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THE PREVALENCE AND SOURCES OF OPERATIONAL STRESS AMONG TRAFFIC ENFORCERS IN CEBU CITY

Jennierose O. Tero, Jenivie V. Dejito, Carlo Miller
College of Criminal Justice Education, University of the Visayas

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ABSTRACT

Operational stress is a pervasive challenge for traffic enforcers, with implications for their well-being and public service delivery. This study examined the prevalence and primary sources of operational stress among traffic enforcers in Cebu City, Philippines, and explored whether demographic factors influence stress levels. Utilizing a descriptive-correlational design, data were collected from 150 traffic enforcers through the Operational Police Stress Questionnaire (PSQ-Op). Results indicated that overall operational stress levels were generally low (average weighted mean = 3.28). However, specific stressors, most notably negative public comments, exposure to traumatic events, and fatigue, were reported at higher levels. Notably, overtime demands and routine operational tasks were not perceived as significant stressors. Spearman's correlation analysis found no significant relationships between operational stress and demographic variables such as gender, years of service, or work shift, suggesting that stress is experienced similarly across all groups. These findings highlight the need for organization-wide interventions, including comprehensive stress management programs, trauma support, public relations initiatives, and fatigue mitigation strategies. The study advances knowledge by identifying key stressors affecting traffic enforcers and emphasizes the importance of systemic approaches to occupational health. Future research should evaluate the effectiveness of targeted interventions and further explore organizational factors influencing operational stress in this context.

KEYWORDS: *Operational stressors, Job performance, Traffic enforcers, Operational Police Stress Questionnaire (PsQ-Op), Cebu City Transportation Office (CCTO)*

INTRODUCTION

Traffic enforcers play a crucial role in maintaining road safety and order in urban environments such as Cebu City. Their daily responsibilities managing traffic flow, responding to accidents, enforcing traffic regulations, and safeguarding both motorists and pedestrians demand constant vigilance and resilience. Yet the increasing complexity of the urban environment, persistent congestion, and rising public expectations subject traffic enforcers to a range of operational stressors that can undermine their well-being and effectiveness (McCreary & Thompson, 2006).

Operational stress among law enforcement personnel has been widely studied. McCreary and Thompson (2006) developed the Operational Police Stress Questionnaire (PSQ-Op) to quantify occupational stressors. They found that police officers often experience high levels of stress due to traumatic incidents, shift work, fatigue, and public scrutiny. Further research by Violanti et al. (2017) and Purba and Demou (2019) identified that such stressors are linked to burnout, reduced job satisfaction, impaired decision-making, and increased absenteeism. Chronic exposure to operational stress can also lead to severe mental health consequences, including anxiety, depression, and post-traumatic stress disorder (Carleton et al., 2018; Houdmont & Elliott-Davies, 2019). Dollard et al. (2003) and Velickovic et al. (2019) emphasized that occupational stress in service professions, including law enforcement, is often compounded by environmental factors, administrative demands, and negative public perception.

Despite this substantial body of literature, research specifically focusing on traffic enforcers, particularly in the Philippine context, remains limited. Traffic enforcers in Cebu City face unique challenges, including long working hours, exposure to harsh weather, pollution, noise, and unpredictable incidents on the road (Dollard et al., 2003). These conditions can contribute to elevated stress and fatigue, potentially compromising their physical and mental health (Violanti et al., 2017; Carleton et al., 2018).

Given these considerations, this study aims to determine the prevalence and primary sources of operational stress among traffic enforcers in Cebu City using the PSQ-Op. It will also examine how stress levels vary based on demographic factors such as gender, years of service, and work shift. By identifying the most significant and frequent stressors, the study intends to provide evidence-based recommendations for local authorities to develop targeted interventions that enhance the well-being and resilience of traffic enforcers. Ultimately, this research seeks to address a gap in the local literature and offer practical insights for occupational health and support systems for traffic enforcement personnel in Cebu City.

Conceptual Framework

This study is guided by a conceptual framework that organizes the relationships among demographic factors (gender, years of service, work shift), operational stressors, and the overall level of operational stress experienced by traffic enforcers in Cebu City. Drawing on relevant literature and informed by the Job Demand-Control Model (Karasek, 1979), the framework posits that demographic characteristics influence the frequency and intensity of operational stressors

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such as shift work, traumatic events, and public scrutiny, which, in turn, determine the overall level of operational stress. This structure provides a basis for examining how personal and occupational factors interact to shape stress outcomes in this population.

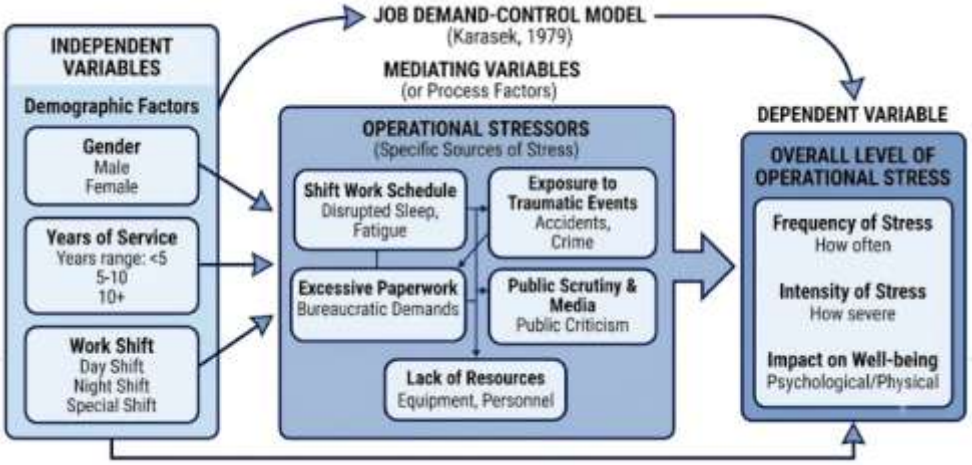


Figure 1. ***Schematic Diagram of the Conceptual Framework***

Statement of Purpose

This study aims to determine the prevalence and sources of operational stress among traffic enforcers in Cebu City, utilizing the Operational Police Stress Questionnaire (PSQ-Op) as the principal assessment tool.

Specifically, the study will address the following questions:

1. What are the demographic profiles of the respondents in terms of:
   - 1.1 Gender
   - 1.2 Years of service
   - 1.3 Work shift
2. What is the prevalence of operational stress experienced by traffic enforcers in Cebu City, as measured by the PSQ-Op?
3. What are the primary sources of operational stress reported by traffic enforcers according to the PSQ-Op?
4. Is there a significant relationship between the demographic characteristics of respondents and their reported levels or sources of operational stress?
5. Based on the findings, what recommendations can be proposed to address operational stress and support the well-being of traffic enforcers in Cebu City?

METHODOLOGY

Design

This study employed a descriptive-correlational design to determine the prevalence and sources of operational stress among traffic enforcers in Cebu City and to examine the association between demographic factors and operational stress levels.

Participants of the Study

The participants were 150 traffic enforcers assigned to the Cebu City Transportation Office (CCTO). Inclusion criteria required that respondents be actively engaged in field duties, have at least 6 months of service, and voluntarily participate in the study. Participants were selected using simple random sampling to ensure representativeness.

Instrument

Data were collected using the Operational Police Stress Questionnaire (PSQ-Op), a validated instrument developed by McCreary and Thompson (2006). The PSQ-Op assesses operational stressors across dimensions such as shift work, traumatic events, risk of injury, paperwork, and public perception, using a Likert scale. To ensure contextual relevance, the questionnaire was reviewed and adapted based on expert input from local traffic enforcement authorities. The reliability of the adapted PSQ-Op was evaluated in this study, yielding a Cronbach's alpha coefficient of 0.92, indicating excellent internal consistency for measuring operational stress among Cebu City traffic enforcers.

Data Gathering Procedure

Permission to conduct the study was secured from the Cebu City Transportation Office (CCTO). The roster of eligible traffic enforcers was obtained, and informed consent was collected from all participants. The PSQ-Op was administered in group sessions during non-duty hours to ensure a comfortable environment. Completed questionnaires were collected, checked for completeness, and coded for anonymity.

Data Analysis

Descriptive statistics (frequencies, percentages, and means) were used to summarize demographic profiles and stressor prevalence. The Shapiro-Wilk Test assessed data normality. To examine relationships between demographic variables and operational stress levels, Spearman's Rank-Order Correlation Coefficient (ρ) was used, as it measures the strength and direction of association between ordinal or ranked variables.

$$\rho = 1 - \frac{6 \sum d_i^2}{n(n^2 - 1)}$$

Where:

- ρ (or r_s) = Spearman rank correlation coefficient
- d_i = Difference between the ranks of paired observations for each respondent $(R(x_i) - R(y_i))$

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- $\sum d_i^2$ = Sum of the squared rank differences across all items
- n = Total sample size ($N = 150$)

Ethical Considerations

The study adhered to ethical standards for research involving human participants. Informed consent was obtained, participation was voluntary, and respondents could withdraw at any point. Confidentiality and anonymity were strictly maintained by coding data and excluding any identifying information. Approval was obtained from relevant institutional authorities before data collection.

RESULTS AND DISCUSSIONS

This chapter presents the interpretation and analysis of the data gathered.

SOP 1. Demographic Profile of the Respondents

1.1 Gender

Table 1 outlines the demographic profile of the respondents (N=150) by gender, showing the frequency and percentage distribution of male and female traffic enforcers actively deployed by the Cebu City Transportation Office (CCTO).

Table 1. Respondents' Profile (N=150)

Gender	Frequency (f)	Percentage (%)
Male	115	76.7%
Female	35	23.3%
Total	150	100.0%

Table 1 displays the gender distribution of traffic enforcers in Cebu City, with males comprising the majority (76.7%) and females accounting for 23.3% of the sample (N = 150). This gender imbalance is consistent with global and local trends in law enforcement, where men typically dominate field operations (Pradhan et al., 2023).

The predominance of male enforcers suggests that most operational stress experiences may reflect the challenges men face, such as prolonged exposure to physically demanding tasks, unpredictable incidents, and harsh working conditions. These factors are associated with increased risks of chronic fatigue, emotional exhaustion, and diminished occupational well-being (Ramos, 2022; Pacling & Vicente, 2023). For female enforcers, working in a male-dominated environment often brings unique stressors, including heightened work-family conflict and the need to balance professional duties with societal and domestic expectations. Such pressures can contribute to elevated stress levels, reduced job satisfaction, and a higher likelihood of turnover among female personnel (Pradhan et al., 2023).

1.2 Years of Service

Table 2 outlines the occupational tenure of the respondents (N = 150) and presents the frequency and percentage distribution of the traffic enforcers' years of service under the Cebu City Transportation Office (CCTO).

Table 2. Respondent's Profile (N=150)

Years of Service	Frequency (f)	Percentage (%)
1-5 years	20	13.3%
6-10 Years	87	58.0%
11 Years more	43	28.7%
Total	150	100.0%

Table 2 presents the distribution of respondents by years of service in the Cebu City Transportation Office (CCTO). The data reveal that a significant majority (86.7%) of traffic enforcers have served for more than 6 years, with the largest proportion (58.0%) in the 6–10-year range, and 28.7% with over 11 years of tenure. Only 13.3% are relatively new to the field, with 1–5 years of experience.

This pattern indicates a workforce with substantial experience, likely contributing to operational proficiency and the development of effective coping strategies for routine challenges. However, the literature indicates that prolonged exposure to occupational stressors in law enforcement can lead to cumulative negative effects, such as burnout, emotional exhaustion, and fatigue, particularly among mid- and late-career personnel (Ugwu & Idemudia, 2025; Goetsch et al., 2023; Otto et al., 2022). Mid-career officers, in particular, may be at heightened risk, as the accumulation of stressful experiences over time can adversely affect psychological well-being and job satisfaction (Otto et al., 2022).

1.3 Work Shift

Table 3 outlines the operational distribution of the surveyed traffic enforcers (N = 150), presenting the frequency and percentage allocation of personnel assigned to the morning and night shifts under the Cebu City Transportation Office (CCTO).

Table 3. Respondents Profile (N=150)

Work Shift	Frequency	Percentage
Morning	80	53.3%
Night	70	46.7%
Total	150	100.0%

Table 3 presents the distribution of work shifts among Cebu City traffic enforcers: 53.3% are assigned to morning shifts and 46.7% to night shifts. This nearly even split suggests that operational demands are substantial throughout the day and night, requiring enforcers to adapt to varying stressors depending on their assigned shift.

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Research indicates that morning shift workers are more likely to experience physical exhaustion due to early start times, increased exposure to environmental stressors such as traffic congestion and heat, and greater public interaction (Carame & Moyao, 2025). In contrast, those assigned to night shifts face greater risks of cognitive fatigue, circadian rhythm disruption, and decreased alertness, which can increase the likelihood of errors and slow response times (Yang & Tang, 2026). Both shift types are associated with unique operational challenges that, if unaddressed, can negatively impact job performance and overall enforcement quality (Pearsall, 2012).

SOP 2. Prevalence of Operational Stress Experienced by the Respondents

Table 4 summarizes the levels of operational stress experienced by traffic enforcers in Cebu City, as measured by the PSQ-Op.

Table 4. Level of Operational Stress Experienced by Traffic Enforcers

INDICATORS	MEAN	INTERPRETATION
1. Shift work	2.85	Low Stress
2. Working alone at night	3.18	Low Stress
3. Overtime demands	1	No stress at all
4. Risk of being injured on the job	3.87	Neither low stress nor moderate stress
5. Work-related activities on days off (e.g., court, community events)	3.3	Low Stress
6. Traumatic events (e.g., MVA, domestics, death, injury)	4.23	Neither low stress nor moderate stress
7. Not enough time available to spend with friends and family	3.2	Low Stress
8. Paperwork	3.16	Low Stress
9. Fatigue (e.g. shift work, over-time	3.93	Neither low stress nor moderate stress
10. Negative comments from the public	4.63	High stress
11. Attendance/Punctuality	3.01	Low Stress
12. Task Accomplishment	2.93	Low Stress
13. Decision-making in handling traffic and incidents	3.33	Low Stress
AVERAGE WEIGHTED MEAN	**3.28**	Low Stress

Legend: 1-No Stress At All; 2- Very Low Stress; 3- Low Stress; 4- Moderately Stress; 5- Highly Stress; 6- Very Hight Stress; 7- A Lot of Stress

Table 4 presents the prevalence of operational stress among traffic enforcers in Cebu City, as measured by the PSQ-Op. The overall average weighted mean is 3.28, which falls within the "Low Stress" category. This indicates that, overall, traffic enforcers experience relatively low levels of operational stress across most work-related dimensions.

However, an analysis of individual stressors reveals important nuances. "Negative comments from the public" stands out with a mean of 4.63, classified as "High Stress." This underscores the significant psychological impact of public hostility and lack of support on law enforcement personnel, a pattern documented in international studies on occupational stress in policing (Queirós et al., 2020; Drew et al., 2024). Similarly, exposure to "traumatic events" (mean = 4.23) and "fatigue" (mean = 3.93) register among the higher stressors, suggesting that unpredictable critical incidents and the physical demands of shift work contribute markedly to enforcers' stress levels (Yadav et al., 2023).

In contrast, "overtime demands" reported the lowest mean (1.00), reflecting "No Stress at all" for most respondents. This finding may indicate effective organizational management of overtime or a cultural adaptation to additional work hours (Oliver, 2023). Routine operational aspects such as shift work, paperwork, attendance, and task completion generally fall into the "Low Stress" category, suggesting they are manageable within the current work environment.

SOP 3. Primary Sources of Operational Stress as Reported by the Respondents

Using the same table as above, Table 4 identifies the primary sources of operational stress among traffic enforcers in Cebu City, as measured by the PSQ-Op. "Negative comments from the public" was rated the highest (mean = 4.63, "High Stress"), underscoring the significant impact of public hostility and negative social interactions on enforcers' mental health and confidence (Queirós et al., 2020; Drew et al., 2024; Violanti et al., 2017).

Other prominent stressors include "Traumatic events" (mean = 4.23) and "Fatigue" (mean = 3.93), reflecting the toll of repeated exposure to accidents, emergencies, and the demands of shift work, findings consistent with previous studies on law enforcement stress (Yadav et al., 2023; Purba & Demou, 2019). The "Risk of being injured on the job" (mean = 3.87) also emerged as a significant concern, highlighting the inherent dangers of traffic enforcement (Purba & Demou, 2019).

In contrast, routine operational factors such as "Overtime demands," "Shift work," and "Paperwork" were generally rated as "Low Stress" or "No Stress at all." This suggests that extraordinary and external pressures, particularly public hostility, traumatic incidents, and fatigue, are the predominant sources of operational stress for Cebu City's traffic enforcers. These findings highlight the need for targeted interventions, such as public relations efforts, trauma support, and fatigue management, to address these high-impact stressors (Drew et al., 2024; Queirós et al., 2020; Yadav et al., 2023).

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Table 5. Shapiro-Wilk Test for Bivariate Normality: Table 5 outlines the calculated Shapiro-Wilk coefficients (W) and their corresponding significance values (p) for each bivariate combination under investigation.

		Shapiro-Wilk	P
Gender	Years of service	0.66	< .001
Gender	Work Shift	0.60	< .001
Gender	PSQ-Op	0.70	< .001
Years of service	Work Shift	0.74	< .001
Years of service	PSQ-Op	0.83	< .001
Work Shift	PSQ-Op	0.74	< .001

Table 5 shows that all combinations of demographic variables and operational stress scores failed the Shapiro-Wilk normality test ($p < .001$), indicating significantly non-normal, skewed distributions. This result is consistent with previous law enforcement studies, where demographic and stress-related data are often non-normally distributed due to the characteristics of the population and work environment (Queirós et al., 2020; Drew et al., 2024).

Table 6. Spearman's Rho Correlations Among Variables

Table 6 presents Spearman's rho correlation values and corresponding two-tailed significance levels for all pairwise combinations of Gender, Years of Service, Work Shift, and PSQ-Op scores.

Variable	rho	p	Decision	Interpretation
Gender – Years of Service	-0.041	.622	Fail to reject H_0	No significant relationship
Gender – Work Shift	0.074	.370	Fail to reject H_0	No significant relationship
Gender – PSQ-Op	-0.026	.749	Fail to reject H_0	No significant relationship
Years of Service – Work Shift	0.114	.164	Fail to reject H_0	No significant relationship
Years of Service – PSQ-Op	-0.054	.515	Fail to reject H_0	No significant relationship
Work Shift – PSQ-Op	-0.003	.971	Fail to reject H_0	No significant relationship

Table 6 shows that none of the demographic variables gender, years of service, or work shift were significantly correlated with operational stress levels among Cebu City traffic enforcers (all $p > .05$). This suggests that operational stress is uniformly experienced across all groups, regardless of demographic differences.

These results align with previous research indicating that law enforcement stressors are pervasive and primarily shaped by organizational and environmental factors rather than individual characteristics (Yadav et al., 2023; Queirós et al., 2020; Perez, 2024). Therefore, organization-wide stress management strategies are recommended to support the well-being of all traffic enforcers.

CONCLUSION

This study investigated the prevalence and primary sources of operational stress among traffic enforcers in Cebu City using the PSQ-Op and examined whether demographic factors influence stress levels. The findings reveal that while overall operational stress is generally low, specific stressors, particularly negative public interactions, traumatic events, and fatigue, remain prominent and consistently reported across all demographic groups. Importantly, the absence of significant relationships between operational stress and gender, years of service, or work shift underscores that these challenges are pervasive and not confined to any specific subgroup.

By clarifying the key drivers of stress for traffic enforcers and highlighting that stress is broadly experienced regardless of individual background, this study advances local and international understanding of occupational stress in law enforcement. The results justify the need for organization-wide, rather than subgroup-specific, interventions. Practical applications include developing comprehensive stress management programs, such as trauma support, public relations initiatives, and fatigue mitigation strategies, to promote the well-being and resilience of all traffic enforcers.

Future research should explore the effectiveness of targeted organizational interventions and examine additional factors, such as organizational culture, leadership style, and support systems, that may buffer or exacerbate operational stress. Longitudinal studies are also recommended to track changes in stress levels over time and assess the long-term impact of implemented interventions.

RECOMMENDATIONS

Based on the study's findings, the following recommendations are proposed to address operational stress among Cebu City traffic enforcers:

1. Prioritize comprehensive, organization-wide support, including psychological screening, peer groups, and access to mental health care. These can be integrated into current wellness initiatives.
2. Establish crisis intervention teams and post-critical-incident debriefing sessions, with immediate training and protocols developed in collaboration with mental health professionals.
3. Launch ongoing public education and community engagement efforts such as forums and outreach campaigns to improve public perception and reduce negative interactions.
4. Revise shift schedules, enforce rest periods, and provide fatigue management training to reduce stress related to work hours.
5. Offer leadership training and development workshops to foster a workplace environment centered on well-being and open communication.

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6. Continuously evaluate interventions and explore additional factors affecting operational stress, using pilot programs and regular assessments to drive ongoing improvement.

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