Impact of occupational stress on performance metrics for women in Kerala's police force

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Abstract: Occupational stress is a prevalent issue impacting workers in diverse occupations, particularly prominent in high-pressure sectors like law enforcement. This study examines the factors that influence occupational stress amongst female police officers in Kerala, emphasizing the effects of these stressors on their job performance, physical and mental well-being, work-life balance, and plans to leave the profession. The study employed a mixed-methods approach, combining quantitative surveys with qualitative interviews to gather comprehensive data. Major findings indicate that the majority of officers are aged 31 to 40, generally married, and possess a high level of education, suggesting a combined load of professional and personal obligations. Multiple regression analysis results demonstrate that increased workload and time pressure substantially impair job performance. Furthermore, hierarchical regression analysis indicates that job role ambiguity intensifies anxiety and physical health issues. A significant relation between exposure to hazardous conditions and reduced work-life balance was discovered. Enhanced managerial assistance correlated with reduced absenteeism and turnover intentions, underscoring the vital need for proficient leadership. The results support organizational policies designed to reduce occupational stress, improve general well-being, and retain female police personnel.

Keywords: Female police officers, Job performance, Kerala, Management support, Occupational stress, Work life balance.

1. Introduction

Policing has historically been perceived as one of the most masculinized and gender-specific occupations worldwide. The rigorous demands of police service, frequently necessitating physical strength, courage, and assertiveness, have traditionally corresponded with conventional male gender traits [1]. The requirement for physical strength in performing police responsibilities has sustained the belief that only men possess the necessary attributes to succeed in this profession. The gradual integration of women into diverse professions, including law enforcement, indicates a transformation in societal norms [2]. The growing participation of women in diverse sectors in India has resulted in their incorporation into the police force [3]. The increasing occurrences of female crime victims, juvenile delinquency, and domestic violence have prompted the recruitment of additional women in law enforcement, illustrating the changing dynamics of policing in modern society.

Notwithstanding the advancements in women's integration into policing, this profession continues to be among the most stressful vocations [4]. The elevated occupational stress encountered by police officers can be ascribed to various variables, including hierarchical pressure, irregular working hours, and inadequate time off. Police officers, regarded as the primary defense against criminal activity, are

routinely subjected to volatile and crisis-ridden circumstances. The intrinsic unpredictability of the occupation can result in considerable stress, affecting both personal and professional spheres.

Occupational stress affects individuals across all professions, although it is particularly pronounced among personnel in emergency and rescue services, namely those confronted with extreme and traumatic incidents due to their roles. Concerning police officers, this form of stress arises from various distinct occupational stressors, including involvement in life-threatening scenarios, in search of culprits, apprehension of assailants, interaction with survivors of violence, and notifying families of the murdered regarding their loss. In addition to these job-specific stresses, police officers encounter chronic stressors common to other occupations, including feelings of work overload, inadequate scheduling, irregular work agendas, and disputes at work [5].

Researches demonstrate that occupational factors significantly affect the stress levels of police personnel. Wexler and Logan (1983) [6] performed qualitative research indicating that female police officers specifically recognized interpersonal conflicts with co-workers as a significant source of occupational stress. These events, combined with the overall stress of their responsibilities, might result in various physical and psychological disorders, ultimately impacting job performance. Stress at work can have negative effects on female police officers' personal lives and relationships with their families in addition to their professions [7]. The combined effect of professional stress highlights the need to comprehend the distinct issues encountered by women in law enforcement.

The effects of stress for law enforcement personnel are complex. Psychological disorders, including depression, anxiety, and job discontent, can emerge as a direct consequence of professional stress [8]. Moreover, physical health issues associated with elevated stress levels may encompass weariness, headaches, and perhaps more severe ailments over time. Employers have implications such as higher absenteeism, high turnover rates, and diminished productivity. The overall work environment becomes difficult, impacting not only those immediately experiencing stress but also the organization as a whole. Moreover, the dynamic nature of police requires officers to stay vigilant and responsive, a condition that can be compromised by chronic stress [9]. Female police officers may encounter additional challenges, including societal expectations and preconceptions pertaining to their roles. The pressure to excel in a mostly male environment can intensify feelings of inadequacy and stress. The necessity for support systems and strategies to tackle these difficulties is imperative. Numerous female officers may find it challenging to balance job expectations with familial obligations, resulting in higher stress levels [10].

As women assume more significant positions within the police force, it is essential to address the unique stressors they face. Initiatives that nurture a supportive workplace, enhance mental health resources, and facilitate open communication can substantially alleviate occupational stress. By acknowledging the distinct challenges encountered by female police officers, law enforcement agencies can formulate ways to improve their overall well-being as well as job satisfaction. In Kerala, where the number of female police officers is increasing, it is crucial to examine their unique experiences with occupational stress. The proposed research aimed to investigate the impact of occupational stress on female police officers in Kerala to overcome the current constraints in comprehending these dynamics. This study aims to categorize the factors contributing to stress and its effects on women's lives in law enforcement, thereby offering insights to improve policies and practices for enhancing their working conditions. This research conducts a thorough analysis of the challenges encountered by female police officers, aiming to deepen the knowledge of the necessity for customized support systems and interventions to improve their well-being and efficacy in community service.

2. Related Works

Sani et al. (2024) [11] emphasized that stress is an intrinsic element of contemporary existence, impacting persons in diverse occupations. The research examined the occupational stress experienced by female employees in Kerala's police, medical, labor, teaching, and nursing sectors, identifying job-related stress, work environment, familial concerns, and relational stress as key factors. Data gathered from 50 respondents indicated that these characteristics hinder women's performance in the workplace. The

research disproved both null hypotheses, affirming a strong correlation among age, educational stress, and occupational stress. Meenu Ann Joseph (2022) [12] explored the psychological effects of COVID-19 on bank personnel, emphasizing occupational stress. The research involved a survey of 182 participants from different banks in the municipalities of Muvattupuzha and Thodupuzha, utilizing a pre-tested questionnaire. The primary stressors found included work overload, technology, insufficient training, job autonomy, customer interactions, grievance resolution, and the work-home interface. The regression study indicated that work-home balance, technology, and customer interactions were most predictors of stress during the epidemic. They emphasized the significance of role adaptation, training, and team collaboration to mitigate stress.

Manivannan et al. (2022) [13] investigated the relationship between work-life balance and occupational stress in construction workers in India. The research revealed critical stressors, such as stakeholder coordination, stringent deadlines, and excessive workload, which significantly impacted both professional and personal life. Utilizing multiple regression analysis on 285 valid responses, the analysis demonstrated a positive correlation among job-related stressors and work interference in personal life (WIPL), with a negative correlation with work enhancement of personal life (WEPL). Organizational stresses also markedly impacted WIPL. Their findings highlighted the detrimental impact of occupational stress on work-life balance, offering essential insights for the formulation of supportive organizational policies.

Ruchi Chauhan et al. (2022) [14] performed a study in hotels in Varanasi to examine the correlation among occupational stress and performance of employee. The study employed a deductive methodology and quantitative techniques, concentrating on five primary stressors: job ambiguity, workload, interpersonal interactions, career advancement, and external duties. Factor analysis and multiple regression demonstrated that these factors significantly influenced performance metrics such as output quality and work efficiency. The study determined that role ambiguity, workload, and external obligations adversely impacted performance, although career advancement has shown a positive relation.

Juczyński and Ogińska-Bulik (2022) [15] examined the determinants of post-traumatic stress disorder (PTSD) and occupational burnout in a cohort of 120 Polish police officers who had encountered traumatic incidents. The results indicated that intrusive ruminations were substantial predictors of PTSD, but stressful job situations forecasted burnout. While the police officers effectively controlled traumatic stressors, they encountered significant chronic work-related stress, resulting in elevated levels of disengagement (56%) and weariness (48%). Intrusive thoughts, commonly associated with PTSD, were observed to develop into intentional ruminations for the purpose of coping. Although PTSD symptoms were not prominent (10%), exhaustion was widespread, impacting 39% of respondents. Pallabi Devi and Narendra Lahkar (2021) [16] examined the occupational stress and job performance of university library professionals in North-East India. The outcomes indicated that most participants encountered moderate occupational stress, with no notable gender disparities in felt stress levels. Nonetheless, male professionals assessed their job performance more favorably than their female counterparts across multiple metrics. A substantial negative correlation was identified between occupational stress and job performance, suggesting that increased stress detrimentally influenced self-assessments of performance.

Among bank personnel in India, Mammen et al. (2021) [17] sought to investigate the correlation among occupational stress and emotion control. Their findings indicated no significant correlations between cognitive reappraisal or expressive suppression and occupational stress, nor any substantial differences in stress levels between male and female employees. Males displayed greater professional stress than females, however, females exhibited superior emotional regulation. Notwithstanding these discoveries, the study included specific limitations. The utilization of online surveys could have influenced participant focus and response precision. The questionnaire's length of 56 items possibly contributed to participant fatigue. The gender disparity in the sample, comprising 18 males and 49 females, could have distorted the results, and the short sample size restricted overall generalizability.

Jojo Kurian et al. (2020) [18] investigated the effects of work-related stress on the effectiveness of school teachers in Kerala. A study was evaluated with 308 teachers from diverse school types, utilizing a questionnaire to collect data on socio-educational backgrounds, employment specifics, and determinants of job satisfaction. The research indicated that occupational stress negatively affected teachers' performance, highlighting the demand for improved working conditions and support networks. Aryal et al. (2020) evaluated the frequency and origins of occupational stress among community health workers (CHWs) in Mangalore taluk. It disclosed that 40.5% of Community Health Workers encountered stress, predominantly attributed to under-participation, helplessness, poor status, and lack of profitability. Community Health Workers employed several coping tactics such as self-distraction, active coping, denial, and venting to alleviate stress. The results indicated that consistent stress intervention programs and the encouragement of positive coping techniques could reduce stress and enhance performance.

Shanmughavadivu et al. (2018) [20] conducted a study to assess work-life balance and occupational stress of married female police officers in Coimbatore. The research, employing a standardized questionnaire, revealed that the majority of respondents encountered moderate levels of work-life balance and occupational stress. Stress was affected by variables like age, employment experience, income, and familial relationships. Women of a younger demographic indicated elevated stress levels, but inadequate support from spouses exacerbated stress. The research determined that social work interventions and physical fitness programs could reduce stress and enhance work-life balance.

The existing literature on occupational stress among female employees, especially in policing, indicates considerable limitations in addressing the distinct issues encountered by women in this male-dominated sector. The majority of studies have focused on male viewpoints, ignoring the unique challenges faced by female officers, including societal expectations, role stereotypes, and the pressures of adhering to a primarily masculine culture. This neglect has led to a weak comprehension of the intricate nature of stress in law enforcement. Despite investigations into general facets of occupational stress across diverse sectors, there is a lack of thorough studies concentrating on female police officers, particularly in specific scenarios such as Kerala. Furthermore, existing research frequently neglects to investigate the interaction between corporate culture and individual psychological resilience, which is essential for formulating successful interventions. Furthermore, several studies neglect the cumulative impacts of stresses such as shift work, insufficient support systems, and difficulties in attaining work-life balance. To effectively address these drawbacks, research must investigate these specific stressors, especially in Kerala, where the rising number of female officers requires targeted initiatives to minimize occupational stress and improve overall well-being, ultimately resulting in improved policies and practices within law enforcement agencies.

3. Research Questions

- How does workload and time pressure influence the job performance, specifically in terms of quality of work and task completion efficiency, among female police personnel in Kerala?
- What is the impact of job role ambiguity and lack of control on the mental and physical health, particularly anxiety levels, fatigue, and physical ailments, of female police officers in Kerala?
- To what extent does exposure to dangerous or traumatic situations affect the work-life balance of female police personnel, including time spent with family and personal activities?
- How do management support and leadership style within the work environment affect absenteeism rates and turnover intentions among female police officers in Kerala?
- What is the relationship between years of experience in the police force and decision-making accuracy or response time in emergency situations among female police personnel?
- How do personal coping mechanisms, such as stress management techniques and social support, mitigate the effects of occupational stress factors on the mental health and job performance of female police officers?

4. Objectives of the Study

- To investigate the demographic profile of female police personnel in Kerala, including age, marital status, educational background, and years of experience, and to analyze how these demographic factors may influence their occupational stress levels and job performance.
- To analyze the influence of workload and time pressure on job performance, specifically in terms of quality of work and task completion efficiency, among female police personnel in Kerala.
- To assess the impact of job role ambiguity and lack of control on the mental and physical health of female police officers, with a focus on anxiety levels, fatigue, and physical ailments.
- To examine the extent to which exposure to dangerous or traumatic situations affects the work-life balance of female police personnel, particularly in relation to time spent with family and personal activities.
- To investigate the effect of management support and leadership style on absenteeism rates and turnover intentions among female police officers in Kerala.
- To explore the relationship between years of experience in the police force and decision-making accuracy or response time in emergency situations among female police personnel.
- To evaluate how personal coping mechanisms, such as stress management techniques and social support, mitigate the impacts of occupational stress on the mental health and job performance of female police officers.

5. Proposed Hypotheses

H_1: Increased workload and time pressure have an adverse impact on job performance, specifically reducing the quality of work and task completion efficiency, among female police.

H_2: Job role ambiguity and lack of control are positively correlated with higher levels of anxiety, fatigue, and physical ailments among female police officers.

H_3: Exposure to dangerous or traumatic situations negatively affects the work-life balance of female police personnel, particularly in reducing the time spent with family and engaging in personal activities.

H_4: Higher levels of management support and effective leadership styles are associated with lower absenteeism rates and turnover intentions among female police officers in Kerala.

H_5: There is a positive relation between years of experience in the police force and decision-making accuracy or response time in emergency situations among female police personnel.

H_6: Personal coping mechanisms, such as the utilization of stress management approaches and social support, significantly mitigate the impacts of occupational stress on the mental health and job performance of female police officers.

6. Research Methodology

6.1. Conceptual Framework

The proposed research examines the complex interactions among several independent variables—namely, occupational stressors, demographic factors, work environment, and individual coping strategies—and their effects on critical dependent variables, such as job performance, mental and physical health, work-life balance, and intentions regarding absenteeism and turnover. This study aims to clarify how occupational stressors, including workload, job ambiguity, and exposure to dangerous situations, interact with demographic factors such as age and years of experience, alongside the work environment defined by management support and available resources, to affect the overall well-being and effectiveness of police officers. The framework emphasizes the importance of personal coping mechanisms, including stress management techniques and social support, while also aiming to identify specific treatments to enhance job satisfaction and retention rates. The suggested research's conceptual framework is shown in Figure 1.
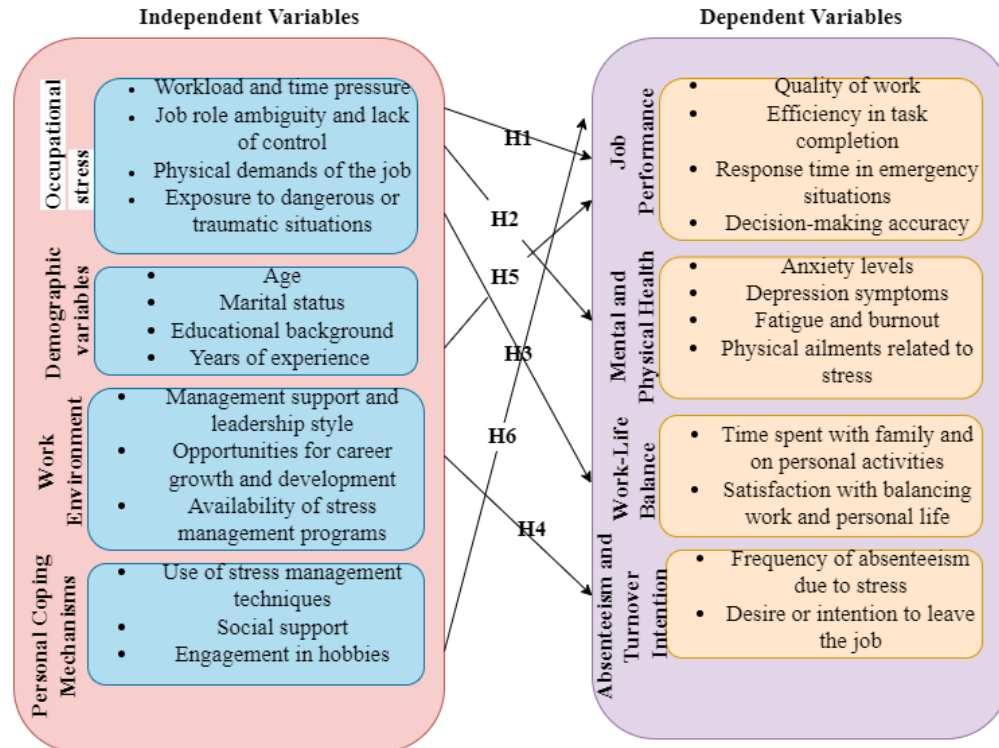
Figure 1.
Conceptual framework of the proposed methodology.

6.2. Research Design

The research used a quantitative design to examine the correlation among occupational stress and performance. A structured surveys to gather quantitative data on numerous independent and dependent factors is employed. Statistical analyses are performed to evaluate the relations between occupational stressors and performance results. The study also includes qualitative interviews to obtain deeper insights into individuals' personal experiences and coping techniques, so enhancing the quantitative findings with contextual narratives. This integrated methodology facilitates a thorough comprehension of the impact of occupational stress on job performance, while also acknowledging the intricacies of individual experiences within the police force.

6.3. Data Collection

The data collection for this research is conducted over a three-month period, from June to August 2024, to ensure a robust sample size that facilitates meaningful analysis. The study utilizes a combination of structured surveys and qualitative interviews to gather data. Surveys are distributed to female police personnel across various districts in Kerala, focusing on occupational stress factors, job performance metrics, and demographic information. To maximize participation and response rates, the research team conducts outreach through departmental meetings and training sessions, ensuring that all participants understand the goal of the research.

6.4. Designing of Questionnaire

The questionnaire comprises several sections, starting with demographic data such as age, marital status, educational qualifications, and years of service. The subsequent sections employ standardized scales to evaluate different dimensions of occupational stress, including the Job Content Questionnaire for assessing workload, role ambiguity, and job demands. Mental health indicators, such as anxiety and

exhaustion, are assessed using standardized instruments such as the Generalized Anxiety Disorder 7-item (GAD-7) scale and the Maslach Burnout Inventory. Performance metrics are assessed via self-reported indicators of job performance, encompassing work quality, task completion efficiency, and decision-making precision. Furthermore, open-ended inquiries enable participants to convey personal experiences and coping mechanisms associated with work stress.

6.5. Sampling Technique

The proposed research employs stratified random sampling approach to select participants. The process entails the division of the population into different groups or strata according to crucial demographic factors such as age, rank, years of experience, and geographic location within the state. Subsequently, a random sampling procedure is implemented within each stratum to identify participants, thereby reducing selection bias and improving the generalizability of the results.

6.6. Sampling Area and Population

The research sampling area encompasses multiple police departments across Kerala, India, aiming to provide comprehensive representation of female police personnel from urban, semi-urban, and rural settings. The target population consists of female officers across diverse ranks, ages, and tenures, including constables, sub-inspectors, and senior officers. The study includes participants from various divisions—traffic, crime investigation, and administration, while also addressing the specific issues faced by women in law enforcement. This methodology facilitates the examination of the impact of diverse work conditions and organizational structures on the stress levels of female officers across multiple districts.

6.7. Sample Size

To calculate the sample size, the study employs Cochran's formula for estimating sample sizes for proportions, given by:

$$n = \frac{Z^2 . p\,(1-p)}{E^2} \tag{1}$$

where n represents the required sample size, Z is the Z-score for a 95% confidence level (1.96), p is the estimated proportion of the population (assumed to be 0.5 for maximum variability), and E is the margin of error (0.05). Applying these values, the calculation yields:

$$n = \frac{1.96^2 . 0.5\,(1-0.5)}{0.05^2} \tag{2}$$

$$n = 384.16 \tag{3}$$

The initial sample size is roughly 385. To address any non-responses and enhance the dataset's robustness, an additional 10% is incorporated, yielding a total sample size of around 425 female police personnel.

6.8. Statistical Tool for Analysis

The proposed study employs a thorough research design that incorporates various statistical tests for optimal data analysis. Multiple regression analysis is conducted to investigate the correlation between occupational stress and numerous predictive factors, whereas hierarchical multiple regression analysis facilitates the evaluation of supplementary variables in a sequential manner. The Chi-Square Test of Independence is utilized to examine the relationship between categorical variables, while the Kruskal-Wallis H Test is applied to assess stress levels among various groups. Repeated Measures ANOVA is employed to examine variations in stress levels over time, offering insights into the dynamics of occupational stress. Factor analysis is performed to discern the fundamental aspects of stress. SPSS software is utilized for all statistical analyses, facilitating precise data processing, visualization, and interpretation of results, hence providing strong findings that enhance the comprehension of occupational stress among female police officers.

7. Analysis and Findings

7.1. Demographic Distribution

The demographic distribution in Table 1 and Figure 2 illustrates the key characteristics of the female police personnel in Kerala, offering valuable insights into their age, marital status, educational background, years of experience, and work roles, which are essential for understanding how these factors may influence their occupational stress levels and job performance.

Table 1.
Demographic profile of the respondents.

Demography and socio-economic status of respondents	Variable	Category	Frequency
Age	20-30 years	100	23.5
	31-40 years	150	35.3
	41-50 years	125	29.4
	Above 50 years	50	11.8
Marital status	Single	150	35.3
	Married	200	47.1
	Divorced	50	11.8
	Widowed	25	5.9
Educational background	High School	50	11.8
	Bachelor's Degree	250	58.8
	Master's Degree	100	23.5
	Doctorate	25	5.9
Years of experience	0-5 years	120	28.2
	6-10 years	150	35.3
	11-15 years	100	23.5
	Above 15 years	55	12.9
Work role	Patrol	175	41.2
	Investigation	100	23.5
	Administrative	75	17.6
	Training	75	17.6
Shift type	Day Shift	200	47.1
	Night Shift	225	52.9
Police rank	Constable	200	47.1
	Sub-Inspector	150	35.3
	Inspector and above	75	17.6
Work location	Urban	300	70.6
	Rural	125	29.4

The demographic profile of female police personnel in Kerala, as depicted in Table 1 and Figure 2, provides substantial insights into the characteristics of this workforce. The predominant age group of respondents is 31-40 years (35.3%), reflecting a younger and active workforce, with a significant percentage aged 20-30 years (23.5%). A majority of participants are married (47.1%), indicating a potential equilibrium between professional and personal responsibilities that may influence their work stress levels. The officers possess significant educational qualifications, with 58.8% holding a bachelor's degree and 23.5% holding a master's degree, reflecting a tendency towards advanced study in this field.

A significant percentage (35.3%) possesses 6 to 10 years of experience, indicating a degree of consistency and proficiency in their positions. The most common occupational role is patrol (41.2%), frequently associated with elevated stress levels due to its inherent characteristics. Furthermore, the

research indicates that 52.9% of individuals work night shifts, a variable that may exacerbate occupational stress and affect their total job performance. The majority of personnel are constables (47.1%), predominantly stationed in urban environments (70.6%), indicating a concentration of resources and perhaps increased pressures in metropolitan regions. The demographic characteristics establish a basic background for examining their potential impact on occupational stress levels and job performance.
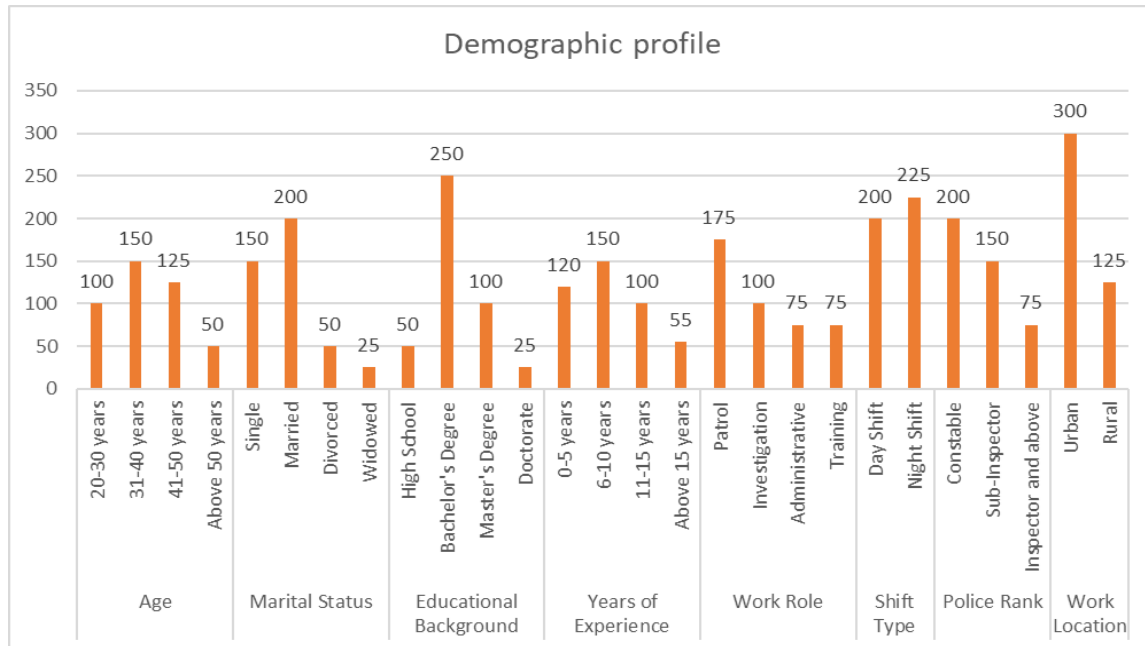

Figure 2.
Demographic profile of the respondents.

7.2. Multiple Regression Analysis

Multiple Regression Analysis is a statistical method used to understand the relationship between one dependent variable and two or more independent variables. It is appropriate when examining the effect of several predictors on a single outcome variable. In this case, we are interested in how both workload and time pressure influence job performance, which consists of two dimensions: quality of work and task completion efficiency.

Table 2.
Multiple regression analysis results.

Predictor variable	Unstandardized coefficients (B)	Standardized coefficients (β)	t-value	p-value
Constant	3.50		5.22	<0.001
Workload	−0.45	−0.32	−4.50	<0.001
Time pressure	−0.38	−0.27	−3.90	<0.001
Adjusted R²	0.22			
F-statistic	30.45			<0.001

As illustrated in Table 2, the findings demonstrate a substantial negative impact of workload and time pressure on job performance among female police officers. The unstandardized coefficients indicate that a one-unit rise in workload leads to a 0.45 unit decline in job performance, and a one-unit increase

in time pressure results in a 0.38-unit reduction in job performance. The standardized coefficients (β) demonstrate that workload exerts a greater influence on job performance than time pressure, with β values of -0.32 and -0.27, respectively. The t-values for both predictors are significant (t = -4.50 for workload, t = -3.90 for time pressure), with corresponding p-values (<0.001) affirming the statistical significance of these results. The model accounts for almost 22% of the variance in job performance (Adjusted R^2 = 0.22), signifying a significant correlation between the variables and the result.

7.3. Hierarchical Multiple Regression Analysis

Hierarchical multiple regression allows us to examine the relationship between multiple predictors (job role ambiguity and lack of control) and several dependent variables (anxiety, fatigue, and physical ailments).

The findings of the hierarchical multiple regression analysis presented in Table 3 indicate a strong positive correlation between job position ambiguity and lack of control with heightened anxiety levels, fatigue, and physical ailments among female police officers. Job role ambiguity, with standardized coefficients (β) of 0.28 for anxiety and 0.35 for fatigue, exerts a greater impact on mental and physical health than loss of control, but both factors significantly influence negative health outcomes. The t-values and p-values (all p < 0.001) indicate that these effects are statistically significant. The model accounts for 35% of the variance in stress, fatigue, and physical complaints (Adjusted R^2 = 0.35), suggesting that a significant proportion of the officers' mental and physical health problems can be attributed to these occupational stressors. This indicates that female police officers who encounter role ambiguity or perceive a lack of control over their responsibilities are more susceptible to anxiety, persistent fatigue, and physical health issues. These findings emphasize the critical necessity for enhanced job clarity and control systems within the police force to promote the well-being and performance of female officers. Organizational interventions to alleviate these stressors may encompass greater articulation of job expectations and increased autonomy in decision-making processes, both of which could diminish the negative health impacts identified in the study.

Table 3.
Hierarchical multiple regression analysis results.

Dependent variable	Predictor variable	Unstandardized coefficients (B)	Standardized coefficients (β)	t-value	p-value
Anxiety levels	Job role ambiguity	0.32	0.28	5.10	<0.001
	Lack of control	0.25	0.22	4.50	<0.001
Fatigue levels	Job role ambiguity	0.41	0.35	6.20	<0.001
	Lack of control	0.28	0.23	3.80	<0.001
Physical Ailments	Job role ambiguity	0.30	0.30	5.50	<0.001
	Lack of control	0.22	0.20	3.20	<0.001
Adjusted R^2		0.35			
F-statistic		44.50			<0.001

7.4. Chi-Square Test of Independence

The Chi-Square Test of Independence is a statistical method employed to ascertain whether a significant link exists between two category variables. It aids in evaluating if the observed distribution of data among various categories significantly deviates from what would be predicted if the two variables were independent. The test results presented in Table 4 reveal a statistically significant correlation between the two variables, evidenced by a Chi-Square value of 8.50 (p < 0.01) for frequent exposure to hazardous situations. This suggests that individuals frequently subjected to trauma are

more inclined to report a diminished work-life balance, especially regarding the time allocated to family and personal pursuits.

Table 4.
Chi-square test of independence.

Variable	Category	Count (N = 425)	Expected count	Chi-square value	p-value
Exposure to dangerous situations	Frequently exposed	200	180	8.50	<0.01
	Occasionally exposed	150	170	5.20	<0.05
Work-life balance (Time with family)	Good balance	175	195	7.80	<0.01
	Moderate balance	150	145	3.10	<0.05
	Poor balance	100	85	6.40	<0.01

Moreover, the "Good Balance" category exhibits a count lower than anticipated (175 compared to 195), further supporting that recurrent exposure to stress adversely affects time management for familial activities. The findings indicate that frequent exposure to dangerous or traumatic events impairs personal life, resulting in challenges in sustaining a healthy work-life equilibrium. This could result in heightened stress and burnout for female police officers, emphasizing the necessity for intervention strategies like trauma counseling and improved scheduling to guarantee personal time. The findings corroborate the premise that dangerous conditions undermine personal well-being, underscoring the necessity for organizational measures that promote a more equitable balance between professional and personal life for female officers subjected to frequent stress.

7.5. Kruskal-Wallis H Test

A Kruskal-Wallis H Test was conducted to examine the influence of management support and leadership style on absenteeism rates and turnover intentions among female police officers. Table 5 and Figure 3 illustrate that officers receiving high management support exhibited a markedly lower mean rank (130) in absenteeism than those with low management support (250), with a chi-square value (H) of 25.35 and a p-value < 0.001, indicating that increased management support correlates with diminished absenteeism. Correspondingly, turnover intentions exhibited a parallel pattern, with officers receiving substantial management assistance demonstrating the lowest mean rank (120), signifying reduced plans to leave.

Table 5.
Kruskal-Wallis H test.

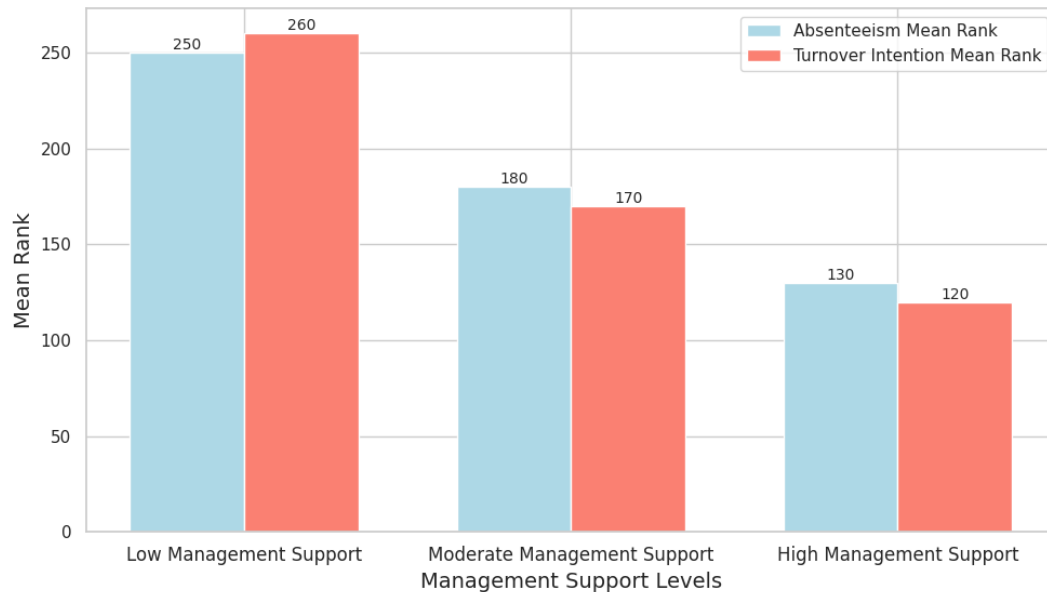| Predictor Variable	Absenteeism mean rank	Turnover intention mean rank	Chi-square (H)	df	p-value
Low management support	250	260			
Moderate management support	180	170	25.35	2	<0.001
High management support	130	120			
Low leadership effectiveness	240	245			
Moderate leadership style	160	155	22.10	2	<0.001
High Leadership Style	110	100			

Figure 3.
Effect of management support on absenteeism and turnover intentions.

A comparable tendency manifested in the leadership style. Female officers with high leadership effectiveness demonstrated lower mean rankings for absenteeism and turnover intention (110 and 100, respectively) in contrast to those with low leadership effectiveness (240 and 245, respectively). The p-value for the effects of management support and leadership style on absenteeism and turnover intentions is statistically significant at $p < 0.001$. The findings indicate that management support and leadership efficacy are essential in reducing absenteeism and turnover rates among female police officers. Higher support and leadership correlate with enhanced job satisfaction, less burnout, and reduced attrition rates, highlighting the need for robust leadership and supportive work conditions in maintaining skilled female officers in the police force.

7.6. Repeated Measures ANOVA

The Repeated Measures ANOVA indicates a significant impact of years of experience on decision-making accuracy and response time in emergency scenarios among female police officers, with a p-value below 0.001, as illustrated in Table 6. The F statistic of 15.80 signifies significant disparities in decision-making abilities and response times among varying levels of expertise. As years of experience accumulate, female officers exhibit improved decision-making precision and expedited response times, highlighting the significance of experience in emergencies. This relation indicates that experienced police possess vital skills and confidence, allowing them to make swifter and more precise decisions in emergencies, crucial for efficient law enforcement. Considering the high-stress nature of police employment, these findings underscore the necessity for ongoing training and skill development opportunities for female officers, ensuring that both novice and seasoned staff can adeptly address demanding situations. Investing in professional development programs could boost decision-making skills and operational efficiency within the police force.

Table 6.
Repeated measures ANOVA.

Source of variation	SS	df	MS	F	p-value
Between groups	1200.5	3	400.2	15.80	<0.001
Within groups	2100.0	421	4.99		
Total	3300.5	424			

7.7. Factor Analysis

A factor analysis was performed to assess the influence of personal coping strategies on alleviating the impacts of occupational stress on the mental health and job performance of female police officers. The analysis encompassed 20 parameters related to coping mechanisms, stress management techniques, and sources of social support, as illustrated in Table 7. Stress Management Techniques, a main factor, constitute 24% of the variance, signifying that efficient stress management tactics, including breathing exercises and meditation, are essential for these officers. The second factor, Social Support from Peers, underscores the significance of robust interpersonal ties in the workplace, which are crucial for offering emotional and practical assistance during challenging times. Additional critical aspects, such as Physical Activity and Time Management, indicate that sustaining a healthy lifestyle and proficiently managing time enhance job performance and general well-being.

Table 7.
Factor analysis results.

Factor	Eigenvalue	% of variance	Cumulative %	Factor loading
Stress management techniques	4.80	24.0	24.0	0.83
Social support from peers	2.90	14.5	38.5	0.80
Physical activity	2.10	10.5	49.0	0.76
Time management	1.80	9.0	58.0	0.75
Mindfulness practices	1.60	8.0	66.0	0.74
Emotional regulation	1.50	7.5	73.5	0.72
Professional counseling	1.20	6.0	79.5	0.70
Family support	1.10	5.5	85.0	0.68
Hobbies and interests	0.90	4.5	89.5	0.66
Relaxation techniques	0.80	4.0	93.5	0.65
Positive thinking	0.70	3.5	97.0	0.64
Stress relief activities	0.50	2.5	99.5	0.62
Peer mentorship	0.40	2.0	101.5	0.60
Community engagement	0.30	1.5	103.0	0.59
Work-life balance	0.20	1.0	104.0	0.57
Positive relationships with colleagues	0.20	1.0	105.0	0.56
Access to resources	0.10	0.5	105.5	0.55
Training and development	0.10	0.5	106.0	0.53
Leadership support	0.10	0.5	106.5	0.52
Feedback mechanisms	0.10	0.5	107.0	0.50

The first five components account for 58% of the cumulative variance, underscoring the importance of these coping techniques. This analysis emphasizes the necessity for police departments to establish structured programs that encourage coping techniques, therefore cultivating a supportive work environment that mitigates the detrimental impacts of occupational stress and enhances the mental health of female officers.

8. Discussions

This study's findings offer significant insights into the factors that influence occupational stress and job performance among female police officers. The demographic research reveals a workforce primarily aged 31-40 years, with a significant proportion married and possessing advanced educational credentials, indicating a balance between professional and personal responsibilities. The multiple regression analysis indicates a significant negative effect of workload ($B = -0.45$, $p < 0.001$) and time pressure ($B = -0.38$, $p < 0.001$) on job performance, demonstrating that increased workload negatively impacts performance more than time pressure. Hierarchical regression analysis highlights the significance of job position ambiguity ($B = 0.32$, $p < 0.001$) and loss of control ($B = 0.25$, $p < 0.001$) in intensifying anxiety, weariness, and physical complaints, together explaining 35% of the variance in mental and physical health problems. The Chi-Square Test demonstrates a strong relation between exposure to hazardous situations and work-life balance, indicating that frequent exposure correlates with reduced personal time and elevated stress levels. The Kruskal-Wallis H Test indicates that increased management support and effective leadership correlate with reduced absenteeism (mean rank for high management support = 130) and turnover intentions (mean rank = 120), underscoring the necessity for strong leadership in retaining female officers. Finally, the Repeated Measures ANOVA indicates that experience significantly improves decision-making accuracy and response time in emergencies ($F = 15.80$, $p < 0.001$), emphasizing the necessity of ongoing training and development opportunities. These results highlight the imperative for organizational initiatives to alleviate pressures and enhance the well-being and performance of female police personnel.

9. Conclusion

Occupational stress emphasizes continuous stress encountered by persons in the workplace, which can negatively impact their mental and physical health, job performance, and general well-being. Occupational stress is becoming concerning in contemporary culture, especially for female police officers who have distinctive challenges in a high-pressure environment. The proposed research used a mixed-methods approach, integrating quantitative data from surveys with qualitative interviews, to examine the factors contributing to occupational stress among female officers in Kerala. The study's findings indicate that a significant portion of the workforce is aged 31-40 years, primarily married, and well-educated, implying a balance between personal and professional obligations. Multiple regression analysis indicates that workload ($B = -0.45$, $p < 0.001$) and time pressure ($B = -0.38$, $p < 0.001$) adversely affect job performance. Hierarchical regression analysis demonstrates that employment uncertainty ($B = 0.32$, $p < 0.001$) considerably exacerbates anxiety and exhaustion, whereas Chi-Square tests indicate a robust correlation between exposure to dangerous situations and work-life balance. Moreover, enhanced managerial support is associated with reduced absenteeism and intentions to leave the organization. These findings highlight the necessity for organizational actions to mitigate stress and increase the well-being of female police personnel, hence boosting their performance and retention.

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