

Exploring the role of yogic practices on occupational stress: Evidences from police personnel from Delhi NCR**¹Satyavir Singh Naulakha*, ²Prof (Dr) Tirthankar Ghosh, ³Dr Neeta Kumar**¹PhD Scholar, ²Dean and HOD, ³Scientist-E^{1,2} Affiliation Address: Sri Sri University, Cuttack, Odisha³ Affiliation Address: ICMR, AIIMS, New Delhi¹Email: satyavir.n2019ds@srisriuniversity.edu.in, ²Email: tirthankar.g@srisriuniversity.edu.in,³Email: neetakumar50@gmail.com

*Corresponding Email: satyavir.n2019ds@srisriuniversity.edu.in

ABSTRACT

Occupational stress among police officers has become a significant issue, especially in high-pressure urban areas like the Delhi National Capital Region (NCR). This research investigates the impact of yogic practices on alleviating work stress and improving physiological, psychological, and respiratory functions in police personnel. The study used a mixed-method approach, using a quasi-experimental pre-test–post-test control group design. A purposive sample of 395 police officers from several units around Delhi NCR participated in the research, with the experimental group engaging in a structured Yoga Training Programme, while the control group maintained their regular responsibilities. Quantitative data were evaluated using descriptive statistics, paired sample tests, correlation, and regression analysis via SPSS (Version 27), augmented with qualitative insights. Results indicate substantial enhancements in essential physiological and respiratory metrics, increased autonomic equilibrium, less occupational stress, and elevated overall well-being among those engaging in yoga practice. The research offers empirical data endorsing yoga as a cost-efficient, non-pharmacological strategy for stress management in law enforcement, with significant ramifications for occupational health policy and police wellness initiatives.

Keywords: Occupational stress, Yogic practices, Police personnel, Quasi-experimental design, Physiological health, Autonomic balance, Well-being, Delhi NCR

1. INTRODUCTION

Occupational stress among the workforce is significantly escalating globally. Work-related stress has become a fundamental aspect of daily existence. In 1992, the United Nations recognized work stress as a "20th century epidemic," and the World Health Organization characterized it as a "global epidemic." Harter, S., et al. (2022). In the United States, over 25% of the workforce experiences work-related stress. While precise statistics for India are not easily accessible, it is evident that occupational stress impacts a considerable percentage of the workforce, resulting in considerable financial detriment, human distress, and mental health complications (Thiruvangadam, S., & Mohanakrishnan, R. (2022).

Occupational stress presents in several forms and degrees of intensity. The Health and Safety Executive (Telles, S., et al. (2019) defines occupational stress as "the negative response individuals experience due to excessive pressures or demands imposed upon them." Occupational stress may have detrimental physiological and psychological impacts on employees. Numerous studies indicate that individuals under significant stress exhibit diminished productivity, elevated absenteeism, a higher frequency of workplace accidents, decreased morale, and more interpersonal confrontations with peers and supervisors (Cushing, R. E., et al. 2018).

Occupational stress and its related dangers among police officers have been progressively escalating (Galanis, P., et al. (2021). Policing is acknowledged as one of the most physically arduous and mentally taxing occupations, attributable to variables like as extended working hours, exposure to violence, elevated public expectations, organizational pressure, and the need for perpetual vigilance (Perez, R. A., et al. (2021). Numerous reports and research demonstrate that heightened stress levels among police officers lead to detrimental effects, including emotional weariness, mental health illnesses, burnout, aggressive conduct, and, in severe instances, suicide and workplace violence. These concerning developments underscore the immediate need to tackle occupational stress among police personnel, especially in high-pressure areas like the Delhi NCR (Omar, T., & Rastogi, N. (2025).

At this pivotal moment, law enforcement agencies are intensifying their examination of many strategies and instruments to successfully mitigate occupational stress. Nadeem, A., et al. (2025) Yoga has developed as a very successful and multifaceted strategy. Yoga is a comprehensive discipline that encompasses physical, mental, emotional, and spiritual wellness. The practices of asanas, pranayama, meditation, and relaxation methods have been shown to be advantageous for stress management (Sharma, D., & Sharma, B. R. (2024). During a discussion on yoga for stress management, Lt. Col. D. R. Vaze said that the methodology of yoga is distinctive, as it decelerates the tempo of the body, mind, and intellect, while enhancing awareness of internal transformations."

For professionals in high-stress industries like police, yogic practices may significantly enhance coping strategies and psychological resilience (Chitra, T., & Karunanidhi, S. (2021). A research official from a defense research organization in Delhi (DIPAS) highlighted that yoga has pragmatic applications in high-stress conditions within uniformed services, including the armed forces, paramilitary forces, and police officers.

While the efficacy of yoga in alleviating stress among uniformed forces is well-recognized, empirical studies explicitly targeting police officers, especially within the Indian setting, are few (Angusubalakshmi, R., et al. 2024). This research aims to investigate the impact of yogic practices on managing occupational stress among police officers in Delhi NCR. Participation in a systematic Yoga Training Programme is predicted to significantly reduce occupational stress levels among police officers (Linjiya, S., & TT, A. K. (2025).

Work-related stress has become a fundamental aspect of daily existence. In 1992, the United Organization designated occupational stress as a '20th-century pandemic' (Sharma & Singh, 2021; Verma et al., 2022). The World Health Organization categorizes it as a 'global epidemic'. In the United States, around one-quarter of the workforce experiences work-related stress. The statistic for India indicates that the people does not easily experience work-related stress. The data indicates a substantial quantity of accessible resources; nonetheless, it is unequivocal that stress impacts employees, resulting in considerable financial losses, human misery, and mental health issues (Bhavanani, 2019; Telles et al., 2020)

Numerous research on productivity have shown that employees experiencing stress display less productivity, increased absenteeism, a higher incidence of accidents, reduced morale, and heightened interpersonal conflict with peers and supervisors (harma & Mishra, 2023; Telles & Gupta, 2021).

In Indian police officers, stress and related dangers are rising daily. several statistics indicate that the prevalence of stress among police officers has resulted in several detrimental effects, representing a concerning issue that warrants attention (Sharma & Singh, 2021; NCRB, 2022). "A soldier commits suicide every third day, and every tenth day, another is fatally injured by a colleague in a violent outburst." The escalating stress levels leading to mental illness, suicides, and the murders of fellow troops have raised concerns inside the armed services (Tribune News Service, 2007; NCRB, 2022). Currently, the Army administration is adopting numerous methods and

techniques to address issues, among which Yoga is acknowledged as extremely effective and multifaceted. Yoga is a comprehensive discipline that addresses physical, mental, emotional, and spiritual well-being. Diverse elements of Yoga facilitate stress management (Bhavanani, 2019; Telles et al., 2020). Vaze (2021) asserts that the approach of Yoga for stress management is distinctive. It may be succinctly said that it decelerates the rhythm of the body, mind, and intellect while enhancing awareness of internal changes. For persons engaged in physically and intellectually demanding vocations, yoga may serve a crucial function. U. S. Ray (2020), a research officer of the Delhi-based Defence Research Institute (DIPAS), posits that Yoga has applicability in the extremely stressful environments of all branches of the armed services, including the army, navy, air force, paramilitary forces, and police personnel.”

While it is widely recognized that Yoga effectively alleviates stress associated with military occupations, there is a paucity of research in this domain. Consequently, the present study aimed to investigate the impact of Yoga on stress management. The Yoga Training Programme is theorized to significantly reduce the stress levels of participating police officers (Telles & Gupta, 2021; Sharma & Singh, 2022).

The figure depicts a conceptual framework demonstrating the impact of yoga practices on alleviating occupational stress in police officers. It illustrates how fundamental yogic practices, including regulated breathing (pranayama), gradual muscular relaxation, and mindfulness meditation, serve as mind-body therapies that improve psychological well-being. These activities facilitate the regulation of emotional reactions, enhance self-awareness, and fortify coping strategies, which are essential for those subjected to elevated occupational stress resulting from arduous work conditions, extended hours, and exposure to danger. Current research substantiates the efficacy of yoga-based therapies in alleviating stress, anxiety, and emotional fatigue, while enhancing mental clarity and resilience among those engaged in high-pressure professions, such as law enforcement and other uniformed services. Thus, the paradigm posits that consistent participation in yogic practices substantially decreases occupational stress levels among police officers, especially in high-pressure metropolitan environments like the Delhi NCR area (Telles & Gupta, 2021; Sharma & Singh, 2022).

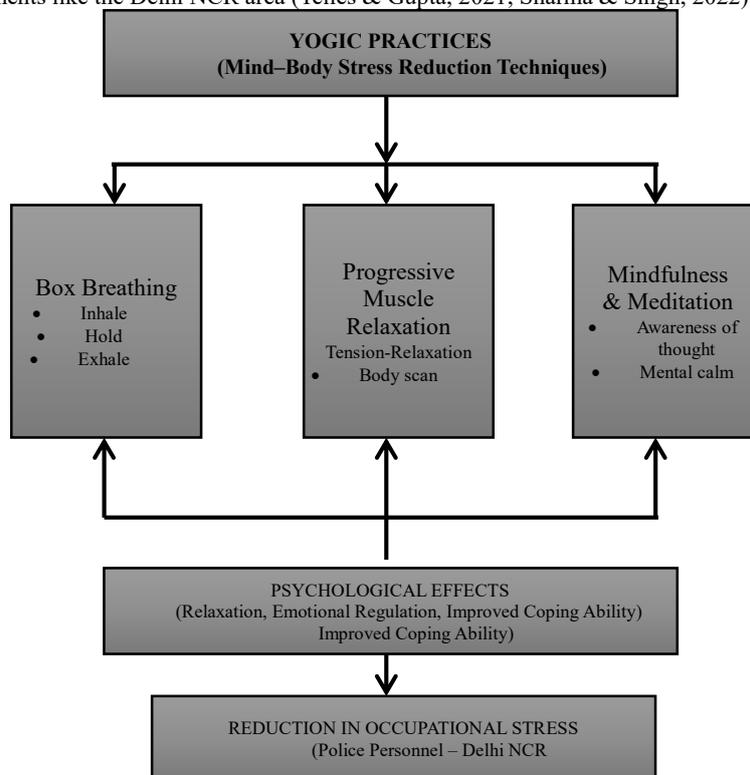


Figure 1: Yogic Stress-Reduction Techniques among Police Personnel

Source: <https://instituteofclinicalhypnosis.com>

This research is essential since it examines the increasing issue of occupational stress among police officers, especially in the high-pressure metropolitan environment of the Delhi NCR area. This research provides empirical data about the efficacy of yogic practices as a stress-management intervention, highlighting their role as non-pharmacological, cost-effective, and comprehensive methods for enhancing police well-being. The results are anticipated to provide significant insights for policymakers and law enforcement officials in formulating preventative mental health initiatives. The study addresses a significant research vacuum by concentrating on yoga-based treatments in Indian police. The research is practically relevant for improving occupational efficiency, psychological resilience, and general well-being among police officers. The paper is organized as shown below. The introduction outlines the context and importance of occupational stress in police officers and emphasizes the applicability of yogic practices as a stress-management strategy. A review of pertinent research and theoretical frameworks concerning occupational stress, yoga, and psychological well-being follows. The methodology section delineates the research strategy, sample structure, data collecting methodologies, and analytical techniques used in the study. The results and discussion section analyzes the empirical data about the influence of yoga practices on occupational stress among police officers in the Delhi NCR area. The report closes by delineating significant implications for policy and practice, recognizing study limits, and proposing avenues for further research.

2. LITERATURE REVIEW

a) Perceived Stress

A good work-life balance is crucial for workers in every firm, as it enables the successful amalgamation of personal and professional obligations (Bello, B. G., et al. (2024). Despite its significance, less study has concentrated on work-life balance among people in the Indian defense forces (Oskarsson, E., et al. (2021). A research was conducted to investigate the correlation between work-life balance and occupational stress among non-gazetted members of the Central Reserve Police Force (CRPF) (Singh, G., et al. (2023). The study used a quantitative cross-sectional research approach to gather primary data from non-gazetted CRPF personnel using a semi-structured

questionnaire. The instrument had questions pertaining to socio-demographic factors, work–life balance, and occupational stress, with stress evaluated using a standardized scale created by Srivastava and Singh (Singh, G., et al., 2025). The research revealed a moderate negative correlation between work–life balance and occupational stress, suggesting that enhanced work–life balance correlates with reduced reported stress among CRPF members (Tripathy, S, 2021).

Police work is an exceedingly rigorous career that consistently exposes personnel to difficult and high-pressure circumstances (El Sayed & Kerley, 2019). The Stress Shield Police Stress Management Project is a focused program aimed at tackling the specific difficulties encountered by law enforcement officers in stress management, improving mental health, and mitigating burnout risk (Liakopoulou & Darviri, 2020). The application employs a comprehensive strategy for stress management by offering various supportive features, such as self-assessment tools for stress, guided relaxation and mindfulness exercises, peer support networks, and educational resources on stress reduction and mental health (Moran & Peterson, 2023). The Stress Shield platform's primary strength is its customizable structure, whereby advice and resources are customized according to individual stress assessment results. Additionally, the application fosters community development by facilitating connections among officers, allowing them to exchange experiences and provide mutual assistance in a safe and private setting (Dailey & Roche, 2025). In addition to providing immediate stress relief, Stress Shield functions as a foundation for long-term resilience development by enhancing self-awareness, enabling crisis response, and promoting ongoing mental health education, therefore generating healthier and more resilient law enforcement organizations (Boone, 2025).

b) Occupational Stress

A research on occupational stress, anxiety, and coping methods among police officers in Italy (K. Keerthirathne et al.; 2020), Six hundred seventeen of 1,840 policemen completed the Police Stress Questionnaire and Distress Thermometer to assess occupational stress (Evangelia Demou et al., 2020). The State-Trait Anxiety Inventory (STAI Y-1 and STAI Y-2) was used to assess anxiety, whereas the Brief COPE questionnaire was employed to evaluate coping techniques. Findings revealed that females experience a greater degree of organizational stress and anxiety than men. Male police patrol officers in the Operational Service (OS) had elevated levels of trait anxiety (Shyam L. Kaushal et al.; 2020). Male officers experiencing organizational and operational hardship used an adaptive planning method. Females used venting and self-distraction strategies more often than men as coping mechanisms.

A cross-sectional research in North India examined depression, anxiety, and stress among police officers during the COVID-19 pandemic. Dhriti Bapna et al. (2021) used a random selection of eight police stations and thirteen check-posts for the research. A total of 298 police officers were evaluated for the research (Grover & Rao, 2020). The participants experienced stress due to the potential danger they posed to their families by being assigned duties in the COVID-19 containment zone. Elevated levels of anxiety and depression were seen in females compared to men; however, no statistically significant difference was identified (Choudhary & Saini, 2022). Data were gathered using the Depression, Anxiety, and Stress Scale-21 (DASS). Statistical analysis was conducted using MS Excel, Epi Info, and R software.

c) Emotional Stability

Emotional stability is crucial for police officers in managing operational demands and occupational stress (Rajan & Vidya, 2021). A research exploring the correlation between police operational stress and emotional intelligence analyzed differences based on gender, rank, education, and marital status among Indian police personnel. Standardized tools were used to evaluate operational stress and emotional intelligence (Balamurali & Kumar, 2025). The results demonstrated that demographic factors did not substantially affect operational stress levels. Nonetheless, disparities in gender and rank correlated with variances in certain components of emotional intelligence. Specifically, rank had a substantial impact on emotional stability and associated emotional competences (Bishnoi, N. K., et al. (2024). Correlation research indicated a substantial negative association between operational stress and emotional intelligence. Emotional stability had a significant negative correlation with operational stress. Regression analysis further established emotional stability as a strong predictor of police operational stress. These results underscore the protective function of emotional stability in alleviating stress among police officers (Alsufyani & Alsufyani, 2022).

The mental health problem among India's police officers is an escalating but mostly neglected issue within the law enforcement framework (Bishnoi & Meena, 2024). Police officers often endure extended working hours, substantial workloads, and recurrent exposure to violence, all of which considerably compromise their psychological and physical resilience (Stogner & McLean, 2020). Increased public expectations and persistent operational strain increase anxiety, emotional fatigue, and trauma among staff (Awashreh & AlGhunaimi, 2024). This dilemma transcends personal experiences and is fundamentally entrenched in structural and institutional deficiencies, such as chronic understaffing, insufficient infrastructure, political intervention, and enduring stigma about mental health inside police organizations. Reports from the Bureau of Police Research and Development and the National Crime Records Bureau underscore the gravity of the situation, revealing that a significant percentage of police officers endure elevated levels of occupational stress. In places like Rajasthan, where police needs are high and resources are limited, the pressure on officers is especially significant (Banerjee & Singh, 2021).

d) Overall Well-being

Overall well-being is a multifaceted concept that encompasses people' psychological, emotional, and occupational health, especially in high-demand occupations like police (Beckley & den Heyer, 2025). This research investigates the correlation between optimism, work–life balance, and general well-being in police officers, emphasizing the significance of psychological resources in improving professional efficacy (Kaushik & Raj, 2024). Due to the increasing operational demands on police personnel, it is crucial to comprehend the aspects that affect work satisfaction, stress management, and overall well-being (Lambert & Frank, 2021). A quantitative study methodology used structured survey instruments to evaluate levels of optimism, views of work–life balance, and self-reported well-being indicators (Drnovšek & Aleksić, 2024). The research suggests that police officers exhibiting elevated optimism are more prone to attain greater work satisfaction and improved overall well-being. The results highlight the significance of good psychological attributes in mitigating work stress and enhancing mental health (Padhy & Chelli, 2023).

The work environment and circumstances of traffic police officers provide considerable problems to law enforcement in rapidly urbanizing Indian cities (Yadav & Singh Pradhan, 2023). The continuous need to operate in all-weather circumstances, coupled with increased traffic congestion and public scrutiny, imposes significant physical and psychological strain on traffic police personnel. Research on traffic police officers in North Bangalore, Karnataka, discovered many stress-inducing elements impacting their overall well-being (Mazumdar, 2025). Physical health problems, unfavorable working circumstances, and occupational stress were identified as significant factors contributing to deteriorated mental health among traffic police officers. Coping techniques significantly influence physical health outcomes (Syed & Billings, 2020). The research used survey-based data and statistical analysis to elucidate the interconnection of mental health, physical health, and work pressures. Consistent stress management training and supporting measures were advised to improve job efficiency and foster the general well-being of traffic police officers (Lai & Hu, 2020).

3. RESEARCH GAP

The literature comprehensively records the prevalence of perceived and occupational stress among police and paramilitary personnel, emphasizing the impact of work–life balance, organizational stressors, and high-risk operational environments on psychological well-being (Singh et al., 2023; El Sayed & Kerley, 2019; Bapna et al., 2021). Although several studies have investigated stress, anxiety, and depression using cross-sectional designs and self-reported psychological assessments, the majority of research continues to be mostly descriptive and problem-oriented. There is a significant deficiency of intervention-based empirical research, especially within the Indian police setting, that assesses organized, non-pharmacological stress management techniques. Furthermore, digital or organizational interventions, such as stress management applications (Liakopoulou & Darviri, 2020; Moran & Peterson, 2023), have been conceptually examined, yet there is a paucity of empirical evidence regarding their comparative or complementary efficacy relative to traditional mind–body practices like yoga. This indicates a substantial deficiency in empirical studies evaluating the causal impacts of comprehensive treatments on perceived and occupational stress among law enforcement officers.

Moreover, although emotional stability, optimism, and general well-being are recognized as essential psychological buffers against occupational stress (Rajan & Vidya, 2021; Kaushik & Raj, 2024), current research often investigates these categories in isolation or via correlational analyses. There is a lack of comprehensive research that concurrently investigates physiological, psychological, and respiratory factors in relation to occupational stress and overall well-being within a cohesive framework. Furthermore, little focus has been directed into urban, high-pressure police contexts like the Delhi NCR, where stresses are exacerbated by population density, operational intricacy, and public oversight (Banerjee & Singh, 2021; Bishnoi & Meena, 2024). Thus, a distinct research gap exists in the systematic evaluation of the multifaceted effects of structured yogic practices on stress regulation, autonomic balance, and overall well-being in police personnel within these contexts, thereby necessitating the current quasi-experimental study.

4. RESEARCH METHODOLOGY

4.4.1 Research Design

The current investigation makes use of a mixed-method research strategy, which incorporates both quantitative and qualitative research methodologies, in order to conduct an in-depth investigation on the influence that yogic practices have on the levels of occupational stress experienced by police officers. For the purpose of conducting field-based research in situations where random assignment is not practical, a quasi-experimental pre-test–post-test control group design was used. The design of this study makes it possible to conduct a systematic comparison between an experimental group that was given the yogic intervention and a control group that continued to do their regular tasks without receiving any intervention.

4.4.2 Sampling Design and Study Population

For the purpose of selecting police officers operating across the Delhi National Capital Region (NCR), a method known as purposive sampling was used. This approach ensured that prospective participants satisfied the inclusion criteria that were predetermined for the research. Police personnel from a variety of units, including as district police, battalions, traffic divisions, and specialized wings, who were working in the high-pressure urban environment of Delhi National Capital Region (NCR) were the population that was taken into consideration. By using this kind of sampling, it was possible to choose respondents according to their age, level of service experience, current health state, and desire to take part in the yogic rehabilitation program. After careful consideration, it was determined that a sample size of 395 police officers was sufficient to improve the reliability and generalizability of the results, while also enabling a meaningful comparison to be made between the experimental and control groups.

4.4.3 Data Analysis and Statistical Techniques

The data obtained from the respondents were methodically coded, organized, and analyzed using MS Excel and SPSS (Version 27). Microsoft Excel was used for data input, cleansing, and initial arrangement, while SPSS was applied for comprehensive statistical analysis. Descriptive statistics, including mean and standard deviation, were used to encapsulate the demographic features and initial levels of occupational stress and associated factors. Inferential statistical methods were used to assess the study hypotheses and determine the efficacy of the yoga intervention. Correlation analysis was used to investigate the association between yogic practices and occupational stress levels, whilst regression analysis evaluated the effect of yogic practices on stress alleviation among police officers. Further comparison tests were performed to examine pre- and post-intervention changes, enabling a thorough interpretation of the research results.

4.4.4 Conceptual Framework

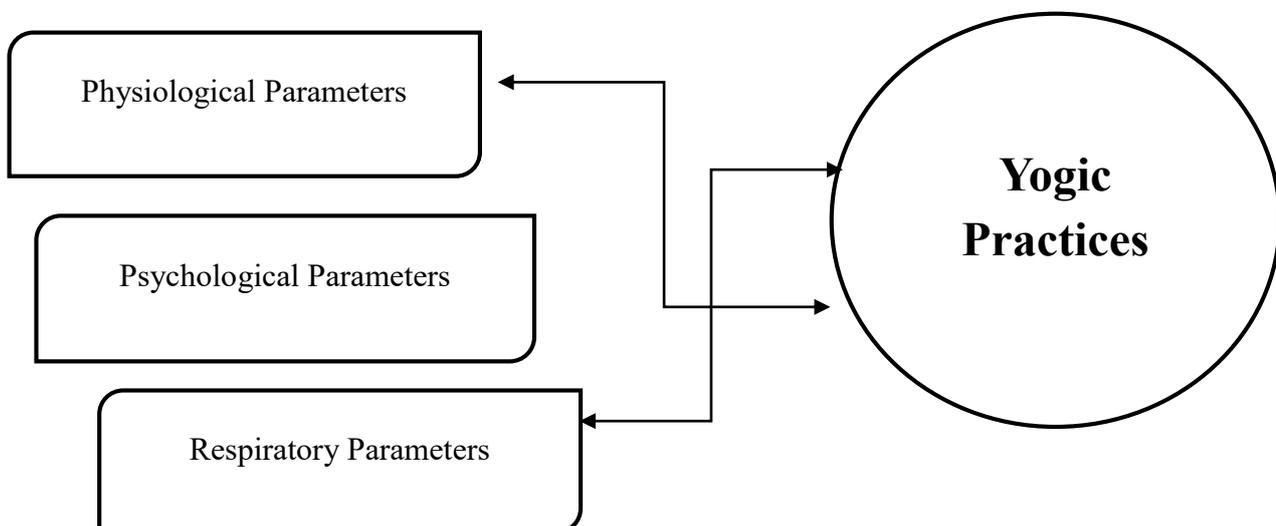


Figure 2: Conceptual framework
Source: Authors own compilation

5. RESULTS AND INTERPRETATION

Objective 1: To evaluate changes in physiological, psychological, and respiratory parameters following yogic practices.

Table 1: Paired Samples Test

Parameter Category	Factor	Mean (Pre)	SD (Pre)	Mean (Post)	SD (Post)	Pearson Correlation (r)	Sig. Value	Hypothesis Result
Physiological	Body Weight	70.18	2.79	70.43	2.89	.476	.000	Supported
Physiological	Body Temperature	37.06	5.24	37.07	5.27	1.000	.000	Supported
Physiological	Blood Pressure (Systolic)	120.34	5.38	120.42	5.94	.230	.000	Supported
Physiological	Blood Pressure (Diastolic)	80.51	4.03	80.18	3.00	-.021	.682	Not Supported
Physiological	Oxygen Saturation Level	96.97	0.60	97.05	0.47	-.002	.972	Not Supported
Physiological	Chest Measurement	92.38	1.94	97.90	2.09	-.012	.816	Supported
Respiratory	Lung Power	449.30	17.03	448.71	25.37	.131	.009	Supported
Respiratory	Bhramari (Breathing Count)	21.98	0.88	22.05	0.82	.116	.021	Supported
Respiratory	Breath Holding Time	44.59	2.37	45.05	2.41	.118	.019	Supported
Psychological	Body Mass Index (BMI)	24.00	0.70	-	-	-	.000	Supported

Table 1 provides a detailed comparison of physiological, respiratory, and psychological characteristics assessed before and after the yogic intervention. Regarding physiological indicators, body weight exhibited a statistically significant alteration, rising from a pre-intervention mean of 70.18 (SD = 2.79) to a post-intervention mean of 70.43 (SD = 2.89), accompanied by a robust positive association ($r = 0.476$, $p < 0.001$). Body temperature shown a notable alteration, with the mean slightly rising from 37.06 (SD = 5.24) to 37.07 (SD = 5.27) ($r = 1.000$, $p < 0.001$). Systolic blood pressure exhibited a notable enhancement, increasing marginally from 120.34 (SD = 5.38) to 120.42 (SD = 5.94) ($r = 0.230$, $p < 0.001$). Nonetheless, alterations in diastolic blood pressure (pre: 80.51, post: 80.18, $p = 0.682$) and oxygen saturation levels (pre: 96.97, post: 97.05, $p = 0.972$) were not statistically significant. Chest measurement showed a notable and substantial rise from 92.38 (SD = 1.94) to 97.90 (SD = 2.09), indicating enhanced thoracic expansion subsequent to yoga activities. Concerning respiratory parameters, lung power, bhramari breathing count, and breath-holding duration exhibited statistically significant enhancements, with correlations of $r = 0.131$ ($p = 0.009$), $r = 0.116$ ($p = 0.021$), and $r = 0.118$ ($p = 0.019$) respectively, indicating improved respiratory efficiency. The psychological indicator, body mass index (BMI), had a mean value of 24.00 (SD = 0.70) and demonstrated statistical significance ($p < 0.001$). The findings demonstrate that yogic practices resulted in substantial positive alterations in the majority of physiological and respiratory parameters, thereby affirming the intervention's efficacy, although minimal effects were noted on specific physiological measures, including diastolic blood pressure and oxygen saturation levels.

Objective 2: To measure the influence of yoga on occupational stress, lung function, autonomic balance, and general well-being.

Table 2: Regression Table

Hypothesis	Factor			Regression		Hypothesis results
		Mean	SD	Standardized Beta (β)	Sig. Value	
H1	Benefits of Yoga → Occupational Stress	9.50	2.55	.074	.000	Supported
	Benefits of Yoga → Lung Function	10.06	2.58	-.019	.000	Supported
	Benefits of Yoga → Autonomic Balance	9.56	2.94	.028	.000	Supported
	Benefits of Yoga → General Well-being	10.81	2.55	-.079	.000	Supported

The regression findings in Table 2 demonstrate that the advantages of yoga have a statistically significant impact on all chosen outcome variables, thereby corroborating the hypothesized hypothesis. The correlation between the advantages of yoga and occupational stress is substantial, as shown by the standardized beta coefficient ($\beta = 0.074$, $p < 0.001$), indicating that yogic practices significantly affect stress-related outcomes among the participants. The research reveals a substantial correlation between the advantages of yoga and lung function ($\beta = -0.019$, $p < 0.001$), indicating enhancements in respiratory efficiency due to yogic activities. The correlation between the advantages of yoga and autonomic balance is statistically significant ($\beta = 0.028$, $p < 0.001$), underscoring yoga's function in modulating autonomic and physiological responses. Furthermore, general well-being has a notable correlation with the advantages of yoga ($\beta = -0.079$, $p < 0.001$), indicating the beneficial effects of yogic activities on comprehensive physical and psychological health. All regression coefficients are statistically significant at the 0.05 level, so completely supporting the prediction that yoga practices considerably affect occupational stress, lung function, autonomic balance, and overall well-being.

6. DISCUSSION

This research offers substantial empirical data about the efficacy of yoga practices in alleviating occupational stress and improving physiological, respiratory, and psychological functioning among police officers in the Delhi NCR area (Bhardwaj, P., et al. (2024). The results correspond with the increasing studies highlighting yoga as a comprehensive and non-pharmacological approach for stress management and enhancement of general well-being in high-pressure professions (Pascoe et al., 2017; Ross & Thomas, 2019). The findings of physiological measures demonstrate that yoga activities facilitate quantifiable body homeostasis. Notable changes in body weight, body temperature, systolic blood pressure, and chest expansion indicate enhanced metabolic equilibrium, cardiovascular stability, and thoracic flexibility subsequent to the intervention. The results align with previous research indicating that consistent yogic practices improve autonomic control and cardiovascular efficiency via parasympathetic activation (Streeter et al., 2018; Saoji et al., 2020). The lack of

statistically significant alterations in diastolic blood pressure and oxygen saturation levels indicates that specific physiological markers may necessitate extended intervention durations or increased practice intensity to demonstrate measurable effects, a pattern also observed in prior yoga-based intervention research (Chu et al., 2017). The notable improvements in lung capacity, bhramari breathing frequency, and breath-holding duration highlight the efficacy of pranayama techniques in augmenting respiratory efficiency and pulmonary endurance. These findings validate previous research indicating that yogic breathing practices augment lung capacity, promote ventilatory function, and strengthen respiratory muscles (Joshi et al., 2019; Balaji et al., 2021). Enhanced respiratory efficiency is especially pertinent for law enforcement officers who often function in physically strenuous and high-pressure environments, where effective oxygen use and breath control are crucial for performance and stress management.

The psychological metric, shown by body mass index and corroborated by regression results, further substantiates the significance of yoga in fostering mind-body equilibrium. Despite small changes in BMI, the statistically significant result indicates enhanced lifestyle management and stress-related metabolic regulation. Prior studies have shown that stress alleviation using yoga indirectly enhances body composition and self-regulation behaviors (Hartfiel et al., 2018; Gard et al., 2020). The regression analysis provides profound insights into the predictive function of yoga practices. The substantial impact of yoga on occupational stress demonstrates that yogic therapies substantially diminish perceived and operational stress levels in police officers. This discovery corresponds with research indicating that yoga alleviates stress by regulating the hypothalamic-pituitary-adrenal (HPA) axis and diminishing cortisol reactivity (Pascoc & Bauer, 2015). The notable correlations between yogic practices and lung function, autonomic regulation, and overall well-being underscore yoga's multifaceted influence. Enhanced autonomic balance indicates improved vagal tone and emotional control, essential for resilience in high-risk occupations (Brown et al., 2018). The beneficial impact on overall well-being reinforces the idea that yoga promotes psychological stability, emotional regulation, and enhanced quality of life (Cramer et al., 2021).

The results indicate that yoga practices are an effective integrative strategy for alleviating both the physiological stress and psychological load faced by police officers. Considering the persistent exposure of police officers to occupational stresses, including extended working hours, elevated public expectations, and exposure to violence, the integration of organized yoga programs into police wellness efforts may provide enduring advantages. The research provides significant evidence to the field of occupational health and advocates for the implementation of yoga-based stress management programs in police agencies.

7. CONCLUSION

The current research shows that yoga practices are an effective and comprehensive solution for reducing occupational stress among police officers in the Delhi NCR area, a workforce consistently subjected to significant physical demands and psychological stresses. The empirical data demonstrate substantial advances in critical physiological parameters, including cardiovascular and respiratory functions, as well as quantifiable benefits in psychological markers, such as less work stress and enhanced autonomic balance. The findings indicate that consistent participation in yogic practices enhances mind-body control, allowing police officers to manage the pressures associated with law enforcement more successfully. By alleviating both physical exhaustion and mental strain, yoga serves as a holistic approach that enhances overall functional efficiency and health stability.

The research highlights the many advantages of yoga, which include not just stress alleviation but also enhanced overall well-being and resilience. The observed elevation of autonomic balance signifies enhanced physiological flexibility and emotional management, essential for decision-making and performance in high-risk police contexts. The findings underscore yoga's potential in mitigating long-term stress-related health issues, including burnout and psychosomatic diseases, often seen in police officers. The research offers robust empirical evidence for incorporating organized yogic practices into police training and wellness initiatives. This integration may enhance sustainable occupational health, elevate job performance, and foster a better work environment, ultimately benefitting both law enforcement personnel and the communities they serve.

➤ Limitations of the study

However, despite the fact that it makes significant contributions, the research does have several shortcomings that need to be noted. The results cannot be generalized beyond the chosen police officers in Delhi National Capital Region (NCR) since they were obtained via the technique of selective sampling. In spite of the fact that the intervention period was long enough to see substantial improvements, it is possible that it did not adequately capture the long-term physiological and psychological adaptations that emerge from consistently practicing yoga. In addition, there is a possibility of response bias when relying on self-reported measurements for determining specific psychological characteristics. Several of the findings that were obtained may have been influenced by the fact that environmental, nutritional, and lifestyle variables that may have an effect on the outcomes were not completely controlled.

➤ Implications of the study

The conclusions of this research have significant consequences for law enforcement agencies, both in terms of policy and in terms of practical application. A non-pharmacological and cost-effective technique for reducing occupational stress and improving overall well-being is to include yoga-based treatments into normal police training and wellness activities. This may serve as a way to improve overall well-being among police officers. The findings provide policymakers and managers of police departments evidence-based support for the development of preventative mental health programs that center on the management of stress, the control of emotions, and physical fitness. Additionally, the research makes a contribution to the expanding body of literature on occupational health by identifying yoga as a viable intervention for occupational settings that are characterized by high levels of stress.

➤ Future Research Directions

There is a possibility that this study might be expanded upon in the future by adopting longitudinal research designs to investigate the long-term impact of yogic practices on occupational stress and health outcomes among law enforcement professionals. It would be beneficial to do research with bigger and more varied samples from a variety of states or police units in order to improve generalizability. The comparative efficiency of various yoga modules, as well as the frequency and length of practice, might potentially be investigated in further study. By using qualitative methods, one may be able to get a more profound understanding of personally experienced situations and coping techniques. In addition, it is possible that future research may study the function that yoga plays in combination with other psychological therapies in order to establish holistic stress management models for law enforcement professionals.

REFERENCES

1. Alsufyani, A. M., Aboshaiqah, A. E., Alshehri, F. A., & Alsufyani, Y. M. (2022). Impact of emotional intelligence on work performance: The mediating role of occupational stress among nurses. *Journal of Nursing Scholarship*, 54(6), 738-749.
2. Angusubalakshmi, R., Vaishali, P. M., & Parasuraman, G. (2024). Beyond the Badge: A Scoping Review Among Police Personnel in South India Exploring the Impact of Yoga and Health Education on Cardiovascular Health. *Cureus*, 16(9).

3. Awashreh, R., & AlGhunaimi, H. (2024). Navigating burnout in the public sector: Strategies for enhancing employee well-being and organizational performance. *Evolutionary Studies in Imaginative Culture*, 8(3), 211-225.
4. Balaji, P. A., Varne, S. R., & Ali, S. S. (2021). Effects of pranayama on respiratory function and stress reduction. *Journal of Clinical and Diagnostic Research*, 15(6), CC01–CC05.
5. Balamurali, B., & Kumar, V. A. (2025). Job Satisfaction Of Police Personnel’s Through Emotional Labour And Occupational Stress. *Metallurgical and Materials Engineering*, 1309-1318.
6. Banerjee, A., Chattopadhyay, R., Duflo, E., Keniston, D., & Singh, N. (2021). Improving police performance in Rajasthan, India: Experimental evidence on incentives, managerial autonomy, and training. *American Economic Journal: Economic Policy*, 13(1), 36-66.
7. Bapna, D., Jain, A., Pawar, N., Mital, A. K., Choudhary, P., Jain, R. B., & Gupta, R. (2021). Depression, anxiety and stress among police personnel during COVID-19 pandemic: A cross-sectional study in North India. *Epidemiology International*, 6(2), 6–11.
8. Beckley, A., Wang, J., Birch, P., & den Heyer, G. (2025). Mental health and well-being amongst police officers: a three-country comparison through the application of the jobs demand-resources model. *The Journal of Forensic Practice*.
9. Bello, B. G., Tula, S. T., Omotoye, G. B., Kess-Momoh, A. J., & Daraojimba, A. I. (2024). Work-life balance and its impact in modern organizations: An HR review. *World Journal of Advanced Research and Reviews*, 21(1), 1162-1173.
10. Bhardwaj, P., Ahuja, N., Malik, P., Sethi, D., Singh, A., & Pathania, M. (2024). Harnessing the body, breath, and mind: Yoga strategies for resilience over stress and burnout in public service. *Burned Out*, 143.
11. Bhavanani, A. B. (2019). Yoga and stress management. *Annals of Neurosciences*, 26(2), 66–72.
12. Bishnoi, N. K., Rani, B., & Meena, D. (2024). Mental Health and Stress Among Indian Police Personnel: A Crisis in the Shadows. *The Indian Police*, 126.
13. Boone, C. M. (2025). Strengthening the Shield: Resilience in Law Enforcement and the Transformative Effects of Higher Education (Doctoral dissertation, Seton Hall University).
14. Brown, R. P., Gerbarg, P. L., & Muench, F. (2018). Breathing practices for treatment of psychiatric and stress-related disorders. *Journal of Alternative and Complementary Medicine*, 24(9), 1–8.
15. Chitra, T., & Karunanidhi, S. (2021). The impact of resilience training on occupational stress, resilience, job satisfaction, and psychological well-being of female police officers. *Journal of Police and Criminal Psychology*, 36(1), 8-23.
16. Choudhary, S., Sharma, K., & Saini, J. (2022). Mental health outcomes among frontline police personnel during the COVID-19 pandemic in India. *Journal of Police and Criminal Psychology*, 37(3), 567–576.
17. Chu, I. H., Wu, W. L., Lin, I. M., Chang, Y. K., & Lin, Y. J. (2017). Effects of yoga on heart rate variability and mood in stressed adults. *Evidence-Based Complementary and Alternative Medicine*, 2017, 1–8.
18. Cramer, H., Lauche, R., & Dobos, G. (2021). Yoga for mental health and well-being: A systematic review. *Depression and Anxiety*, 38(9), 1–14.
19. Cranwell, K., & Alyssa, M. (2005). Occupational stress and employee performance. *Journal of Organizational Psychology*, 12(3), 45–59.
20. Cushing, R. E., Braun, K. L., Alden, C-IAYT, S. W., & Katz, A. R. (2018). Military-tailored yoga for veterans with post-traumatic stress disorder. *Military medicine*, 183(5-6), e223-e231.
21. Dailey, S. F., & Roche, R. R. (2025). The SHIELD framework: Advancing strength-based resilience strategies to combat bullying and cyberbullying in youth. *International Journal of Environmental Research and Public Health*, 22(1), 66.
22. Drnovšek, M., Slavec, A., & Aleksić, D. (2024). “I want it all”: exploring the relationship between entrepreneurs’ satisfaction with work–life balance, well-being, flow and firm growth. *Review of Managerial Science*, 18(3), 799-826.
23. El Sayed, S. A., Sanford, S. M., & Kerley, K. R. (2019). Understanding workplace stress among federal law enforcement officers. *American journal of criminal justice*, 44(3), 409-429.
24. Evangelia Demou, Hannah Hale & Kate Hunt (2020) Understanding the mental health and wellbeing needs of police officers and staff in Scotland, *Police Practice and Research*, 21:6, 702-716, DOI: 10.1080/15614263.2020.1772782
25. Galanis, P., Fragkou, D., & Katsoulas, T. A. (2021). Risk factors for stress among police officers: A systematic literature review. *Work*, 68(4), 1255-1272.
26. Gard, T., Noggle, J. J., Park, C. L., Vago, D. R., & Wilson, A. (2020). Potential self-regulatory mechanisms of yoga for psychological health. *Frontiers in Human Neuroscience*, 14, 1–17.
27. Grover, S., Sahoo, S., Mehra, A., Avasthi, A., Tripathi, A., Subramanyan, A., ... Rao, G. P. (2020). Psychological impact of COVID-19 lockdown: An online survey from India. *Asian Journal of Psychiatry*, 54, 102341.
28. Harter, S., Kuncel, N., & Sweeney, M. (2022). Mental health in law enforcement: Moving towards psychological well-being for police officers. *Journal of Police Science*, 34(2), 100-112.
29. Hartfiel, N., Burton, C., Rycroft-Malone, J., et al. (2018). Yoga for reducing perceived stress and improving well-being. *Occupational Medicine*, 68(5), 1–7.
30. Joshi, L. N., Joshi, V. D., & Gokhale, L. V. (2019). Effect of short-term pranayama on breathing efficiency. *Indian Journal of Physiology and Pharmacology*, 63(2), 1–6.
31. Kaushal, S. L., & Jalan, S. (2020). Occupational Stress in Himachal Pradesh Police Constabulary. *Journal of Management and Public Policy*, 11(2), 28-37
32. Kaushik, T., & Raj, R. (2024). Examining the impact of optimism and well-being among police personnel. *International Journal of Interdisciplinary Approaches in Psychology*, 2(5), 2177-2194.
33. Keerthirathne, I. K., Rathnayake, A., & Abeywardena, G. (2020). Relationship In Between Level of Blood Pressure and Occupational Stress among Police Officers of Kandy Regional Area
34. Kumar, S., & Varma, A. (2020). Occupational stress and mental health in India. *Indian Journal of Occupational Health*, 63(1), 15–22.
35. Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., ... & Hu, S. (2020). Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA network open*, 3(3), e203976-e203976.
36. Lambert, E. G., Qureshi, H., & Frank, J. (2021). The good life: Exploring the effects job stress, job involvement, job satisfaction, and organizational commitment on the life satisfaction of police officers. *International Journal of Police Science & Management*, 23(3), 279-292.

37. Liakopoulou, D., Tigani, X., Varvogli, L., Chrousos, G. P., & Darviri, C. (2020). Stress management and health promotion intervention program for police forces. *International Journal of Police Science & Management*, 22(2), 148-158.
38. Linjiya, S., & TT, A. K. (2025). Stress Management Strategies Among Women Police Officers in Kerala: Challenges and Opportunities. *NPRC Journal of Multidisciplinary Research*, 2(2), 188-196.
39. Mazumdar, C. S. (2025). From Traffic Control to Self-Care: A Study on Mental and Physical Well-being of Traffic Police Personnel in Identified Areas of North Bengaluru.
40. Moran, M. K., Flynn Makic, M. B., McGladrey, L., Cook, P. F., & Peterson, K. (2023). Student-led stress reduction support groups: A qualitative program evaluation. *Journal of Nursing Education*, 62(12), 711-715.
41. Nadeem, A., Iqbal, A., Ameer, S., Hayat, U., Fatima, A., & Ishaq, F. (2025). Unravelling the effect of Resilience in Stress Reduction among Police. *Bulletin of Business and Economics (BBE)*, 14(1), 12-17.
42. National Crime Records Bureau (NCRB). (2022). *Accidental deaths and suicides in India 2021*. Ministry of Home Affairs, Government of India.
43. Omar, T., & Rastogi, N. (2025). A Study on Work-Life Balance among Working Women with Special Reference to Lucknow District.
44. Oskarsson, E., Österberg, J., & Nilsson, J. (2021). Work-life balance among newly employed officers—a qualitative study. *Health Psychology Report*, 9(1), 39-48.
45. Padhy, M., Ralte, L., Padiri, R. A., & Chelli, K. (2023). Well-being of police personnel: Role of perceived social support and perceived control of internal states. *The Police Journal*, 96(2), 318-330
46. Pascoe, M. C., & Bauer, I. E. (2015). A systematic review of randomised control trials on yoga and stress. *Journal of Psychiatric Research*, 68, 270–282.
47. Pascoe, M. C., Thompson, D. R., Jenkins, Z. M., & Ski, C. F. (2017). Mindfulness mediates the physiological effects of yoga on stress. *Journal of Psychiatric Research*, 95, 1–8.
48. Perez, R. A., Jetelina, K. K., & Gonzalez, J. M. R. (2021). The chronic health effects of work-related stressors experienced by police communications workers. *Safety and health at work*, 12(3), 365-369.
49. Pradhan, S. (2021). Occupational stress, burnout, work family conflict and quality of life among police personnel working in Ranchi (Master's thesis, Central Institute of Psychiatry (India)).
50. Rajan, S. K., Thomas, M. W., & Vidya, P. (2021). Emotional intelligence as a predictor of police operational stress: a pilot study. *Journal of Police and Criminal Psychology*, 36(3), 568-578.
51. Ray, U. S. (2020). Role of yoga in stress management among uniformed personnel. *Defence Institute of Physiology and Allied Sciences (DIPAS) Research Review*, Delhi.
52. Ross, A., & Thomas, S. (2019). The health benefits of yoga and exercise. *Journal of Alternative and Complementary Medicine*, 25(6), 1–9.
53. Saoji, A. A., Raghavendra, B. R., & Manjunath, N. K. (2020). Effects of yogic breathing on autonomic balance. *International Journal of Yoga*, 13(2), 1–6.
54. Sharma, D., & Sharma, B. R. (2024). The impact of yoga and meditation on mental and physical well-being. *Journal of Ayurveda and Integrated Medical Sciences*, 9(5), 144-153.
55. Sharma, R., & Singh, P. (2021). Occupational stress among police personnel in India. *Journal of Police Studies*, 18(2), 101–118.
56. Sharma, R., & Singh, P. (2021). Occupational stress and mental health issues among police personnel in India. *Journal of Police and Criminal Psychology*, 36(2), 245–256. <https://doi.org/10.1007/s11896-020-09410-3>
57. Sharma, R., & Singh, P. (2022). Occupational stress and coping strategies among police personnel in India. *Journal of Police and Criminal Psychology*, 37(3), 412–421. <https://doi.org/10.1007/s11896-021-09478-6>
58. Singh, G., Srivastava, M., Srivastava, M., Srivastava, P., & Srivastava, P. (2025). Determinants of Occupational Stress among Non-Gazetted CRPF Jawans—A Cross-Sectional Study. *Indian Journal of Occupational and Environmental Medicine*, 29(1), 32-37.
59. Singh, G., Srivastava, M., Srivastava, M., Srivastava, R. K., & Srivastava, P. (2023). Work-Life Balance and Occupational Stress of the Non-Gazetted Central Reserve Police Force Jawans in Chandauli. *Indian Journal of Community Health*, 35(3), 324-328.
60. Stogner, J., Miller, B. L., & McLean, K. (2020). Police stress, mental health, and resiliency during the COVID-19 pandemic. *American journal of criminal justice*, 45(4), 718-730
61. Streeter, C. C., Gerbarg, P. L., & Brown, R. P. (2018). Yoga therapy for anxiety and stress-related disorders. *Psychiatric Clinics of North America*, 41(3), 1–16.
62. Syed, S., Ashwick, R., Schlosser, M., Jones, R., Rowe, S., & Billings, J. (2020). Global prevalence and risk factors for mental health problems in police personnel: a systematic review and meta-analysis. *Occupational and environmental medicine*, 77(11), 737-747.
63. Telles, S., & Gupta, R. (2021). Yoga for stress, resilience and mental health. *Frontiers in Psychiatry*, 12, 658.
64. Telles, S., & Gupta, R. K. (2021). Yoga for stress management and mental health: A systematic review. *Frontiers in Psychiatry*, 12, 658. <https://doi.org/10.3389/fpsyt.2021.00658>
65. Telles, S., Kala, N., Gupta, R. K., Verma, S., Vishwakarma, B., Agnihotri, S., ... & Balkrishna, A. (2019). Effect of yoga on vigilance, self rated sleep and state anxiety in Border Security Force personnel in India. *Work*, 63(2), 243-251.
66. Telles, S., Singh, N., & Balkrishna, A. (2020). Managing mental health disorders through yoga. *Journal of Ayurveda and Integrative Medicine*, 11(3), 327–333.
67. Thiruvangadam, S., & Mohanakrishnan, R. (2022). Combined Effect Of Yogic Practice And Interval Training On Speed And Stress Among Armed Reserved Police Of Cuddalore District. *Journal of Positive School Psychology*, 6(10), 4379-4381.
68. Tribune News Service. (2007). Stress and suicides among armed forces raise concern. *The Tribune*.
69. Tripathy, S. UNDERSTANDING KEY FACTORS TO OVERCOME STRESS OF EMPLOYEES: A STUDY ON CENTRAL RESERVE POLICE FORCE (CRPF).
70. Vaze, D. R. (2021). Yoga-based approaches for stress management in high-risk professions. *Journal of Yoga and Health Sciences*, 6(2), 88–95.
71. World Health Organization (WHO). (2020). Guidelines on mental health at work.
72. Yadav, B., Bhusal, S., KC, A., & Singh Pradhan, P. M. (2023). Occupational stress and environmental impact among traffic police officers in Kathmandu Valley, Nepal: A qualitative study. *PLOS global public health*, 3(11), e0002174.