

# Development and validation of research instruments for measuring operational stressors and coping strategies among police officers

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## ***Abstract***

The development of valid and reliable research instruments is essential in ensuring the accuracy and credibility of empirical studies, particularly those examining complex psychological constructs such as occupational stress and coping strategies among police officers. This study aimed to develop and validate two instruments designed to measure the operational stressors experienced by police officers and the coping strategies they use to manage work-related stress. The instruments developed were the Police Officers' Primary Operational Stressors Questionnaire and the Police Officers' Coping Strategies Questionnaire, both structured using a Likert-scale format. The Police Officers' Primary Operational Stressors Questionnaire consisted of 40 items grouped into eight dimensions: operational workload and job demands, exposure to trauma and critical incidents, organizational and administrative pressures, public interactions and community relations, legal and accountability stressors, resource limitations and environmental constraints, interpersonal and team-related stressors, and work-family conflict. Meanwhile, the Police Officers' Coping Strategies Questionnaire contained 24 items organized into four dimensions: problem-focused coping, emotion-focused coping, avoidance coping, and support-seeking coping. To ensure content validity, both instruments were evaluated by a panel of experts composed of university research professors and members of the institutional examination board. The experts assessed the clarity, relevance, and appropriateness of each item to ensure alignment with the intended constructs. After the validation process, a pilot test was conducted among 15 police officers from the Philippine National Police station in Dupax del Norte to assess the reliability of the instruments. Reliability analysis using Cronbach's alpha produced coefficients of 0.916 for the operational stressors questionnaire and 0.875 for the coping strategies questionnaire, indicating excellent and strong internal consistency. These results confirmed that the developed instruments are valid and reliable tools

for measuring operational stressors and coping strategies among police officers. The validated questionnaires may be used in future research and organizational assessments to support stress management initiatives and promote police officers' well-being.

**Keywords:** operational stressors, coping strategies, police officers, instrument development, reliability, validity, occupational stress

## **Development and validation of research instruments for measuring operational stressors and coping strategies among police officers**

### **1. Introduction**

The development and validation of research instruments represent a critical stage in quantitative research, particularly when examining complex psychological and occupational constructs such as operational stress and coping strategies among police officers. Globally, policing has been recognized as one of the most demanding professions due to constant exposure to high-risk situations, traumatic incidents, public scrutiny, and organizational pressures. These conditions often create significant psychological strain that can affect officers' mental health, job performance, and overall well-being. Consequently, researchers and policymakers emphasize the need for scientifically developed and validated instruments that can accurately measure the sources of stress and the coping mechanisms employed by law enforcement personnel. Instruments that lack adequate validity and reliability may compromise the integrity of research findings, leading to inaccurate interpretations and weak empirical conclusions. Therefore, the development of standardized and psychometrically sound tools has become a priority in occupational stress research across law enforcement institutions worldwide.

At the national level, studies in the Philippines have highlighted similar concerns regarding the psychological demands placed on members of the Philippine National Police (PNP). Police officers in the country frequently encounter operational stressors such as heavy workloads, exposure to traumatic incidents, administrative pressures, and community-related challenges. These stressors may influence officers' emotional resilience, job satisfaction, and effectiveness in performing their duties. Despite the growing recognition of these challenges, there remains a limited number of locally developed and validated instruments specifically designed to measure operational stress and coping strategies within the Philippine policing context. This gap underscores the need for contextually appropriate measurement tools that reflect the unique organizational, cultural, and operational conditions experienced by Filipino police officers.

In the local context, particularly within provincial police units, officers often face additional stressors associated with limited resources, environmental constraints, and work–family conflicts resulting from irregular schedules and high-risk assignments. Recognizing these realities, this study developed and validated two structured questionnaires: the Police Officers' Primary Operational Stressors Questionnaire and the Police Officers' Coping Strategies Questionnaire. The development process involved systematic item construction, expert validation, pilot testing, and reliability analysis to ensure that the instruments were psychometrically sound. Through these procedures, the study ensured that the instruments are credible, reliable, and suitable for accurately assessing operational stressors and coping mechanisms among police officers in the local setting.

### **2. Related Literature**

Occupational stress among police officers has been widely recognized as a critical issue in law enforcement due to the demanding and high-risk nature of police work. Police officers are frequently exposed to unpredictable situations, traumatic events, and organizational pressures that may negatively affect their psychological well-being and job performance. According to Ryu, Yang, and Choi (2020), policing is considered one of the most stressful professions because officers regularly encounter dangerous incidents, public scrutiny, and high levels of responsibility in decision-making. These stressors often influence officers' emotional stability, job satisfaction, and overall well-being. The authors emphasized that coping strategies play a crucial role in mitigating the negative effects of occupational stress and improving officers' subjective well-being.

Similarly, Salinas and Webb (2018) explained that law enforcement personnel are particularly vulnerable to the adverse effects of occupational stress due to constant exposure to critical incidents and traumatic scenes. Their

study noted that prolonged stress may lead to physical health risks, including cardiovascular problems, anxiety, and burnout, particularly when officers rely on maladaptive coping strategies. The researchers highlighted the importance of understanding stress management techniques and coping mechanisms in promoting psychological resilience among police officers.

Research has also emphasized the role of resilience and psychological resources in managing police stress. Janssens, van der Velden, Taris, and van Veldhoven (2018) found that resilience, psychological capital, and emotional stability enable police officers to adapt more effectively to stressful and traumatic situations encountered in the line of duty. Their review suggested that officers who possess stronger coping capacities are more capable of maintaining professional performance and mental health despite exposure to operational stressors. In a literature review on policing stress, Zulkafaly, Kamaruddin, and Hassan (2018) explained that police officers adopt various coping strategies to manage occupational stress, including cognitive coping, behavioral coping, emotional regulation, and social support mechanisms. These strategies allow officers to process stressful experiences and maintain emotional balance while performing their duties. The authors also noted that social support from colleagues, supervisors, and family members is an important protective factor that enhances coping effectiveness in policing environments.

More recent research further demonstrates that coping styles significantly influence the relationship between job stress and psychological outcomes. Zhou et al. (2024) conducted a meta-analysis examining work pressure, coping styles, and occupational burnout among police officers. The findings revealed that effective coping strategies can reduce the negative impact of work-related stress and prevent burnout. Conversely, maladaptive coping behaviors such as avoidance may intensify emotional exhaustion and reduce job satisfaction. Studies conducted within the Philippine context have also highlighted similar findings. Olivar et al. (2024) reported that police personnel in the Philippine National Police experience moderate to high levels of occupational stress arising from operational duties, organizational pressures, and community interactions. The study emphasized that coping mechanisms such as peer support, emotional regulation, and problem-solving strategies help officers manage stressful situations and maintain work performance.

Furthermore, Espartero (2023) examined operational stress and coping strategies among police officers and found that officers frequently encounter stressors related to workload, public expectations, and organizational demands. The study revealed that police officers generally demonstrate moderate coping abilities, suggesting that while they can manage stress, there remains a need for institutional support programs and stress management interventions to enhance their well-being and effectiveness in law enforcement duties. The existing literature consistently indicates that policing involves multiple operational and organizational stressors that can significantly affect officers' psychological health and job performance. Researchers emphasize that effective coping strategies, resilience, and organizational support systems are essential in mitigating the negative effects of stress in law enforcement. Understanding the relationship between operational stressors and coping mechanisms is therefore essential in designing appropriate interventions and support programs that promote the mental health and professional sustainability of police officers.

### 3. Methodology

**Research Design.** This study employed a quantitative methodological research design focusing on the development and validation of research instruments intended to measure operational stressors and coping strategies among police officers. Instrument development studies are essential in ensuring that measurement tools used in empirical research are both valid and reliable. The study followed a systematic process consisting of item generation, expert validation, pilot testing, and reliability analysis to establish the psychometric properties of the developed questionnaires.

Two research instruments were developed for this study: the Police Officers' Primary Operational Stressors Questionnaire and the Police Officers' Coping Strategies Questionnaire. The operational stressors questionnaire

consisted of 40 items organized into eight dimensions: operational workload and job demands, exposure to trauma and critical incidents, organizational and administrative pressures, public interactions and community relations, legal and accountability stressors, resource limitations and environmental constraints, interpersonal and team-related stressors, and work–family conflict. Meanwhile, the coping strategies questionnaire consisted of 24 items distributed across four dimensions: problem-focused coping, emotion-focused coping, avoidance coping, and support-seeking coping. Both instruments used a five-point Likert scale ranging from 5 (Always) to 1 (Never). The development process ensured that the items were conceptually aligned with the theoretical constructs of occupational stress and coping mechanisms.

**Research Setting.** The pilot testing of the developed instruments was conducted at the Philippine National Police (PNP) station in Dupax del Norte, located in the province of Nueva Vizcaya, Philippines. The setting was selected because it provided access to active-duty police officers who regularly encounter operational challenges and stressors in the performance of their duties. The station serves both urban and rural communities, exposing officers to a wide range of operational demands such as law enforcement operations, community interactions, and administrative responsibilities. This environment was considered appropriate for evaluating the clarity, relevance, and applicability of the developed research instruments.

**Sample and Sampling Procedure.** The respondents for the pilot testing consisted of 15 police officers currently assigned to the Philippine National Police station in Dupax del Norte. These participants were selected using a purposive sampling technique, as they possessed relevant professional experience in law enforcement and were capable of providing meaningful responses to the questionnaire items. Pilot samples in instrument development studies are commonly limited in size but sufficient to assess the reliability and clarity of the instrument prior to its administration in a larger population. The respondents represented different operational roles within the police station, which allowed the researchers to capture diverse perspectives regarding operational stressors and coping mechanisms in policing work. Participation in the pilot test was voluntary, and the respondents were informed of the purpose of the study and assured that all responses would remain confidential.

**Data Analysis.** To determine the reliability and internal consistency of the developed instruments, the collected pilot data were analyzed using Cronbach's alpha coefficient. Cronbach's alpha is widely used in instrument development studies to evaluate the degree to which items within a scale measure the same underlying construct. A coefficient value of 0.70 or higher is generally considered acceptable for research instruments. The reliability analysis revealed that the Police Officers' Primary Operational Stressors Questionnaire obtained a Cronbach's alpha coefficient of 0.916, indicating excellent internal consistency. Similarly, the Police Officers' Coping Strategies Questionnaire yielded a Cronbach's alpha coefficient of 0.875, which also reflects strong internal reliability. These results suggest that the items included in the instruments consistently measure the constructs they were designed to assess.

In addition to reliability testing, the instruments underwent content validation by a panel of experts composed of university research professors and members of the institutional examination board. The experts evaluated the clarity, relevance, and appropriateness of each item in measuring the intended constructs. Feedback from the panel was incorporated to refine the wording and structure of several items to enhance the overall quality of the instruments. Through these procedures, the study ensured that the developed questionnaires possess satisfactory levels of validity and reliability, making them suitable for use in future research examining operational stressors and coping strategies among police officers.

## 4. Results and Discussion

### 4.1 Development of the Police Officers' Primary Operational Stressors Questionnaire

The Police Officers' Primary Operational Stressors Questionnaire was designed to quantitatively assess the operational challenges and stressors encountered by police officers during the performance of their duties. The

instrument consisted of 40 items distributed across eight dimensions, each representing a specific domain of operational stress experienced in policing work. These dimensions included operational workload and job demands, exposure to trauma and critical incidents, organizational and administrative pressures, public interactions and community relations, legal and accountability stressors, resource limitations and environmental constraints, interpersonal and team-related stressors, and work–family conflict. The first dimension, operational workload and job demands, examined the pressures associated with heavy workloads, multitasking requirements, extended shifts, and insufficient time for rest or recovery. Policing often requires officers to respond to multiple incidents simultaneously while managing both operational and administrative responsibilities. These demands can result in fatigue, reduced concentration, and heightened stress levels. The second dimension, exposure to trauma and critical incidents, focused on the psychological strain associated with encountering violent events, accidents, or other traumatic situations during police operations. Police officers frequently respond to emergencies involving injuries, fatalities, and high-risk circumstances. Continuous exposure to such situations can produce emotional distress and may influence both professional performance and personal well-being.

The third dimension, organizational and administrative pressures, explored stressors related to institutional policies, supervisory expectations, and bureaucratic procedures within the police organization. Police officers often experience stress when administrative directives are unclear or when policy changes affect operational procedures. In addition, the pressure to meet performance standards and comply with organizational requirements may intensify work-related stress. The fourth dimension, public interactions and community relations, addressed stress associated with dealing with members of the public, including hostile individuals, dissatisfied community members, and negative public perceptions of law enforcement. Police officers are frequently required to manage emotionally charged situations, resolve conflicts, and maintain professionalism in the face of criticism or distrust.

The fifth dimension, legal, ethical, and accountability stressors, examined stress arising from the potential consequences of procedural errors, legal complaints, and ethical dilemmas encountered in the line of duty. Police work demands strict adherence to legal procedures and ethical standards. The fear of making mistakes that could result in disciplinary action or legal repercussions may create additional psychological pressure. The sixth dimension, resource limitations and environmental constraints, focused on stress associated with inadequate manpower, insufficient equipment, and challenging environmental conditions during police operations. Limited resources may hinder the effective performance of duties and increase operational difficulties, thereby contributing to occupational stress.

The seventh dimension, interpersonal and team-related stressors, addressed the challenges associated with communication, collaboration, and relationships within the police unit. Effective teamwork is essential in policing, particularly during critical incidents that require coordinated responses. Miscommunication, conflict, or lack of support among team members may negatively affect operational efficiency and emotional well-being. The eighth dimension, work–family conflict, measured the extent to which professional responsibilities interfere with family life and personal well-being. Police officers often work irregular schedules, extended shifts, and high-risk assignments, which may disrupt family relationships and personal time. Such conflicts may intensify stress and reduce overall life satisfaction.

Each item in the instrument was rated using a five-point Likert scale, ranging from 5 (Always), 4 (Often), 3 (Sometimes), 2 (Seldom), to 1 (Never). This scale enabled respondents to indicate the frequency with which they experienced each operational stressor. The use of a Likert-type scale allowed for quantitative analysis of responses and facilitated the measurement of variations in stress experiences among respondents.

#### *4.2 Development of the Police Officers' Coping Strategies Questionnaire*

The second instrument developed for the study was the Police Officers' Coping Strategies Questionnaire, which aimed to assess the strategies used by police officers to manage occupational stress. The questionnaire consisted of 24 items grouped into four coping dimensions: problem-focused coping, emotion-focused coping,

avoidance coping, and support-seeking coping. The first dimension, problem-focused coping, referred to active strategies aimed at addressing the source of stress directly. These strategies included analyzing stressful situations, creating action plans, seeking information, and implementing practical solutions to manage work-related challenges. Problem-focused coping reflects a proactive approach in which individuals attempt to control or modify the stressor itself. The second dimension, emotion-focused coping, involved strategies used to regulate emotional responses to stressful situations. Police officers may engage in relaxation activities, express feelings to trusted individuals, or use positive self-talk to maintain emotional balance. These strategies help individuals manage the psychological impact of stress when direct control over the stressor is limited.

The third dimension, avoidance coping, represented strategies that involve distancing oneself from stressful situations or suppressing emotional responses. Examples include ignoring stressful events, delaying action on stressful tasks, or withdrawing from situations that cause distress. While avoidance coping may provide temporary relief, prolonged reliance on this strategy may hinder effective stress management. The fourth dimension, support-seeking coping, involved seeking assistance or emotional support from others. Police officers may rely on colleagues, supervisors, family members, or professional counselors to cope with stress. Social support has been widely recognized as an important factor in maintaining psychological resilience and reducing occupational stress.

Similar to the operational stressors questionnaire, the coping strategies instrument utilized a five-point Likert scale ranging from Always (5) to Never (1). Respondents were instructed to indicate how frequently they used each coping strategy when dealing with stressful situations. The structured format ensured consistency in responses and facilitated quantitative analysis.

#### *4.3 Content Validation of the Instruments*

To establish content validity, both questionnaires underwent a rigorous review process by a panel of experts, which included members of the university's examination board and experienced research faculty. These experts carefully evaluated each item to determine its clarity, relevance, and appropriateness in measuring the constructs of operational stressors and coping strategies among police officers. During the validation process, the experts assessed whether the items accurately represented the theoretical dimensions of the constructs and whether the wording of each statement was understandable and suitable for the intended respondents. Feedback from the panel resulted in minor revisions to ensure that the statements were clear, concise, and free from ambiguity. Some items were rephrased to enhance comprehension, while others were refined to ensure alignment with the conceptual framework of the study. The expert review process ensured that the content of the instruments adequately captured the key aspects of operational stress and coping strategies in the policing context. By incorporating feedback from experienced researchers and academic evaluators, the study ensured that the questionnaires possessed strong content validity and were capable of measuring the intended variables effectively.

#### *4.4 Pilot Testing and Reliability Analysis*

Following the content validation process, the instruments were subjected to pilot testing to evaluate their reliability and practicality in real-world conditions. The pilot study involved 15 police officers from the Philippine National Police (PNP) station in Dupax del Norte, who were not included in the main study sample. These respondents were selected because they possessed similar professional backgrounds and operational experiences as the intended participants in the main research. The pilot testing served several purposes. First, it allowed the researchers to assess the clarity and comprehensibility of the questionnaire items when administered to actual respondents. Second, it provided preliminary data for conducting reliability analysis to determine the internal consistency of the instruments. Third, it enabled the researchers to identify potential issues in the questionnaire format, instructions, or response scales.

Reliability analysis was conducted using Cronbach's alpha, a widely accepted statistical measure of internal consistency. Cronbach's alpha assesses the degree to which items within a scale measure the same underlying

construct. Higher alpha values indicate stronger internal consistency among the items. For the Police Officers' Primary Operational Stressors Questionnaire, the reliability analysis produced a Cronbach's alpha coefficient of 0.916. This value exceeded the commonly accepted threshold of 0.70 for reliable instruments, indicating excellent internal consistency among the items. The high alpha value suggested that the items within the questionnaire were highly correlated and effectively measured the construct of operational stressors.

Similarly, the Police Officers' Coping Strategies Questionnaire yielded a Cronbach's alpha coefficient of 0.875 during the pilot test. This value also indicated strong internal consistency, demonstrating that the items within the coping strategies scale reliably measured the coping behaviors of police officers. The results of the reliability analysis confirmed that both instruments possessed strong psychometric properties and were suitable for use in the main data collection phase of the study. The high Cronbach's alpha values indicated that the items were coherent and consistent in measuring the intended constructs.

## 5. Conclusions

The rigorous development and validation procedures undertaken in this study ensured that the research instruments were both valid and reliable, thereby strengthening the credibility of the study's findings. Reliable instruments produce consistent results, while valid instruments accurately measure the constructs they are intended to assess. By combining expert validation with empirical reliability testing, the researchers ensured that the questionnaires met established standards of scientific measurement. Furthermore, the development of these instruments contributes to the growing body of research on occupational stress and coping mechanisms in law enforcement. Policing is widely recognized as a high-risk profession characterized by exposure to numerous psychological and operational challenges. Accurate measurement tools are essential for identifying the specific stressors faced by police officers and understanding how they cope with these challenges. The validated instruments developed in this study may serve as valuable tools for future research, training programs, and organizational assessments within law enforcement institutions. They may also assist policymakers and administrators in designing interventions aimed at reducing occupational stress and promoting the psychological well-being of police officers. The systematic process of instrument development, expert validation, pilot testing, and reliability analysis ensured that the Police Officers' Primary Operational Stressors Questionnaire and the Police Officers' Coping Strategies Questionnaire were robust, credible, and suitable for empirical investigation. These instruments provided a solid foundation for accurate data collection and meaningful analysis in the main study.

**Recommendations** - Based on the results of the development and validation of the Police Officers' Primary Operational Stressors Questionnaire and the Police Officers' Coping Strategies Questionnaire, several recommendations are proposed for future research, policy development, and organizational practice within law enforcement institutions. First, the validated instruments may be utilized by researchers in future studies to further examine the operational stressors and coping mechanisms of police officers across different regions and organizational contexts. Expanding the sample size and including respondents from multiple police units or provinces may enhance the generalizability of the findings and provide a broader understanding of stress patterns in law enforcement. Second, it is recommended that future researchers conduct additional psychometric analyses, such as factor analysis, construct validation, and test-retest reliability, to further strengthen the statistical robustness and applicability of the instruments. These procedures will help confirm the dimensional structure of the questionnaires and ensure their long-term reliability in various research settings. Third, law enforcement administrators and policymakers may use the validated instruments as diagnostic tools for assessing the level of operational stress and coping capacity among police personnel. The information obtained from these assessments can guide the development of targeted interventions, including stress management programs, psychological support services, and resilience training initiatives designed to promote officers' mental health and well-being. Fourth, police organizations may incorporate regular stress and coping assessments into their human resource and wellness programs. Monitoring these factors can help identify officers who may require additional support and ensure the early implementation of preventive measures against burnout and occupational fatigue. Finally, future

studies may also explore the relationship between operational stressors, coping strategies, and other variables such as job satisfaction, organizational commitment, and work performance to provide a more comprehensive understanding of the psychological and organizational dynamics within policing environments.

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