

## Impact of Quality of Life and Interpersonal Support on Stress in Frontline Police Personnel

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The present study aimed to explore the impact of quality of life and interpersonal support on stress among police personnel during COVID-19. Total sample comprised of 203 (Males-136; Females-67) frontline police personnel engaged in duties during COVID-19. Subjects were selected randomly from various police stations of Chandigarh city. The data was collected during lockdown due to COVID-19 by using standardized psychological tools (DASS-21, Acute Stress Disorder Scales, WHO-Quality of life scale, Interpersonal Support Evaluation List). Data was analyzed by using independent t-test, and step-wise multiple regression. The results showed gender differences on acute stress, psychological quality of life, environmental quality of life and appraisal social support. The regression analysis revealed that general health and environmental quality of life predict stress, while psychological quality of life predicts acute stress among females. Whereas, general health predicts stress, and physiological quality of life predicts acute stress, with both showing significant negative associations with stress levels in males. Police departments can use this information to design gender-sensitive stress management and intervention programs to improve well-being, reduce stress, and support mental health.

**Keywords:** Gender, Interpersonal Support, Police, Quality of Life, Stress

The COVID-19 frontline critical service providers are, the most susceptible to the psychological toll of the response activities (Vinayak, 2020). COVID-19 significantly increased stress among frontline workers due to heightened exposure to the virus, increased workload, and emotional strain, with studies highlighting elevated anxiety, burnout, and psychological distress (Pappa et al., 2020; Zhao et al., 2021).

Stress refers to a psychological and emotional state that arises when individuals perceive environmental demands as exceeding their ability to cope. It is commonly classified into acute stress, which may temporarily enhance alertness and performance, and chronic stress, which persists over time and is associated with detrimental health consequences. Prolonged exposure to stress can disrupt immune

functioning, increase the risk of cardiovascular disease, and contribute to emotional exhaustion and burnout, thereby undermining overall physical and mental well-being (McEwen & Akil, 2020; Slavich, 2020).

Police personnel are particularly susceptible to chronic occupational stress due to the inherently dangerous nature of their work, frequent exposure to traumatic events, critical decision-making under pressure, irregular work schedules, and organizational stressors such as workload demands and insufficient support. The higher levels of psychological distress, sleep disturbances, and stress-related physical health problems among police officers (Purba & Demou, 2019). Addressing police stress therefore requires a comprehensive and multi-level approach that includes stress management training, access to professional

mental health services, peer-support systems, and the development of supportive organizational cultures that promote resilience, well-being, and job effectiveness (Kurtz et al., 2019; Berg et al., 2023).

Police work places substantial demands on physical, psychological, and social well-being, and these pressures were amplified for frontline personnel during the COVID-19 pandemic (Lai et al., 2020; Liu et al., 2021). Compared with the general population, police officers report elevated levels of stress, anxiety, and depressive symptoms, which adversely affect overall quality of life (Violanti et al., 2017). Ongoing exposure to trauma, extended duty hours, shift work, and inadequate organizational support further contribute to emotional strain and work-life imbalance (Menard & Arter, 2013; Hartley et al., 2013). Enhancing police quality of life therefore requires structured stress-reduction initiatives, accessible mental health services, and supportive organizational practices (Miller, 2019).

Interpersonal support from social relationships helps buffer stress and protect mental health by improving coping and reducing negative emotions (Cohen & Wills, 1985). Interpersonal support among police personnel plays a crucial role in maintaining emotional well-being, job satisfaction, and resilience in high-stress environments. Strong social support from colleagues, supervisors, and family helps mitigate the negative effects of stress and promotes mental health (Folkman & Moskowitz, 2000). During COVID-19, restrictions and isolation weakened support networks for police and other frontline workers, increasing loneliness and stress (Zhao et al., 2021). Furthermore, the heightened risk of corona virus exposure and the overwhelming demands placed on police personnel during the pandemic made it difficult for them to seek or provide emotional support effectively (Lai et al., 2020). This lack of interpersonal support

contributed to increased mental health challenges such as anxiety, depression, and burnout among frontline workers (Pappa et al., 2020).

Occupational stress in policing is associated with adverse outcomes such as burnout, psychological difficulties, and reduced job satisfaction (Violanti et al., 2017). Evidence on gender differences in police stress is mixed, with some studies indicating higher stress among female personnel due to competing work and family demands and exposure to gender-related workplace challenges (Collins et al., 2020; Brough & Williams, 2007). Other research suggests gender-specific stress patterns, with women reporting greater emotional exhaustion and men showing higher depersonalization, reflecting differing role expectations and job demands (Harris & White, 2017; Papazoglou & Tuttle, 2018).

The demands of policing can reduce quality of life by affecting sleep, health, and relationships (Violanti et al., 2017). Research on gender differences in quality of life among police personnel suggests that female personnel tend to report lower levels of life satisfaction compared to their male counterparts. For example, women may experience greater job-related stress and lower overall life satisfaction, particularly when balancing home responsibilities and work demands (Carmichael & Jones, 2014). This imbalance can affect their physical and mental health, with reports of higher rates of anxiety and depression among female personnel (Bakker et al., 2014). In contrast, male personnel are often found to report higher levels of job satisfaction and physical well-being, though they may suffer from other health issues such as cardiovascular problems due to stress (Burke & Mikkelsen, 2006).

Police personnel access to social support, both from peers and supervisors, can

mitigate the impact of stress and enhance overall well-being (Brough, 2004). Female personnel, particularly in male-dominated environments, may face challenges in establishing strong, supportive relationships with their peers. Studies have shown that women in policing often feel isolated or excluded from informal support networks (Morash et al., 2015). which can exacerbate stress and negatively affect their overall well-being. In contrast, male personnel may find it easier to form strong bonds with colleagues, as the work culture tends to be more male-dominated. These informal networks of support are essential in reducing feelings of stress and fostering a sense of camaraderie. However, research also suggests that police personnel, regardless of gender, may struggle with the hierarchical nature of the profession, where support from superiors can be limited or inadequate (Simmons et al., 2018).

Research shows that chronic stress lowers physical, mental, and social quality of life, contributing to health problems, emotional distress, and social withdrawal across groups such as police, healthcare workers, and students, especially during COVID-19 (Lai et al., 2020). Interpersonal support helps reduce stress by improving physiological responses and promoting healthy coping, benefiting groups such as healthcare workers and police personnel, where colleague support is especially important for managing job-related stress (Pappa et al., 2020).

### **Need for the Study**

The COVID-19 pandemic had not only posed significant health risks but had also created unprecedented challenges for frontline workers, especially law enforcement personnel like police personnel. Among these challenges, the heightened levels of stress, disruptions in quality of life, and shifts in interpersonal support structures were

expected to have profound effects on the well-being and performance of police personnel. Like many other law enforcement agencies and health care workers, personnel of Chandigarh police force had been at the forefront of maintaining public order. While performing their duties, they were more exposed to increased risks, trauma, and emotional strain due to the pandemic. Stress responses can vary significantly between genders due to biological, psychological, and sociocultural factors.

Male and female police personnel experience stress differently, shaped by work roles and social expectations. Studying gender differences in stress, quality of life, and social support especially during COVID-19 can guide targeted interventions, prevent burnout, and support a healthier, more effective police force. Therefore, this study was planned to provide valuable insights into how the COVID-19 pandemic has affected Chandigarh police personnel differently based on gender in terms of stress, quality of life, and interpersonal support during pandemic. These insights can support research and help improve police mental health, service quality, and resilience.

### **Objectives**

1. To examine stress, quality of life and interpersonal support among male and female frontline police personnel during COVID-19.
2. To assess the role of quality of life and interpersonal support in predicting stress among male and female police personnel who were on frontline duties during COVID-19..

### **Hypotheses**

- H1. Female police personnel are expected to have higher levels of stress than male police personnel.
- H2. Female police personnel are expected to have lower quality of life

as compared to male police personnel.

- H3. Female police personnel are expected to have higher interpersonal support as compared to male police personnel.
- H4. There will be a negative relationship of stress with quality of life and interpersonal support.
- H5. There will be a positive relation between quality of life and interpersonal support.
- H6. Quality of life acts as predictor in acute stress and stress in male and female police personnel.
- H7. Interpersonal support acts as predictor in acute stress and stress in male and female police personnel.

#### **Method**

The primary focus of the study was to explore the experiences of police personnel who were actively engaged as frontline workers in law enforcement duties during the COVID-19 pandemic. The Chandigarh Police force provides a diverse and representative sample of the law enforcement workforce in India. Due to pandemic, going out of Chandigarh was not feasible, so the study aimed to capture the unique stressors, coping mechanisms, and support structures faced by this group during the pandemic. This population included both male and female police personnel, each with distinct roles and responsibilities of frontline workers during COVID-19.

#### **Sample:**

The data was collected during lockdown due to COVID-19 by using standardized psychological tools. Total sample comprised of 203 (Males-136; Females-67) police personals, working as frontline workers engaged in duties during COVID-19, consisting of 136 males and 67 females.

Participants were randomly selected from multiple police stations across Chandigarh city.

**Inclusion Criteria:** During the COVID-19 epidemic, participants had to be regular personnel of the Chandigarh police force engaged in frontline duties in order to be eligible. They must be willing to give their informed consent after being made aware of the purpose of the study and the fact that their participation is optional.

**Exclusion Criteria:** Retired or non-active employees with severe physiological and psychological disorders with administrative roles and unwillingness to engage with no barrier of language were excluded.

#### **Measures:**

1. *DASS-21* (Lovibond & Lovibond, 1995),
2. *Acute Stress Disorder Scales (ASDS)* adapted for COVID-19 (Bryant, 2003; Kassam-Adams et.al, 2020),
3. *WHO-Quality of life scale WHOQOL-BREF* (World Health Organization-WHO, 1995)
4. *Interpersonal Support Evaluation List (ISEL)* (Cohen & Hoberman, 1983).

**Statistical analysis:** The data was analyzed by using descriptive statistics, independent t-test, correlational analysis and multiple regression.

#### **Results**

Table 1 shows the values of skewness and kurtosis lies within the range (skewness between -2 to +2 and kurtosis between -7 to +7), therefore the data of the study is considered as normally distributed. The results are organised in three sections: A) t-test, B) correlational analysis C) regression analysis.

A. Independent t-test: Gender difference: The results shows that (Table 1),

there exists a significant difference ( $p < .01$ ) on the basis of gender on acute stress (ASDS)( $t=2.1$ ) appraisal social support (ASS)( $t=2.5$ ), environmental quality of life (QL-ENV)( $t=3.1$ ) and psychological quality of life (QL-PSY) ( $t=2.4$ ), indicating that females

report higher levels of acute stress (ASDS)( $MD=4.59$ ), appraisal social support (ASS)( $MD=0.81$ ), environmental (QL-ENV)( $MD=2.47$ ) and psychological quality of life (QL-PSY)( $MD=1.75$ ) as compared to males.

Table 1. Descriptive Statistics Independent t-test

	Mean (O)	SD(O)	Skw	Ku	Mean (F)	SD (F)	Mean (M)	SD (M)	t	df	MD
STRESS	6.1	4.4	0.5	-0.5	5.9	4.3	6.1	4.5	0.2	201	0.15
ASDS	39.2	14.3	0.5	-0.2	42.3	15.4	37.7	13.6	2.1	201	4.59**
TSS	11.7	2.3	0.1	-0.6	12.1	2.6	11.4	2.2	1.8	201	0.66
BSS	11.2	2.6	0.1	-0.4	11.1	2.7	11.2	2.6	0.1	201	0.01
ASS	11.7	2.1	0.1	-0.4	12.3	2.2	11.5	2.1	2.5	201	0.81**
QL-ENV	25.1	5.6	-0.3	-0.3	26.7	5.1	24.3	5.6	3.1	201	2.47**
QL-PSY	22.8	4.8	-0.6	-0.1	23.9	4.1	22.2	5.1	2.4	201	1.75**
QL-PH	27.1	5.5	0.2	1.4	27.9	6.9	26.6	4.6	1.5	201	1.24
QL-SR	12.4	2.6	-1.4	1.9	12.8	2.3	12.2	2.7	1.3	201	0.54
QL-GH	8.1	1.6	-0.8	0.5	8.3	1.5	8.1	1.7	1.1	201	0.26

### B. Correlational analysis:

*B1. Males:* The correlation analysis shows that stress is significantly and positively correlated with acute stress (ASDS)( $r = .39$ ), but negatively correlated with belonging social support (BSS)( $r = -.39$ ), environmental quality of life (QL-ENV)( $r = -.28$ ), psychological quality of life (QL-PSY) ( $r = -.32$ ), physiological quality of life (QL-PH) ( $r = -.39$ ) and quality of life and general health (QL-GH)( $r = -.34$ ) at 0.01 level whereas with belonging social support (BSS)( $r = -.21$ ) and quality of life and social relationships (OL-SR)( $r = -.17$ ) at 0.05 level. Additionally, acute stress (ASDS) shows a significant negative correlation with environmental quality of life (QL-ENV)( $r = -.36$ ), psychological quality of life (QL-PSY)( $r = -.36$ ), physiological quality of life (QL-PH) ( $r = -.42$ ), quality of life and social relationships (QL-SR)( $r = -.32$ ), and quality of life and general health (QL-GH)( $r = -.26$ ) at 0.01 level.

*B2. Females:* The correlation analysis shows that stress is significantly correlated positively with acute stress (ASDS) ( $r = .58$ ) and negatively correlated with tangible social support (TSS)( $r = -.52$ ), belonging social support (BSS)( $r = -.42$ ), appraisal social support (ASS)( $r = -.43$ ) and psychological quality of life (QL-PSY)( $r = -.44$ ) at 0.01 level. Furthermore, acute stress (ASDS) is significantly and negatively correlated with appraisal social support (ASS)( $r = -.32$ ) at 0.01 level and with tangible social support (TSS)( $r = -.25$ ), belonging social support (BSS)( $r = -.29$ ) and psychological quality of life (QL-PSY)( $r = -.26$ ) at 0.05 level.

*C1. Regression analysis:* The regression analysis identifies significant predictors of stress and acute stress in females and males based on various dimensions of quality of life (QOL). The results of regression analysis are shown in Table-2.

**C2. Predictors of Stress:** For females, at first, quality of life and general health (QL-GH) emerged as a significant predictor of stress, with a change in R-squared ( $\Delta R^2$ ) of 0.510,  $F(1,65)=22.816, p \leq 0.01$ . In addition, environmental quality of life (QL-ENV) was also a significant predictor, accounting for a  $\Delta R^2$  of 0.555,  $F(2,64)=4.429, p \leq 0.03$ . Collectively, these variables demonstrated a multiple correlation (R) of 0.555, accounting for 30.8% of the variance in stress. Both, quality of life and general health (QL-GH)

( $\beta=-0.39$ ) and environmental quality of life (QL-ENV)( $\beta=-0.24$ ) exhibited significant negative associations with stress levels in females. In contrast, for males, only quality of life and general health (QL-GH) emerged as a significant predictor of stress, with  $\Delta R^2 = 0.118$ ,  $F(1,34)=17.875, p \leq 0.01$ , explaining 11.8% of the variance in stress. The multiple correlation for this model was 0.343 (R), and quality of life and general health (QL-GH) ( $\beta=-0.39$ ) demonstrated a significant negative relationship with stress in males.

Table 2 Shows the Regression equations for quality of life (QOL) and Interpersonal Support as predictors of STRESS and Acute Stress (ASDS) in males and females.

DV	Sample	N	Step	Predictors	R	R <sup>2</sup>	$\Delta R^2$	F	df	$\beta$
STRESS	F	67	1	QL-GH	.510 <sup>a</sup>	.260	.260	22.81**	1/65	-.39
			2	QL-ENV	.555 <sup>b</sup>	.308	.048	4.42*	2/64	-.24
ASDS	M	136	1	QL-GH	.343 <sup>a</sup>	.118	.118	17.87**	1/134	-.343
			F	67	1	QL-PSY	.314 <sup>a</sup>	.099	.099	7.131**
	M	136	1	QL-PH	.419 <sup>a</sup>	.176	.176	28.53**	1/134	-.419

O=Overall, F=Females, M=Males, t=Ratio, SD=standard deviation, df=degree of freedom, MD=Mean Difference, DV=Dependant variable, N=Sample size, R=Multiple correlation, R<sup>2</sup>=Proportion of variance in DV,  $\Delta R^2$ =R-Square change, F-F-Ratio,  $\hat{\beta}$ -Beta, \*\*=significant at the 0.01 level, \*=significant at the 0.05 level, ASDS=Acute Stress, TSS=Tangible Social Support, BSS=Belonging Social support, ASS=Appraisal Social Support, QL-ENV=Environmental Quality of Life, QL-PSY=Psychological Quality of Life, QL-PH=Physiological Quality of Life, QL-SR=Quality of Life and Social Relationships, QL-GH=Quality of Life and General Health.

**C3. Predictors of Acute Stress (ASDS):** Further analysis revealed that psychological quality of life (QL-PSY) was a significant predictor of acute stress (ASDS) in females, with a  $\Delta R^2$  of 0.099,  $F(1,65)=7.131, p \leq 0.01$ . This variable explained 9.9% of the variance

in acute stress (ASDS) by exhibiting a significant negative influence on acute stress (ASDS)( $\beta=-0.32$ ). In males, physiological quality of Life (QL-PH) was identified as a predictor of acute stress (ASDS) with a  $\Delta R^2$  of 0.176,  $F(1,134)=28.533, p \leq 0.01$ , accounting for 17.9% of the variance in acute stress(ASDS). The multiple correlation for this model was 0.319 (R), with physiological quality of Life (QL-PH) exerting a significant negative ( $\beta=-0.42$ ) effect on acute stress (ASDS) in males. These findings highlight gender-specific patterns in the influence of different dimensions of quality of life on both general and acute stress.

### Discussion

The present study examined gender differences in stress, quality of life, and interpersonal support among frontline police personnel during the COVID-19 pandemic. The findings largely support the proposed hypotheses and are in agreement with earlier

theoretical frameworks and empirical studies on occupational stress and coping.

Consistent with H1, female police personnel reported higher levels of acute stress than male personnel. During the pandemic, police officers undertook additional responsibilities such as enforcing public health regulations, managing community distress, and maintaining public order amid infection risk. Recent post-2022 studies continue to show that female frontline workers experience disproportionately higher psychological distress, anxiety, and acute stress reactions due to combined occupational exposure and domestic role demands (Salari et al., 2022; Magnavita et al., 2023). These stressors appear to persist beyond the acute phase of the pandemic, particularly among women in high-risk public service roles.

Partial support for H2 was observed, with significant gender differences in the psychological and environmental domains of quality of life. Pandemic-related disruptions such as unpredictable work schedules, perceived lack of safety, limited recovery time, and restricted access to supportive resources may have had a greater impact on female personnel. Post-2022 research among frontline workers highlights lasting impairments in psychological well-being and perceived environmental safety, particularly among women exposed to prolonged crisis conditions (De Kock et al., 2022; Liu et al., 2023). The environmental quality of life domain remains especially salient for police personnel, reflecting concerns related to workplace safety, protective infrastructure, and organizational preparedness.

In support of H3, female personnel reported higher levels of appraisal-based interpersonal support than males. Recent studies suggest that emotional validation, reassurance, and feedback from colleagues and family remain critical coping resources

for women in frontline roles, even in the post-pandemic phase (Thoits, 2011; Ozbay et al., 2023). Gendered coping patterns and socialization processes may explain women's greater reliance on evaluative and emotional forms of support during sustained occupational stress.

The correlational findings supported H4 and H5, demonstrating that higher stress was associated with poorer quality of life and lower interpersonal support, while quality of life was positively related to social support. These associations are consistent with recent longitudinal studies indicating that chronic stress exposure during COVID-19 has enduring negative effects on well-being unless buffered by strong social and organizational support systems (Uchino et al., 2022; Labrague, 2023). For frontline police personnel, continued exposure to public scrutiny and crisis-related duties may further weaken these protective resources over time.

Regression analyses provided support for H6 and H7, revealing gender-specific predictors of stress and acute stress. Among female personnel, general health and environmental quality of life significantly predicted stress, emphasizing the importance of safety perceptions and supportive working conditions. Among males, general health emerged as the primary predictor, suggesting a stronger emphasis on physical resilience. Psychological quality of life predicted acute stress among females, whereas physiological quality of life was the strongest predictor for males. Recent occupational health research similarly reports gender-differentiated stress pathways among frontline workers following COVID-19 (Magnavita et al., 2022; Violanti et al., 2023).

Overall, the findings are consistent with the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) and the Stress-Buffering Model of Social Support (Cohen & Wills, 1985). The study underscores the need

for gender-sensitive mental health interventions for frontline police personnel, emphasizing psychological support, safe working environments, and social resources for female officers, alongside physical health promotion and recovery support for male officers. Such targeted approaches are essential for mitigating long-term stress, preventing burnout, and strengthening resilience in law enforcement personnel responding to future public health emergencies.

#### **Limitations and Future Research:**

While the findings of this study provide valuable insights, there are some limitations that should be considered. First, the study's cross-sectional design limits the ability to infer causality between quality of life, social support, and stress. Future research could benefit from a longitudinal approach to examine the long-term impact of the pandemic on police personnel. Additionally, although the study focused on police personnel in Chandigarh, it may be useful to expand the study to other regions or countries to understand the broader applicability of these findings. Gender differences in stress responses may also vary across cultures and socio-political contexts, which warrants further exploration. Moreover, future research could consider other factors, such as work-related stressors, organizational support, and personal coping styles, which may further contribute to the stress experiences of frontline workers.

#### **Conclusion**

This study highlights gender differences in stress among police personnel during COVID-19, showing that female officers are more affected by social stressors, while male officers' stress relates more to physical well-being. The findings emphasize the need for gender-sensitive, holistic stress management programs addressing both psychosocial and physical health for frontline law enforcement

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