statistics", Sage Publisher 2018. p. 196.

https://books.google.com.ng/books/about/Discovering_Statistics_Using_IBM_SPSS_St.html?id=JlrutAEACAAJ&redir_esc=y [L. s. 10.10.2025].

items were sufficiently significant for PCA. The eigenvalues for the six components were calculated, and the obtained eigenvalues ranged from 8.46 to 1.20, above Kaiser's criterion of 1. The six combined factors explained the 75.57% variation on the PPMM scale. Table 2 also shows the rotation loading factor of items and items 13, 2, 1, 12, 7, 14, 24, and 11 groups in component 1, representing police humiliation misconduct. It explains the most significant percentage of the 23.52% variation in police misconduct. Items 10, 9, 8, 15, 16, and 3 loaded onto component 2, named emotional misconduct, explained a 15.01% variance in PPMM. Items 20, 21, and 22 loaded into component 3 tagged authority misconduct, which explained the 10.63% variation in PPMM. Items 23 and 25 loaded on component 4 named mutilation misconduct, which explained a 9.03% variation in PPMM. Furthermore, items 19, 18, and 17 loaded into factor 5 are considered victimization misconduct, and this factor explains the 9.01% variance in PPMM. Lastly, items 5, 6, and 4 loaded onto factor 6, named assail misconduct, explain the lowest percentage of 8.43% variance in perceived police misconduct. The convergence of the scree plot and Kaiser's criterion on six components inform the researcher's opinion of retaining the components in the final analysis.

To determine the scale's reliability, we applied the split-half reliability method using SPSS. The scale's reliability was measured through Cronbach's alpha, and the results showed an α of 0.89 and a standardized α of 0.90. However, when the six items loaded below 0.5 were removed from the original 31 items, the coefficient and the standardized α increased to 0.91 and 0.92 for the remaining 25 items. Reliability analysis also yielded a Spearman-Brown, an α of 0.84, and a Gutman split half coefficient of 0.83; the correlation between forms was 0.72. However, the Humiliation misconduct subscale yields 0.93 coefficient reliability alpha, emotional and authority misconduct produces 0.84 coefficient reliability alpha, victimization misconduct produces 0.70 coefficient reliability alpha, and assail misconduct produces 0.72 coefficient reliability alpha. Mutilation misconduct produces a low-reliability coefficient α score of 0.50. The instrument scoring pattern indicates that the higher the score of the participants on the scale, the greater their participation in the misconduct. The reliability scores obtained for the instrument were more significant than 0.50. Therefore, the score was accepted, and the instrument was considered a reliable measure of PPMM.

3.2. Confirmatory Analysis

The figures below show the results of the confirmatory factor analysis. Figure 1 reveals the structure with the maximum likelihood of estimation, while Figure 2 shows the standardized coefficient values of estimation for all the items as explained below.

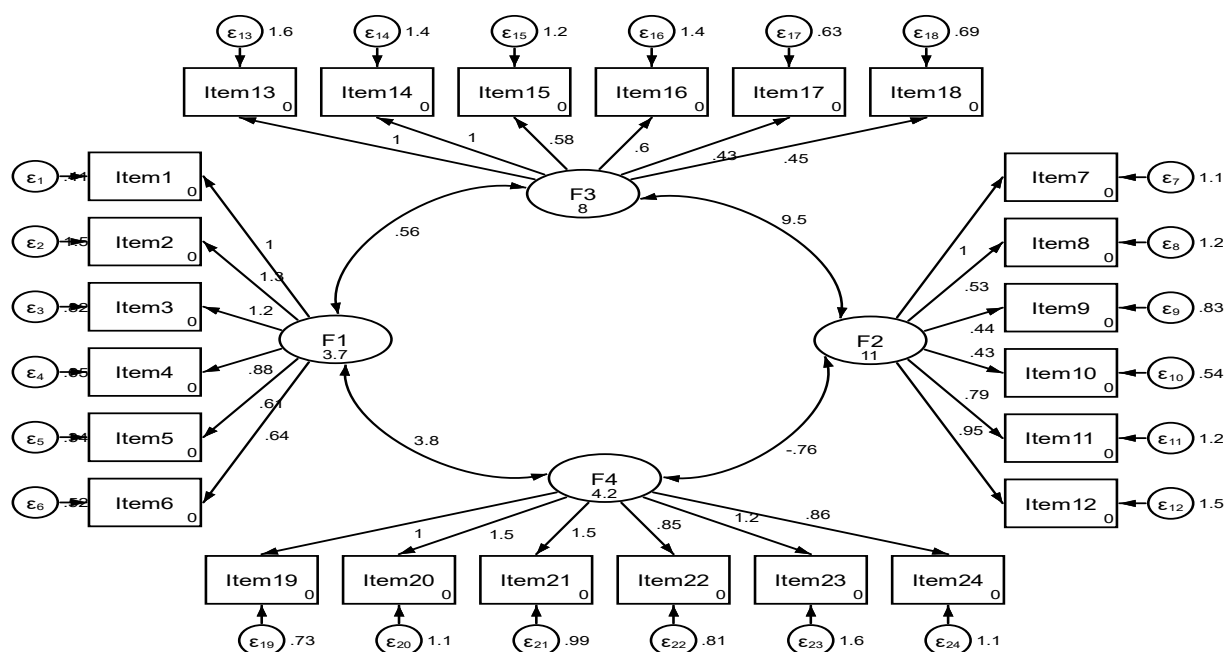


Figure 1: Four-factor Structure with maximum likelihood estimation

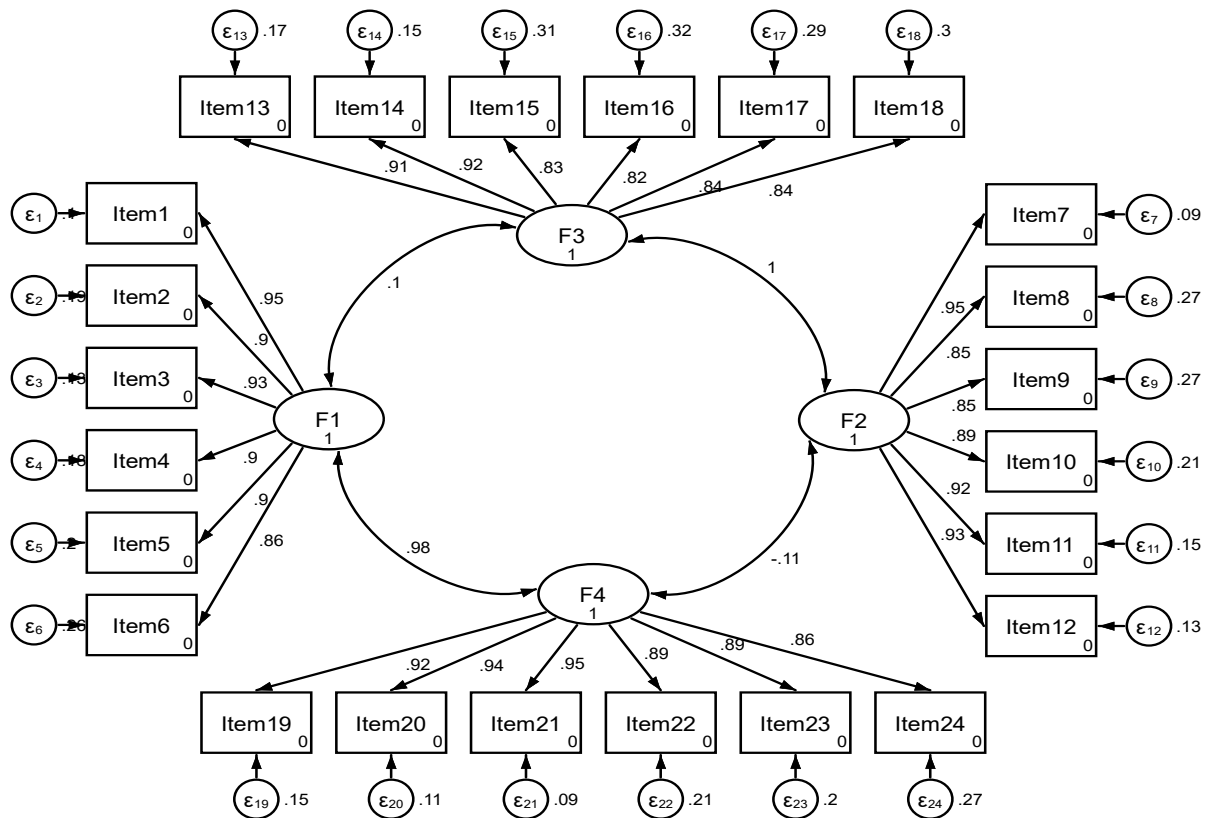


Figure 2: Four-factor standardized coefficient values of estimation

Exploratory factor analysis (EFA) in Table 2 above suggested six factors for the twenty-five items. Efforts were made to perform confirmatory factor analysis (CFA) which yielded four factors. Goodness-of-fit statistics was also computed and root mean squared error of approximation (RMSEA); CI = confidence interval; AIC = Akaike's information criterion; BIC = Bayesian information criterion; comparative fit index (CFI); Tucker-Lewis index (TLI); SRMR = standardized root mean squared residual (SRMR); and coefficient of Determination (CD) were obtained as reveal in table five. Maximum likelihood estimation was obtained and significant while the factors standardized coefficient values of estimation were obtained and significant as shown in the figures and table below.

Table 3. Models Factor Standardized coefficients and values

Items	coefficients	Standard error	z-value	p-value	95% CI
Four-Factor					
Factor 1 = Humiliation Misconduct					
Item 1	0.95	0.004	270.32	0.000	0.94; 0.96
Item 2	0.90	0.006	154.72	0.000	0.89; 0.9
Item 3	0.93	0.004	223.73	0.000	0.92; 0.94
Item 4	0.90	0.006	147.11	0.000	0.89; 0.91
Item 5	0.89	0.006	136.87	0.000	0.88; 0.91
Factor 2 = Emotional Misconduct					
Item 6	0.86	0.008	104.22	0.000	0.85; 0.88
Item 7	0.95	0.009	101.41	0.000	0.94; 0.97
Item 8	0.85	0.011	72.05	0.000	0.83; 0.88

Item 9	0.85	0.013	66.25	0.000	0.83; 0.88
Item 10	0.89	0.010	82.83	0.000	0.87; 0.91
Factor 3 = Authority Misconduct					
Item 11	0.92	0.006	132.77	0.000	0.91; 0.93
Item 12	0.93	0.011	81.86	0.000	0.91; 0.96
Item 13	0.91	0.009	91.57	0.000	0.89; 0.93
Item 14	0.92	0.005	176.25	0.000	0.91; 0.93
Item 15	0.92	0.005	173.28	0.000	0.91; 0.93
Factor 4 = Victimization Misconduct					
Item 16	0.94	0.004	230.47	0.000	0.94; 0.9
Item 17	0.95	0.003	279.83	0.000	0.95; 0.96
Item 18	0.89	0.007	118.90	0.000	0.87; 0.90
Item 19	0.89	0.006	134.20	0.000	0.88; 0.91
Item 20	0.86	0.009	94.52	0.000	0.84; 0.87

Note: *Items 1,2,3,4 and 5 loaded on F1 = Humiliating Misconduct. Items 6, 7, 8, 9 and 10 loaded on F2 = Emotional Misconduct. Items 11, 12,13,14,15 loaded on F3 = Authority Misconduct. While Items 16, 17, 18, 19 and 20 loaded on Factor 4 = Victimization Misconduct

*P<.001

Statistics of Goodness-of-fit was performed to ensure the fitness of the model into the generated items. All the following obtained values are within the recommendations of scholars cited in literature. Root mean squared error of approximation (RMSEA); CI = confidence interval; AIC = Akaike's information criterion; BIC = Bayesian information criterion; comparative fit index(CFI); Tucker-Lewis index (TLI); SRMR = standardized root mean squared residual (SRMR) were obtained as reveal in table four. Maximum likelihood estimation was obtained and significant while the factors standardized coefficient values of estimation were obtained and significant as show in the figure and table.

Table 4: Goodness of fit statistics

Fit Statistics	Four-Factor
Ch2(df)	24556.02(1272)
RMSEA	0.03
(90%CI)	0.349; 0.363
AIC	94336.31
BIC	94603.73
CFI	0.91
TLI	0.90
SRMR	0.06

Note: df = degrees of freedom; RMSEA = root mean squared error of approximation; CI = confidence interval; AIC = Akaike's information criterion; BIC = Bayesian information criterion; CFI = comparative fit index; TLI = Tucker-Lewis index; SRMR = standardized root mean squared residual; CD = coefficient of Determination

In the first model of table 4 above, all the 24 items were dichotomized into two- factor and the result yielded unsatisfactory fit index for two-factor as well as three- factor $\chi^2 = 20024.15$ (df = 1275, $p < 0.001$), CFI = 0.22, TLI = 0.22, RMSEA = 0.24. and $\chi^2 = 19492.27$ (df = 1273, $p < 0.001$), CFI = 0.24, TLI = 0.23, RMSEA = 0.24. In order to adjust the model fitness, some items indicators were deleted.

Items 5, 6, 4, and 23 were deleted because they loaded below 0.40, have less than three observed indicators and also have high cross loading more than 0.30 as recommended by.³⁶ Two factors (Mutilation and Assault Misconducts) were also deleted from the six factors indicated in EFA due to low level of internal consistency and loading factor and they were the least contributing factors as identified in EFA. After the elimination of the items Goodness-of-fit statistics was performed and the remaining 20 items finally fit into four-factor model. and reveal a satisfactory fit-index $\chi^2 = 24556.02$ ($df = 1272$, $p < 0.001$), CFI = 0.91, TLI = 0.90, RMSEA = 0.03.

4. Discussion

The current study aimed to develop and validate the PPM scale to fill the existing knowledge gap on measures of police misconduct. The psychometric properties of the PPM scale were tested. The cross-validation design yielded six-dimensional factors that explain the 75.57% variability on the PPM scale with six factors: humiliation, emotional, authority, mutilation, victimization, and assault. These factors significantly explained a reasonable variance on the PPM scale. Positive and negative intercorrelation of the newly developed PPM scale was found with the four dimensions of Buss and Perry's aggression scale

The validity of the current instrument was established using convergence validity with the existing aggression scale, as recommended. The sample of study participants showed the validity of the potential convergent relationship with the Buss and Perry aggression scale. The validity of the scale content was determined by subjecting the items to scrutiny and amendment of appropriateness by experts.³⁷ Items that received 80% agreement support from experts were retained as recommended by, who supported the opinion that the panel can attain content validity.

The results obtained from the reliability analysis also revealed that the instrument was reliable. The analysis was conducted with 1,275 sampled police officers and men, indicating that the original 25 items produced an α value of 0.91. The standardized coefficient α of 0.92 was obtained for the scale. The correlation between forms was 0.72, which shows a clear indication that the instrument will produce a consistent result when used repeatedly. Six factors emerged from the analysis: humiliation, emotion, authority, mutilation, victimization, and assault misconduct. This result was in line with the findings that emphasize dimensions and perception of work-deviant behaviors.³⁸ The loading factor of the scale showed that humiliation misconduct was the highest factor, which explained the most significant percentage of variance on the scale of perceived police misconduct. It affirms that humiliation forms of misconduct, such as abuse of the suspect's dignity, disrespect of humanity, insulting the suspect, and physical embarrassment, were the highest misconduct among Nigerian police. The result was in line with that police violations and human rights abuse are alarming, requiring urgent attention from the stakeholders.³⁹

Emotional misconduct is close to humiliation in the loading factor, which implies the inability of police officers to manage feelings when obtaining a confession from the suspect. The police engaged in this misconduct, using pepper spray, shoveling hot water, and denying detainees food, water, and sleep to obtain a confession from the suspects. This result collaborates with what referred to as confession under duress.⁴⁰ In addition to emotional misconduct, authority is involved, which implies that police use more force than allowed by law, constitution, and the Nigerian police act that governs police conduct. The

³⁶ Hwang, S., Feltz, D. L., & Lee, J. Emotional intelligence in coaching: Mediation effect of coaching efficacy on the relationship between emotional intelligence and leadership style. *International Journal of Sport and Exercise Psychology*, 2013. 1-15. <http://dx.doi.org/10.1080/1612197X.2013.763489>.

³⁷ Cohen, Ronald Jay., & Swerdlik, Mark E. "Psychological testing and assessment: An Introduction to tests and measurement". McGraw Hill Education 2011. p. 215. https://hmk.am/wp-content/uploads/2021/10/Psychological-Testing-and-Assessment_-An-Introduction-to-Tests-and-Measurement-9th-Edition-PDFDrive.com-.pdf [L. s. 10.10.2025].

³⁸ Jesses, S. M., Paige H., & Seth G. Development and validation of a short form aggressive beliefs and attitudes scale. *Personality and Individual Differences*, 87, 2015. 130-135. <https://doi.org/10.1016/j.paid.2015.07.041>.

³⁹ Son, I. S., & Rome, D. M. The prevalence and visibility of police misconduct: A survey of citizens and police officers. *Police Quarterly*, 7(2), 2004. 179-204. <https://doi.org/10.1177/1098611102250705>.

⁴⁰ Porter, L. E., & Warrender, C. A multivariate model of police deviance: Examining the nature of corruption, crime, and misconduct. *Policing and Society*, 19(1), 2009. 79-99. <https://doi.org/10.1080/10439460802457719>.

result of the current study complements the findings of in a national survey study conducted in Ohio, which found that nearly half of the police officers surveyed regularly used more force than necessary when making arrests.⁴¹ The possible explanation given by some policemen was that it should be acceptable to use more force beyond the law's limit to secure the suspect's arrest, especially when it proves challenging to be arrested.

The following loading factor is mutilation misconduct, a defined encounter with a suspect resulting in severe or moderate injury. It could be twisting the suspect's arms, legs, and other body parts, which may result in the suspect's permanent or temporal survival of injury. Victimization occurs after mutilation misconduct, contributing to a significant proportion of variance in police misconduct. Victimization misconduct is defined as an unjust offer of punishment to suspects and the relatives who come to the suspect's aid. This punishment may not take a direct form. It may be indirect, such as tactical delay and detention of the suspect or those who come to bail the suspect for more than the number of hours and days required by the law. This factor has gained empirical support.

In composite to Exploratory Factor analysis (EFA) Confirmatory factor analysis (CFA) was computed through two factor model, three-factor model, and four-factor model and statistical test of Goodness-of-fit was run for the three model. The obtained outcome revealed that only four-factor model showed satisfactory good fit, with RMSEA 0.03 and CFI and TLI range from 0.91 and 90 conforming within the range cited in literature by.⁴² The other two and three factors showed poor goodness-of-fit with the RMSEA 0.24 for both, while CFI and TLI remain relatively low. The psychometric properties of current scale data supported four-factor model to measure police perceived misconduct. The items demonstrate good regression weights, coefficient values, root mean squared error of approximation, comparative fit index and Tucker-Lewis index satisfactory properties.

4.1. Limitations

There are some noticeable limitations to this research study. The first limitation was that this study adopted a self-report questionnaire method to collect data from participants, which can bias responses. Another significant limitation was that this study did not pair participants according to their occupational ranks, which limited this study from group comparison. Information on the sociodemographic characteristics of participants in this study is another limitation due to the influence of demographic factors on misconduct.⁴³ Despite all these limitations, the newly developed PPM scale displayed acceptable validity and reliability properties, which can be relied upon when measuring police misconduct.

4.2. Implications and Future Studies

There are many potential implications for this study. First, the newly developed PPM scale can be applied to diagnose the involvement of police personnel in misconduct, allowing police administrators to formulate policies that eliminate police misconduct. Furthermore, information on the newly developed perceived police misconduct scale can help develop intervention studies that will allow self-regulation and reduce the proportion of police misconduct, if not eradicated. Third, the scale is a potentially fruitful and valuable instrument for researchers interested in police misconduct, considering the prelude evidence of psychometrics and the convergent validity of the scale. Lastly, the PPM scale can be integrated into the police personnel training manual to give them a better and more comprehensive understanding of the psychological aspects of police misconduct and its implications

⁴¹ Weisburd, D., Greenspan, R., Hamilton, E. E., Williams, H., & Bryant, K. A. Police attitudes toward abuse of authority: Findings from a national study (National Institute of Justice research in brief). US Department of Justice 2000. <https://www.ojp.gov/pdffiles1/nij/181312.pdf> [L. s. 10.10.2025].

⁴² Willmer, M., Jacobson, J. W., & Lindberg, M. Exploratory and Confirmatory Factor Analysis of the 9-Item Utrecht Work Engagement Scale in a Multi-Occupational Female Sample: A Cross-Sectional Study. *Frontiers in Psychology*, (10) 2019. Article 2771 pp 1-7. <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2019.02771/full> [L. s. 10.10.2025].

⁴³ Donner, C. M., & Jennings, W. G. Low self-control and police deviance: Applying Gottfredson and Hirschi's general theory to officer misconduct. *Police Quarterly*, 17(3), 2014. 203-225. <https://doi.org/10.1177/1098611114535217>.

for police and security. Therefore, this study suggests more studies to address the validity of the criterion, the reliability of this scale in the test-retest, and the integration of larger samples. This study could also be extended to its influence on organizational productivity, considering other samples, countries, sociodemographics, and family factors of the participants. Future research must also clarify the relationship between theoretical and empirical misconduct.

Conclusions

The PPM scale is a potentially reliable measure of police misconduct. The four dimensions of police misconduct (humiliation, emotional, mutilation and victimization) and the coefficient alpha reliability and Goodness-of-fit scores obtained were considered good. Evidences from Exploratory and Confirmatory analyses (EFA and CFA) psychometric properties during the development of the scale shows that the instrument is a valid measure of police misconduct. A convergent reliability test of the instrument with the existing aggression scale showed that the scale is a reliable measure of police misconduct. Therefore, this scale can be used for future measures and to understand police misconduct most especially in Nigeria. It can be applied to diagnose the involvement of police personnel in misconduct and used to formulate policies that eliminate police misconduct. This scale can also be incorporated into the police personnel training manual to give a better and more comprehensive understanding of the psychological aspects of police and their implications for police and security.

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