Impact of Rank on Police Personnel's Stress: A Comparative study of Police Personnels of Naxalite and non-naxalite region

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Abstract

Police personnel experience a lot of stress. The sources of the stress range from professional sources, personal traits to situational factors. Given that the nature of work of the police personnel differs between different ranks of police personnel. The rank of the police personnel determines the roles and responsibilities of the individual. Also the job location and the category of rank would have an impact on the role of the personnel and thus be related to the stress experienced by the personnel. So, it is expected that the stress experienced by the personnel at different ranks is expected to be different.Also, in a country like India ,that faces Naxalite issues, policing in these sensitive areas can involve a separate set of duties and responsibilities. This can further lead to differential stress experienced by police personnel serving in this area. Research is lacking on police personnel in the Naxalite areas. The sample of the paper is 339 Naxalite police personnel and 402 Non-naxalite police personnel. Based on the data collected and applying nonparametric tests the study examines the relationship between the rank of police personnel and the perceived stress for personnel. In the non-naxalite area it was found that the inspectors reported the most stress especially on account of the workload.High demand of target wise execution, like Suo-Moto cases and petty cases as compared to the crime cases and other law and order duties leads to excessive stress in police duties. In the Naxalite areas, the results are the opposite with the lower ranked personnel reporting the most stress and those who are higher ranked report lessor stress. This is because the scope of work for the different ranks in the Naxalite area are different from that in the non-Naxalite area. Policing in the Naxalite areas is similar to policing in terrorist areas. Naxalite police constables are the most stressed especially on account of the long working hours. They see the most casualties since they are out patrolling and therefore the fear of inherent danger is the most. Despite this they have lower salaries and live away from their families in camp like conditions. This creates additional pressure on the constables and therefore they experience high stress.

Keywords: Stress; Occupational stress; Police Stress; Rank; Designation; Naxalite; Non-naxalite; Comparative study

Introduction:

Police work involves protecting life and property at all costs (Lipp, 2009), investigation of crimes and dealing with the dark elements of society (Purba and Demou, 2019). Thus, the police are constantly exposed to work situations that test their mental and physical abilities(Morash et al., 2006) to successfully perform their job. Numerous research studies have established that the police personnelare highly stressed (Collins & Gibbs, 2003; Lipp, 2009; Gutschmidt and Vera, 2020). Stress can be understood as a physiological response to physical and mental demands or as"An interaction between environmental forces and events called stress precipitators, which appear threatening to the person's reaction to the threat" (Singh, 2007) . Policing is one of the professions with a lot of stress (Purba and Demou, 2019).

Several studies have also examined the factors causing police stress. and have found stressors like the negative work environment, a shortage of time with family, the shift hours, erratic eating habits, dearth of personal and professional support, etc. (Storch & Panzarelle, 1996; Ellison, 2004; Gutschmidt and Vera, 2020). This is further exacerbated by the fact that police work is undervalued and misunderstood. Often when up against well-armed and hardened criminals the police personal feel that they are at a disadvantage. This is further worsened as the number policemen is low and the duty pattern remain unchanged despite the rise in population and pressures of the job (Gajjar,2019) .

Stressed police personnel can experience mental issues like irritability, depression, etc. and physical health issues like headaches, digestive unrest, fatigue, etc. andstress can also affect job satisfaction and work performance (Kaur et al., 2013; Shane, 2019; Wijayanti and Fauzi, 2020). Numerous Indian (Deb et al., 2008; Rao et al, 2008) and International (Collins & Gibbs 2003, Lipp 2009) research studies have reported high stress levels among the police personnel, which have a negative impact on the society. Police personnel that are not mentally and physically fit cannot do justice to their duties.

The duties of police personnel differ according to the rank of the police personnel since the roles and responsibilities differ based on the location of the job and the category of ranks that the personnel serve. Hence the stress experienced by the personnel at different ranks is expected to be different. Since role related stress is an important aspect of stress. Also, in a country like India ,that faces Naxalite issues, policing in these sensitive areas can involve a separate set of duties and responsibilities. Extant literature on the relationship between stress and rank has shown mixed results for different police roles. There have been limited studies that have examined the impact of police rank on stress in the Naxalite area or have examined if the rank and stress relationship in Naxalite and non-naxalite areas is different.

The research questions of this study are:

a. What is the relationship between police rank and stress?

b. Is the relationship between police rank and stress the same for police in the Naxalite and the Non Naxalite areas?

The objective of the current study was to evaluate the differential level of stress between police personnel at different ranks in the Naxalite and non-Naxalite areas.

Literature Review:

Most of the literature in the area of police stress has identified two categories of stressors -its inherent dangers and law enforcement (Gajjar, 2019). The first category of stressors stem from the police work, which constantly makes them deal with anti-social elements, thus exposing the police personnel to danger. The second category of stressors deals with the bureaucratic structure of the police (Shabin and Priyamvadha, 2019). The police organization has a traditional structure with a well-defined chain of command, a small span of control and numerous rules that need to be abided by. This structure places constraints on the use of judgement in critical situations and this can be a source of stress for the personnel (Stogner et al., 2020). Thus, the bureaucratic structure leads to organizational and operational stressors for the police personnel (El Sayed et al., 2019).

Given that the nature of work of the police personnel differs between different ranks of police personnel. Singhvi and Mathur (1997), studies the differences experienced by a

variety of stresses by officers of the Central Reserve Police Force (CRPF). They reported significant differences between gazetted and non-gazetted officers on all the 10 components of stress as well as total stress. Previously Brown and Campbell(1994) intheir review also confirmed officers of different ranks are exposed to different adverse consequences of exposure of stressors. They reported that as the rank of the police personnel increases the exposure to organizational stressors increases and the exposure to operations stressors decreases. Thus, research has shown that differences in ranks impacts the stress experienced by police personnel.

In the Indian police, at the police station level one broad rank categorization is- constables (police nayak and police constables), sub inspectors (Head constable and Assistant sub inspector) inspectors (Assistant police inspector and Police Sub Inspector)) and police officers (Police Inspector) (Bano, & Talib, 2019). In terms of the bureaucracy, the constables are at the bottom of the hierarchy and follow orders as given by all those above them (Kaushal and Jalan, 2020). The sub inspectors register First Information Reports (FIRs) while the inspectors carry out field investigations and were responsible for the law and order of their jurisdiction. The officers are responsible for managing the crime situation in their jurisdiction and to supervise the subordinate's work (Kar & Singh, 2015). So the work handled by the different ranks is different and has different exposures and responsibilities.

Vinayak (2001 as cited in Kar & Singh, 2015) stated that police personnel at higher ranks experienced more stress than those at lower ranks. Also Kar and Singh (2015) looked at three ranks at the police station level in their study to understand the different stressors experienced by police personnel at different ranks reported that inspectors had more stress on account of work overload, organization structure and individual stressors like delayed promotions, fear of punishment and suspension, etc. Officers were more stressed about managing subordinates and supervisors simultaneously, role ambiguity, role overload and the bureaucratic structure. They reported that the constables were significantly stressed by the environmental factors like traveling to work daily, impoverished living conditions, low etc. Ragesh et al. (2017) reported that police personnel in lower ranks are more stressed than those in higher ranks on account of stressors like shift work and longer working hours. They attributed the higher stress to the fact that the lower ranked officials often dealt with the public in difficult situations and needed to be on the ground when managing law and order situations. Thus, studies have highlighted that police personnel in different ranks are stressed by different stressors though there is some contradiction it the results on which ranks experience more stress as compared to the others. Thus, there are mixed reports on the relationship between police rank and drawing on this line of work, this study suggests the following relationship:

H10: There is no significant difference between designation and level of perceived stress among police in non- Naxalite areas.

H20: There is no significant difference between designation and level of perceived stress among police in Naxalite areas.

In the Naxalite areas, policing involves a separate set of challenges and the work environment is also significantly different

Research Methodology:

Sample:

The sampling technique used for data collection is “simple random sampling”. The sample for the study is Officers at PS(Police Station) Level. The data has been collected from officers at Police Station Level from Naxatalite (Ghadchiroli) and non Naxalite (Ahmednagar, Jalna) areas of Maharashtra. The non-Naxalite sample size for the study was 402 while the Naxalite police sample size was 339.

Measurement:

To measure stress the Police Stress Survey (PSS) was used. It measures strength and incidence of specific stressors in law-enforcement agencies. Items have been incorporated which is based upon a comprehensive review of the literature in the area, followed by scores of officers on item simplicity, quantity of stress, and occurrence of every situation (Spielberger, Grier, & Greenfield, 1982). Demographics especially information about the rank was also sought from the respondents.

Hypothesis Testing

In the statistical techniques namely Independent Samples t-test, dependent variable is perceived stress. The dependent variable perceived stress' is on interval scale in both case Naxalite and non- Naxalite area. The independent variables designations) are on nominal scale with four categories in both cases. As per assumption of independence, while preparing the research design itself it was ensured that the categories or levels of the nominal scale data collected in this research were independent of each other. In this study, one-way ANOVA (Analysis of Variance) was used to test the hypothesis, if the data is found in normal. If in case data is not fulfilled the normality and homogeneity conditions then test for several independent sample (Kruskal-Wallis) Test is used to test the hypotheses, related to select designation and perceived stress characteristics in which the independent variable has four groups or categories.

Results:

According to Hair et al. (2006), the researcher should be aware of any assumption violations and its consequenceson the estimation process or the interpretation of the findings.

The most significant assumption in many statistical analyses is normality, which refers to the data distribution shape for a particular metric variable and its correspondence to the normal distribution (Hair et al., 2006).

The following numerical and visual output must be investigated to check the normality of data.

a. Kolmogorov-Smirnov and Shapiro-Wilks tests should not be significant i.e. the p- value should be greater than 0.05.

b. For homogeneity of data Levene test should not be significant i.e. the p- value should be more than 0 .05.

If the above assumptions are satisfied and data is found normal and homogeneous then parametric test (t- test or ANOVA) test is applied. Failing to satisfy the data i.e. in the case of data is abnormal then non- parametric tests (Mann-Whitney test, Wilcoxon signed rank test, Kruskal Wallis test, Friedman's test and chi square test) are applied according to suitability of conditions.

To test the hypothesis first normality test was done and we found that For the data distribution of perceived stress in Non-Naxalite areaPolice Inspector (PI) D (33) = 0.061, P>0.05 appears to be normal.Police sub inspector (PSI) and assistant police inspector (ASI) D (77) = 0.40, P<0.05 appears to be not normal.Head constable and Assistant sub inspector (ASI) D (133) = 0.000, P<.005 appears to be not normal.Police constable (PC) and Police Nayak (PN) D (159) = 0.000, P<.005 appears to be not normal.

Table- 1 : Non Naxalite Stress with Designation

Tests of Normality							
		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Designation	Statistic	df	Sig.	Statistic	df	Sig.
Stress	PI	.149	33	.061	.924	33	.024
	PSI_API	.104	77	.040	.925	77	.000
	HC_ASI	.115	133	.000	.908	133	.000
	PC_PN	.206	159	.000	.772	159	.000
a. Lilliefors Significance Correction							

Since KS test P value is not more than 0.05 (P< 0.05) except Police inspector (PI) sample, Data is not normal.

Table – 2: Test of Homogeneity of Variance

Test of Homogeneity of Variance					
		Levene Statistic	df1	df2	Sig.
Stress	Mean based	62.949	3	398	.000
	Medianbased	28.542	3	398	.000
	Median and with adjusted df based	28.542	3	167.734	.000
	Trimmed mean based	49.327	3	398	.000

Perceived stress in police, F (3, 398) = 0.000, P<0.05 which is significant. As per above finding The P value of Levene test for homogeneity of variance is less than 0.05, so that equal variance does not assumed.But also, assumption of normality of data has not been meet. Hence non- parametric Kruskal Wallis test is administrated.

Kruskal-Wallis Test (Non- Naxalite area)

Table-3 Non- Naxalite area- Designation wise Stress rank

Ranks			
	Designation	N	Mean Rank
Stress	PI	33	385.76
	PSI_API	77	330.11
	HC_ASI	133	226.58
	PC_PN	159	80.00
	Total	402	

Table-4 Kruskal Wallis Test for Non Naxalite area

Test Statistics[a,b]	
	Stress
Kruskal-Wallis H	357.427
df	3
Asymp. Sig.	.000
a. Kruskal Wallis Test	
b. Grouping Variable: Designation	

The mean rank of Stress among the respective designations have significant relationship at (H= 357.427, df= 3 P=0.000, P<0.005). To Know the significant difference between the mean rank of stress among the designation Mann Witney U test was administrated.

Mann-Whitney Test

Table-5 Rank Data for Mann Whitney Test (non-naxalite)

Ranks				
	Designation	N	Mean Rank	Sum of Ranks
Stress	PI	33	93.76	3094.00
	PSI_API	77	39.10	3011.00
	Total	110		

Test Statistics[a]	
	Stress
Mann-Whitney U	8.000
Wilcoxon W	3011.000
Z	-8.240
Asymp. Sig. (2-tailed)	.000
a. Grouping Variable: Designation	

The mean rank of Police inspector (PI) and PSI_API have significant difference. Perceived stress level in Non -Naxalite area is higher among Police Inspector (Mean rank= 93.76) compared to PSI_API (Mean rank = 39.10). U= 8.000, Z= -8.240 at P= 0. 000, P<0.05) which is significant. Hence the perceived stress in Non -Naxalite area among Police Inspector is higher than PSI_API and have significantly different.

Table-6 Non- Naxalite Stress with Designation

Ranks				
	Designation	N	Mean Rank	Sum of Ranks
Stress	PI	33	150.00	4950.00
	HC_ASI	133	67.00	8911.00
	Total	166		

Test Statistics[a]	
	Stress
Mann-Whitney U	.000
Wilcoxon W	8911.000
Z	-8.884
Asymp. Sig. (2-tailed)	.000
a. Grouping Variable: Designation	

Perceived stress level in Non -Naxalite area is higher among Police Inspector (Mean rank= 150.) compare to HC_ASI (Mean rank = 67). U= 0.000, Z= -8.884 at P= 0. 000, P<0.05) which is significant.Hence the perceived stress in Non -Naxalite area among Police Inspector is higher than HC_ASI and have significantly differentThe mean rank of Police inspector (PI) and HC_ASI have significant difference.

Table-7 Non-Naxalite Stress with Designation

Ranks				
	Designation	N	Mean Rank	Sum of Ranks
Stress	PI	33	176.00	5808.00
	PC_PN	159	80.00	12720.00
	Total	192		

Test Statistics[a]	
	Stress
Mann-Whitney U	.000
Wilcoxon W	12720.000
Z	-9.033
Asymp. Sig. (2-tailed)	.000
a. Grouping Variable: Designation	

Perceived stress level in Non -Naxalite area is higher among Police Inspector (PI) (Mean rank= 176.) compare to PC_PN (Mean rank = 80). U= 0.000, Z= -9.033 at P= 0. 000, P<0.05) which is significant.Hence the perceived stress in Non -Naxalite area among Police Inspector is higher than PC_PN and have significantly different.As per above finding in Non -Naxalite area- perceived stress have significant relationship with designation. Hence, the Null hypothesis is rejected.

For the data distribution of perceived stress in Naxalite area

Police Inspector (PI) D (17) = 0.200, P>0.05 appears to be normal. Police sub inspector (PSI) and assistant police inspector (ASI) D (53) = 0.000, P<0.05 appears to be not normal. Head constable and Assistant sub inspector (ASI) D (121) = 0.000, P<.005 appears to be not normal.

Police constable (PC) and Police Nayak (PN) D (148) = 0.000, P<.005 appears to be not normal.

Table-8 Naxalite Stress with Designation

Tests of Normality							
		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Designation	Statistic	df	Sig.	Statistic	df	Sig.
Stress	PI	.135	17	.200*	.921	17	.151
	PSI_API	.173	53	.000	.879	53	.000
	HC_ASI	.250	121	.000	.866	121	.000
	PC_PN	.166	148	.000	.934	148	.000
*. This is a lower bound of the true significance.							
a. Lilliefors Significance Correction							

KS test showing that the significance value(P) are (P<0.05) hence data is not normal, except Police inspector data.

Table-9 Test of Homogeneity of Variance

Test of Homogeneity of Variance					
		Levene Statistic	df1	df2	Sig.
Stress	Mean based	50.461	3	335	.000
	Medianbased	44.802	3	335	.000
	Median and with adjusted df based	44.802	3	218.306	.000
	Trimmed mean based	48.118	3	335	.000

Perceived stress in police, F (3, 335) = 0.000, P<0.05 which is significant. As per above finding The P value of Levene test for homogeneity of variance is less than 0.05, so that equal variance does not assumed.But also, assumption of normality of data has not been meet. Hence non- parametric Kruskal Wallis test is administrated.

Table-10 Descriptive Statistics

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
Stress	339	4.0450	.59541	1.50	5.00
Designation	339	3.1799	.87372	1.00	4.00

Kruskal-Wallis Test (Naxalite Area)

Table-11Naxalite area- Designation wise Stress rank

Ranks			
	Designation	N	Mean Rank
Stress	PI	17	9.00
	PSI_API	53	44.00
	HC_ASI	121	131.00
	PC_PN	148	265.50
	Total	339	

Test Statistics[a,b]	
	Stress
Kruskal-Wallis H	294.831
df	3
Asymp. Sig.	.000
a. Kruskal Wallis Test	
b. Grouping Variable: Designation	

Result: The mean rank of Stress among the respective designations have significant relationship at (H= 294.831, df= 3 P=0.000, P<0.005)

To Know the significant difference between the mean rank of stress among the designation in Naxalite area Mann Witney U test was administrated.

Mann-Whitney Test

Table-12Stress rank between PSI_API and PI in Naxalite area

Ranks				
	Designation	N	Mean Rank	Sum of Ranks
Stress	PI	17	9.00	153.00
	PSI_API	53	44.00	2332.00
	Total	70		

Test Statistics[a]	
	Stress
Mann-Whitney U	.000
Wilcoxon W	153.000
Z	-6.224
Asymp. Sig. (2-tailed)	.000
a. Grouping Variable: Designation	

Perceived stress level in Naxalite area is higher among the PSI_API (Mean rank = 44) than Police Inspector (Mean rank= 9). U= 0.000, Z= -6.224 at P= 0. 000, P<0.05) which is significant.Hence the perceived stress in Naxalite area among PSI_API is higher than Police inspector and have significantly different.

Table -13Stress rank between PI vs HC_ASI in Naxalite area

Ranks				
	Designation	N	Mean Rank	Sum of Ranks
Stress	PI	17	9.00	153.00
	HC_ASI	121	78.00	9438.00
	Total	138		

Test Statistics[a]	
	Stress
Mann-Whitney U	.000
Wilcoxon W	153.000
Z	-6.866
Asymp. Sig. (2-tailed)	.000
a. Grouping Variable: Designation	

Perceived stress level in Naxalite area is higher among the HC_ASI (Mean rank = 78) compare to Police Inspector (Mean rank= 9). U= 0.000, Z= -8.884 at P= 0. 000, P<0.05) which is significant.Hence the perceived stress in Non - Naxalite area among HC_ASI is higher than PI and have significantly different.

Table-14 Stress rank between PI & PC_PN in Naxalite area

Ranks				
	Designation	N	Mean Rank	Sum of Ranks
Stress	PI	17	9.00	153.00
	PC_PN	148	91.50	13542.00
	Total	165		

Test Statistics[a]	
	Stress
Mann-Whitney U	.000
Wilcoxon W	153.000
Z	-6.789
Asymp. Sig. (2-tailed)	.000
a. Grouping Variable: Designation	

Perceived stress level in Naxalite area is higher among the PC_PN (Mean rank = 91.50) compare to Police Inspector (Mean rank= 9). U= 0.000, Z= -6.789 at P= 0. 000, P<0.05) which is significant.Hence the perceived stress in Non - Naxalite area among HC_ASI is higher than PI and have significantly different.

As per above finding null hypothesis is rejected.

Discussion:

In the non-naxalite area it was found that the inspectors reported the most stress especially on account of the workload. On a discussion with inspectors and senior officers, the researchers discovered that the duties of the inspectors have policing and a wide range of other duties related to managing the law and order without the strength of staff to manage all the taks allocated to them. Apart from them the higher ranked police personnel also get entrusted with additional duties as per government orders and this often is entrusted only to inspectors (Shraddha, 2019). Since the duties cannot be delegated the other duties get less attention. But these duties also are important can lead to punishment. There are also high demands to achieve targets in terms of the Suo-Moto cases, resolving and managing petty cases and these often lead to high stress for the

inspectors (Tripathi, 2020). Also, the inspectors are responsible for the people in the jurisdiction and the work done by the staff.

High demand of target wise execution, like Suo-Moto cases and petty cases as compared to the crime cases and other law and order duties leads to excessive stress in police duties (Tripathi, 2020). Responsibility is entrusted only on theinspectors, not on others (Gajjar,2019). They are also responsible for ensuring that the law and order of the jurisdiction is maintained, handling the under-investigation cases and handling any and all inquiries against the any of the staff in the police station. Also, police inspectors are required to appear in courts for all cases investigated in the police station, even if they are retired (Sherwood et al., 2019). For these reasons, the inspectors have higher levels of stress than others and workload is one of the stressors. Also all of the inspectors and officers report medium to high stress. Officers like inspectors are required to report to work early and stay overnight or late when performing duties. They face pressure from seniors to manage things well and have to deal with constables (their subordinates) who are stresses and are also often overworked. Even in case of an emergency officers are often not in a position to avail of an leave and in certain circumstances even their weekly off is denied (McCreayry, Thompsen, & Pasto, 2003). When studying police personnel, researchers should take into account the effect that the police job has on the family of police personnel and therefore indirectly on the ability of the police (especially the officer and the inspector). For the constable category lack of decent housing and infrastructure along with low salary are major sources of stress (Bag, 2019).

In the Naxalite areas, the results are the opposite with the lower ranked personnel reporting the most stress and those who are higher ranked report lessor stress. This is because the scope of work for the different ranks in the Naxalite area are different from that in the non-Naxalite area. Policing in the Naxalite areas is similar to policing in terrorist areas. Naxalite police constables are the most stressed especially on account of the long working hours. They see the most casualties since they are out patrolling and therefore the fear of inherent danger is the most. Despite this they have lower salaries and live away from their families in camp like conditions. This creates additional pressure on the constables and therefore they experience high stress. In the Naxalite areas, the higher ranked officers also experience stress on account of having the additional responsibility of managing the law-and-order situation in the sensitive areas.

There is a general lack of research in the area, so the researcher interviewed senior officials in the Naxalite areas to better under understand the results. Based on a discussion with senior police officials in Naxalite areas, the researcher found that on account of the increased danger in the job and the lack of support from family (since they live alone) and the lack of administrative support they experience more stress.

Limitations and Future Research Directions:

Since the study uses cross sectional data it is not possible to assess the direction of the relationship between rank and stress. Also, the sample is from a particular geographic location and it may not be possible to extrapolate the results to the police in general in the Naxalite or the non-naxalite area. Also, the data on stress is self-reported and therefore there is a possibility that the data is biased eg. Social desirability bias.

Future research could also examine the impact of other demographic variables on the stress experienced by police personnel. Researchers can also undertake a qualitative study to examine the differences in the police work in Naxalite and non-naxalite areas.

Conclusion:

The stress levels among different designations of the officers Naxalite and non-Naxalite areas are different. In the Naxalite areas, stress is more at the lower levels since the inherent danger in the job is more and the constables stay without their families and hence social and family support that can reduce stress is low. In the Non-naxalite areas, those at higher designations have more stress on account of role related responsibilities.

There is very limited research on Naxalite police. Especially given the differences in the roles and the work in this area. Thus, there is a need for more research in this area, since the circumstances of this situation are different. Also they would need more specialized interventions to help them cope with the stress since the stressors are different.

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