CHAPTER V

RESEARCH METHODOLOGY
Over the past two decades, all over the world, there has been a growing concern in all sectors of employment that stress at work has undesirable consequences on the health of individuals and their organizations. Research has also identified jobs which cause most stress to workers. Among the various stress producing jobs the police job is one. Society views the police not only as a law enforcing agency, but also as an instrument of social service, an agent of change and the protector of the rights and duties of the people. This highly paradoxical nature of the policeman's job results in stress.

The job of a police officer as compared to any other profession has its own peculiarities and factors that induce stress are much greater in quality and quantity. A major stress inducing factor faced by almost all police officers especially those in the front line like Constables, Head Constables and Assistant Sub-Inspectors is concerning role ambiguity. In the nature of their functioning, it would often happen that they are not clear about their role in conflicting situations, should they obey the orders of a superior, which they know will have harmful consequences on the community or on the police force or at times is outright unjust or unreasonable. Even in a simple situation of law and order a police officer is often piqued whether to use force to control the situation or to pacify the agitated crowds by reasoning or using consoling words.

One area in which every police officer either of the highest or lowest rank would complain is the quality of work life. Unlike an executive in a private firm, who draws a huge salary in addition to most enticing perks, though he works for a fixed time period, a police officer has no fixed time period. His responsibilities and call of duty is an around the clock affair. His remuneration package and the perks available are far
from attractive. All these above mentioned factors do contribute in their own way to the life and stress of a police officer.

In order to understand the various aspects of stress the researcher formulated the following objectives and hypotheses. This chapter on research methodology contains the research questions, objectives of the research, hypotheses, setting of the research, pilot study, sample design, tools, data collection procedure, scoring and analysis.

### 5.1 RESEARCH QUESTIONS

In order to carry out the present research, the researcher started with the following research questions in order to give the research some direction.

1. What is the extent of occupational stress experienced by the police officers in Goa, as compared to police officers of Karnataka?
2. Is the stress faced by the police officers in Goa and Karnataka different in terms of quantity and quality?
3. How significant is the inter-relationship between role ambiguity, locus of control, and quality of work life in causing occupational stress among police officers of Goa and Karnataka?
4. What is the role played by factors like, gender, rank, age, educational qualifications and total years of experience in the perception of occupational stress among police officers of Goa and Karnataka?
5.2 RESEARCH OBJECTIVES

The present research was undertaken, keeping in mind the following objectives:

1. To differentiate between the level of stress of police officers in Goa and Karnataka.

2. To study the relationship of role ambiguity, locus of control and quality of work life on occupational stress among police officers in Goa and Karnataka.

3. To compare the levels of stress faced by:
   a) Male and female officers.
   b) Officers of different ranks
   c) Officers in different age ranges
   d) Officers with different educational qualifications
   e) Officers with different years of experience

4. To enhance awareness among police personnel, Government authorities and the general public in identifying the areas of concern in terms of stress faced by police officers.

5. To increase the level of functioning of the police personnel by recognizing and understanding the factors that affect and cause stress.

6. To suggest preventive measures and intervention strategies in the training and employment conditions of police officers.

5.3 HYPOTHESES

The following hypotheses were proposed for the research:
Hₐ₁: Occupational stress levels differ significantly between police officers in Goa and Karnataka.

Hₐ₁.1: Occupational stress levels differ significantly in terms of gender.

Hₐ₁.2: Occupational stress levels differ significantly in terms of rank.

Hₐ₁.3: Occupational stress levels differ significantly in terms of age.

Hₐ₁.4: Occupational stress levels differ significantly in terms of education qualifications.

Hₐ₁.5: Occupational stress levels differ significantly in terms of total years experience.

Hₐ₂: Role ambiguity levels differ significantly between police officers in Goa and Karnataka.

Hₐ₂.1: Role ambiguity levels differ significantly in terms of gender.

Hₐ₂.2: Role ambiguity levels differ significantly in terms of rank.

Hₐ₂.3: Role ambiguity levels differ significantly in terms of age.

Hₐ₂.4: Role ambiguity levels differ significantly in terms of education qualifications.

Hₐ₂.5: Role ambiguity levels differ significantly in terms of total years experience.
H₃: Quality of Work Life-Conditions levels differ significantly between police officers in Goa and Karnataka.

H₃.1: Quality of Work Life-Conditions differ significantly in terms of gender.

H₃.2: Quality of Work Life-Conditions levels differ significantly in terms of rank.

H₃.3: Quality of Work Life-Conditions levels differ significantly in terms of age.

H₃.4: Quality of Work Life-Conditions levels differ significantly in terms of education qualifications.

H₃.5: Quality of Work Life-Conditions levels differ significantly in terms of total years of experience.

H₄: Quality of Work Life–Feelings levels differ significantly between police officers in Goa and Karnataka.

H₄.1: Quality of Work Life–Feelings levels differ significantly in terms of gender.

H₄.2: Quality of Work Life–Feelings levels differ significantly in terms of rank.

H₄.3: Quality of Work Life–Feelings levels differ significantly in terms of age.
**Hₐ4.4:** Quality of Work Life–Feelings levels differ significantly in terms of education qualifications.

**Hₐ4.5:** Quality of Work Life–Feelings levels differ significantly in terms of total years of experience.

**Hₐ5:** Locus of Control levels differ significantly between police officers in Goa and Karnataka.

**Hₐ5.1:** Locus of Control levels differ significantly in terms of gender.

**Hₐ5.2:** Locus of Control levels differ significantly in terms of rank.

**Hₐ5.3:** Locus of Control levels differ significantly in terms of age.

**Hₐ5.4:** Locus of Control levels differ significantly in terms of education qualifications.

**Hₐ5.5:** Locus of Control levels differ significantly in terms of total year's experience.

**Hₐ6:** There will be a significant negative correlation between Quality of Work Life–Feelings and Quality of Work Life–Conditions among police officers in Goa and Karnataka.

**Hₐ7:** There will be a significant relationship between role ambiguity and occupational stress among police officers in Goa and Karnataka.
There will be a significant relationship between role ambiguity, locus of control and quality of work life in the determination of occupational stress among police officers in Goa and Karnataka.

5.4 SETTING OF THE STUDY

This research was undertaken in the two neighbouring southern states of India, Goa and Karnataka. Though both the states share a common boundary, there are some distinct characteristics that distinguishes them, due to historic, social, geographical and political reasons. Goa was liberated from the colonial Portuguese power only on 19th December 1961 and hence the Portuguese influence is perceptible in the overall administration. Karnataka, on the other hand got its independence along with the rest of India in 1947. In this section, a review will be made of the whole police force in general; which will be followed by a review of the police forces in the states of Goa and Karnataka.

5.4.1 THE INDIAN POLICE SERVICE

The police in India have existed from the Vedic period, when it was formed as an organization to, watch and ward. Its main purpose was to bring evil doers to justice. The role of this force also changed with societal transition.

In 1861, the British introduced the Police Act, which created an independent unit in the state for the administration of the police. The Police Act emphasized the need for a common pattern of police organization and a properly trained and disciplined body of men exclusively devoted to the prevention and detection of crime. The Inspector
General was appointed the head of the provincial police administration. Each province was divided into districts headed by the Superintendent of Police. These officers were under the control of the Magistrates.

The Indian Police System as it exists today was created by the British and rests on the basic ideals of efficiency and subordination to the law of the land. On the whole, it represents a complete breakaway from all pre-British system which can be traced in India, primarily because it provides a professional and regularly organized police force, with strictly defined powers, privileges and duties. It also separates the preventive and investigating agency from the judicial authority which tries and punishes criminals.

The organization of police force in India is fairly uniform in structure throughout the states with minor differences in the structure and functions which have been occasioned partly as a consequence of the development of democratic institutions at the district level and below.

In the present system, the police in each state is organized and maintained as one police force for the entire state under the command of a Director General of Police (DGP) or the Inspector General of Police (IGP). He is the representative of the state government for the administration of the police force throughout the state. He also gives advice on police matters including internal economy, equipment, training and discipline of the force. He is responsible for its efficient organization as a means of preventing and checking crime, preserving law and order and the efficient discharge of the duties by officers of all ranks. The DGP/IGP is assisted by a number of range Deputy Inspector Generals of Police (DIGP) on a regional basis. Generally four to six districts are grouped together to form a range for convenience of administration. The
DIGP supervises the work of the Superintendents of Police (SP). Without interfering in any way with the authority of the SP. The DIGP visits and inspects the districts regularly to ensure efficiency. He is expected to advise, guide and assist the SP whenever the latter is faced with a difficult situation. The SP, who is in-charge of the district police, is a functionary in the police hierarchy and officers in charge of sub-units within a district like sub-divisions, circles and police stations. Every district is divided into sub-divisions in-charge of Assistant or Deputy Superintendent of Police (ASP/Dy SP). In some states, sub-divisions are further divided into police circles in-charge by Inspectors. A district may have three to four police sub-divisions and six to eight police circles. Each district is divided into a number of police stations depending on its size and population. The officer in-charge of a police station may be an Inspector or Sub-Inspector. The officer in-charge has varying number of Assistant Sub-Inspectors (ASI), Head Constables (HC) and Constables (Ct) placed under him. Each police station is sub-divided into a number of beats, assigned for patrolling, surveillance and collection of intelligence to the ASI, HC and Ct.

Below is a graphical representation of the police organisation in India.

<table>
<thead>
<tr>
<th>Level</th>
<th>Officer</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Level</td>
<td>Director General of Police (DG)</td>
</tr>
<tr>
<td></td>
<td>Inspector</td>
</tr>
<tr>
<td>Range (4-6 Districts)</td>
<td>Deputy Inspector General of Police (DIGP)</td>
</tr>
<tr>
<td>District Level</td>
<td>Superintendent of Police (SP)</td>
</tr>
<tr>
<td>Sub-Division (Circles and Police Stations)</td>
<td>Deputy Superintendent of Police (Dy SP)</td>
</tr>
<tr>
<td>Police Station</td>
<td>Inspector/Sub Inspector/Head-Constable/Constable</td>
</tr>
</tbody>
</table>

Figure 5.1: Police Organization in a state
5.4.2 POLICE IN GOA

Goa is one of India's smaller state. It is situated along the Konkan coast of India, has a coast line of 131 kms. It has a partly hilly terrain with the Western Ghats rising to nearly 1200 meters, in some parts of the state. In the north, the Terekhol river separates Goa and Maharashtra. The Arabian sea is situated on the west and the Western Ghats is to the east. The Tiswadi island lies between the Mandovi and Zuari rivers, which are connected on the landward side by a creek. The state has a geographical area of 3702 sq kms, divided into two districts, six sub-districts and eleven talukas. There are two Zilla Panchayats, North Goa and South Goa.

Goa was a Portuguese colony till 19th December 1961, when it was liberated into the Indian Union and on 30th May 1987, Goa was granted full-fledged statehood. The Goa Police as an independent organisation was born in April 1946 with the establishment of Policia do Estado da India (PEI) Police of India, through a decree of the Portuguese regime. All policing functions including the maintenance of law and order was carried out by the Portuguese military. The PEI was responsible for carrying out the functions of vigilance and maintenance of general order and comprised the following branches: public security, judicial police, internal and external traffic police, administrative and municipal police and civil identifications. Two years later, appropriate rules governing the police were framed on the lines of the legislation then prevailing in Portugal.

The PEI was organized into five territorial divisions for efficient performance. Each division was headed by a Commissioner who reported to the Commander of the Policia do Estado da India. The PEI thus developed into a supreme law and order establishment, with even officers and agents of organizations such as customs having
to inform it about violations that came to their notice. Not only did the PEI have powers to conduct search and seizure operations, it could also frame proceedings for prosecution and file cases for extraditing criminals.

The strength of the PEI continued to grow year after year, keeping in mind the rising need of maintaining law and order in a growing society. But the main reason for the growth in strength was the Portuguese regime’s need to contain the increasing surge of freedom movement in Goa. Much of the PEI’s time was consumed in trying to contain agitations and other forms of freedom movement, that received a boost by Dr Ram Manohar Lohia’s civil disobedience movement launched in 1946. The PEI, which had gained respect for efficient policing of the territory, began to court notoriety for its brutal repression of the freedom movement.

With liberation and the departure of the Portuguese began a long and exhaustive overhaul of the Goa Police working to reorganize the police department on the lines of what existed in the rest of the country began in right earnest. N. R. Nagu took over as the first Inspector General of Police (IGP) of free Goa and a host of other appointments were made just a day after liberation. Services of those officers serving the Policia do Estado da India (PEI) were protected and they were suitably accommodated in the Goa Police. Those who wished to be relieved were allowed to do so with effect from February 1, 1962.

But it was not until 1966 that major changes began to be made and felt when the police force was reorganized following recommendations made by B. Shetty, Additional Director General of Police in CBI. Shetty forwarded these recommendations based on a study conducted by him in February-March 1965 on the
prevailing set-up. Subsequently the Goa Police force was headed by an Inspector General of Police until 2nd February 1999.

Over the years, the Goa Police has undergone tremendous change not just in their functioning but also in image build-up. It has constantly worked to become more people friendly, one that the law-abiding citizens need not fear.

The organization of police services in Goa is very similar to that in the rest of India. The management cadre at the higher level is provided by the elite Indian Police Service (IPS).

The state of Goa, a very small state, is divided into two districts, North Goa and South Goa. The number of stations and outposts in Goa is illustrated in Table 5.1.

<table>
<thead>
<tr>
<th>District</th>
<th>Police Stations</th>
<th>Outposts</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Goa</td>
<td>12</td>
<td>15</td>
<td>27</td>
</tr>
<tr>
<td>South Goa</td>
<td>15</td>
<td>11</td>
<td>26</td>
</tr>
</tbody>
</table>

The Goa Police has a number of departments which helps in maintaining law and order of the state. The CID, which has a special branch of CID and the foreigners' branch of CID, the immigration branch, the crime branch, the research unit, the dog squad, the anti-corruption branch, the anti-narcotics cell, the security unit, the motor transport section, Goa reserve police, the band section, the escort cell, the traffic cell, the traffic education cell, women police station, welfare cell, tourist cell, communication and wireless section, the police control room and the police training department.
5.4.3 POLICE IN KARNATAKA

Karnataka was called as Karunadu (elevated land) in ancient times, took its present shape in 1956, when the states of Mysore and Coorg (Kodagu) were merged with the Kannada speaking districts of the former states of Bombay, Hyderabad and Madras. Mysore state was made up of ten districts, Bangalore, Kolar, Tumkur, Mandya, Mysore, Hassan, Chikmagalur (Kudur), Shimoga and Chitradurga. Bellary has been transferred from Madras state to Mysore in 1953, when the new state of Andhra Pradesh was created out of Madras northern districts.

The Karnataka state police force is headed by the Director General of Police. He is assisted by staff officers in the headquarters and officers' in-charge of special and various field units. The police administration in the district is headed by an officer of the rank of Superintendent of Police. A group of districts are put under one range and there is an officer of the rank of Inspector General of Police heading each range in Karnataka state. The police administration in Bangalore city is headed by Commissioner of Police of the rank of Additional DGP and Mysore and Hubli-Dharwad cities headed by Commissioners of Police of the rank of Dy. Inspector General of Police. All these officers report to the Director General and Inspector General of Police, Karnataka.

The Director General is the head of the police department in the state. Under him there are the Additional Director Generals of Police. Each of the Additional Director Generals of Police is in-charge of a particular function like law and order. Each Additional Director General of Police commands six Inspector Generals of Police. The Inspector Generals of Police are in-charge of ranges. Each range comprises of 3-6 districts. Each district is headed by an officer of the rank of Superintendent of Police.
The state police consists of 20 police districts, 3 Police Commissioners at Bangalore, Mysore and Hubli-Dharwad cities, 112 sub-divisions, 226 circles, 805 police stations, including 10 women police stations and 292 police out-posts. There are six ranges namely Central Range at Bangalore, Eastern Range at Davanagere, Northern Range at Gulbarga, Southern Range at Mysore and Western Range at Mangalore.

Table 5.2: Total police set up in Karnataka

<table>
<thead>
<tr>
<th>No. of Sub Divisions</th>
<th>No. of Circles</th>
<th>No. of Police Stations (Including Women Police Station)</th>
<th>No. of Out Posts</th>
</tr>
</thead>
<tbody>
<tr>
<td>112</td>
<td>226</td>
<td>805</td>
<td>292</td>
</tr>
</tbody>
</table>

The police stations are the lowest functional units of the police department. There are at present 805 police stations. The police stations are headed by Inspectors in towns and cities. In these police stations there are 2-4 Sub-Inspectors, besides a number of Assistant Sub-Inspectors, Head Constables and Police Constables. In rural areas the police stations are headed by either a single Sub-Inspector or two Sub-Inspectors looking after law and order and crime according to the importance of the police station. In rural police stations there are at least 30 men, (on an average). The rural police stations are grouped into Circles and Circles come under a Sub-Division. The Sub-Divisions are headed by Deputy Superintendents of Police and Circles by Inspectors of Police.

Branches of the Karnataka police include the law and order wing, the intelligence wing, the crime and technical services wing, the special police units, the Corps Of Detectives (COD), the special units and economic offences, the Karnataka State Reserve Police, transport unit, telecommunication and modernization wing and the police training wing.
5.5 PILOT STUDY

Before administering of the standardized questionnaires on the main sample, a pilot study was conducted to verify the suitability of the measures.

The sample included 30 police officers, 15 each from the states of Goa and Karnataka. This sample included police officers above the rank of Police Sub-Inspector only. The results indicated a significant difference between the scores in terms of occupational stress and its relation to other variables.

However, after conducting the pilot study, the researcher made certain changes in the personal data questionnaire, to include some more information. It was also realized that in the state of Karnataka, questionnaires in English, was a hindrance to officers in answering, therefore, the researcher had to translate the questionnaires into Kannada.

In order to maintain the validity of the questionnaires, the researcher got the questionnaires translated into Kannada, by an expert translator and then again got the translated Kannada questionnaires translated back to English by a senior Kannada academician; this was done to ensure that the meaning and import of the questions were not lost in translation.

After the pilot study, it was also decided to include Head Constables as part of the sample because they are also considered as officers as they too perform administrative functions.
5.6 SAMPLE DESIGN

In order to understand the extent of stress faced by police officers, a cross section of police officers were taken from both the states of Goa and Karnataka. The officers taken for the sample included officers from all departments. The population for this research included all police officers in the states of Goa and Karnataka.

Goa being the smaller state is divided into two districts North Goa and South Goa. An attempt was made to take an equal sample from both the districts. Karnataka on the other hand is a much larger state; it was hence decided to study only those districts that share a border with Goa. Therefore, the researcher took the districts of Hubli-Dharward, Belgaum and Karwar as part of the research. An attempt was made to take an equal sample from all these districts. An attempt was also made to get a representative sample for female police officers as well, who are relatively small in number. The sample chosen was therefore a stratified convenient and realistic sample.

The criterion for inclusion was a police officer of the rank of Head Constable and above serving in the state of either Goa or Karnataka for a period of six months and above.

Of the 500 plus questionnaires distributed a total of 421 questionnaires were received from Karnataka, of which 138, 124 and 159 responded questionnaires were received from Dharward, Belgaum and Karwar districts respectively. In Goa, of the 500 questionnaires a total of 389 questionnaires were received. These questionnaires were then scrutinized to make sure that all the questions were duly filled. The questionnaires that were not completely filled were discarded. Thus, the researcher
used only 375 and 320 questionnaires from Karnataka and Goa, respectively. The table below gives a detailed breakup of the number of questionnaires received.

### Table 5.3 Questionnaires from Dharwad

<table>
<thead>
<tr>
<th>RANK</th>
<th>HC</th>
<th>ASI</th>
<th>PSI</th>
<th>PI</th>
<th>ACP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
</tr>
<tr>
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<td>56</td>
<td>03</td>
<td>31</td>
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<tr>
<td>TOTAL</td>
<td>59</td>
<td>33</td>
<td>14</td>
<td>00</td>
<td>03</td>
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### Table 5.4 Questionnaires from Belgaum

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<tr>
<th>RANK</th>
<th>HC</th>
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<th>PSI</th>
<th>PI</th>
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<td>M</td>
<td>F</td>
<td>M</td>
</tr>
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<td></td>
<td>57</td>
<td>14</td>
<td>13</td>
<td>01</td>
<td>23</td>
</tr>
<tr>
<td>TOTAL</td>
<td>71</td>
<td>14</td>
<td>26</td>
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### Table 5.5 Questionnaires from Karwar

<table>
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<th>PSI</th>
<th>PI</th>
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<td></td>
<td>76</td>
<td>11</td>
<td>25</td>
<td>01</td>
<td>04</td>
<td>02</td>
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<tr>
<td>TOTAL</td>
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<td>26</td>
<td>14</td>
<td>04</td>
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### Table 5.6 Questionnaires from Goa

<table>
<thead>
<tr>
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<th>PSI</th>
<th>PI</th>
<th>SP</th>
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</thead>
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<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
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<td></td>
<td>176</td>
<td>16</td>
<td>47</td>
<td>02</td>
<td>41</td>
</tr>
<tr>
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<td>49</td>
<td>48</td>
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### Table 5.7: Questionnaires from Karnataka and Goa

<table>
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<tr>
<th></th>
<th>HC</th>
<th>ASI</th>
<th>PSI</th>
<th>PI</th>
<th>High Rank Officers</th>
</tr>
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<td>M</td>
<td>F</td>
<td>M</td>
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</tr>
<tr>
<td>Goa</td>
<td>176</td>
<td>16</td>
<td>47</td>
<td>02</td>
<td>41</td>
</tr>
<tr>
<td>TOTAL</td>
<td>409</td>
<td>123</td>
<td>101</td>
<td>50</td>
<td>11</td>
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<tr>
<td>Karnataka</td>
<td>183</td>
<td>34</td>
<td>69</td>
<td>05</td>
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<td>359</td>
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<tr>
<td>TOTAL</td>
<td>409</td>
<td>123</td>
<td>101</td>
<td>50</td>
<td>11</td>
</tr>
</tbody>
</table>
5.7 TOOLS USED IN THE STUDY

To study the extent of occupational stress which police officers experience, the following standardized psychological tests were used:

1. Role Ambiguity Scale.
2. Levenson’s Scale for Locus of Control.
3. Quality of Work Life (Conditions and Feelings).
4. Occupational Stress Index.

5.7.1 ROLE AMBIGUITY SCALE (R-A Scale)

The Role Ambiguity scale constructed by Ashok Kumar Pandey consists of 37 items. This scale is a self administered test, with five response choices and the statements are written in both positive and negative directions.

In the final development of the scale, the scores of the Role Ambiguity Scale and the scores obtained from the Role Ambiguity Scale (Rizzo, House & Lirtzman, 1970) were used as an internal and external criterion respectively.

The final development of the scale was conducted in two stages. In the first stage, the Role Ambiguity Scale and the Role Ambiguity Scale (Rizzo, House and Litzman, 1970) were administered twice with an interval of 25-30 days to 200 North Eastern Railway Workshop employees, Gorakhpur, Uttar Pradesh in two separate sessions. The coefficient of correlation was computed and items having correlation of .15 and above with both the total score and the criterion score were retained for inclusion in the final version of the R-A Scale. Of the original 50 items, 37 items were retained for the final R-A Scale.
In the second stage, the newly developed scale was administered to 600 employees of the same workshop for standardization and establishing norms. Appropriate norms were developed for the total sample.

5.7.1.1 RELIABILITY AND VALIDITY

For the purpose of validating the inventory, the test-retest reliability of this scale was found to be 0.85; the split-half reliability was 0.77. Pearson’s Coefficient Correlation (r) between item scores and items having r of .15 or more with both total and criterion scores were retained for the final test. The criterion validity was 0.83.

5.7.1.2 SCORING

This scale consists of both positive and negative scoring. The scoring pattern is the Likert method with five response choices namely, strongly agree, agree, undecided, disagree and strongly disagree, the scores are given in terms of 5, 4, 3, 2, and 1 for positive statements and 1, 2, 3, 4, and 5 for negative statements. A total score can be interpreted in the following manner: 115 and above-Very high role ambiguity, 111-114–High role ambiguity, 99-110- Normal range of role ambiguity, 91-98 - Low role ambiguity, and 90 and below- Very low role ambiguity.

5.7.2 LEVENSON’S SCALE FOR LOCUS OF CONTROL

The scale is a five point Likert scale where the respondent has to show extent of agreement or disagreement with the statement related to either powerful others, chance control or individual control.

Approximately 150 statements were selected with an attempt to cover powerful others, chance control and individual control evenly. These statements were then...
edited and only those which were to the point and short were selected. Care was also taken that the statements conveyed could be either accepted or rejected. Incomplete and ambiguous statements were excluded from the list.

The final scale consists of 24 statements, 8 each of P- Powerful Others, C- Chance Control, and I- Individual Control. The statements are presented in a random order.

Powerful Others - The powerful others scale measures the extent to which a person believes powerful others have control over his life.

Chance Control - The chance control scale measures the extent to which a person believes chance forces (luck) controls his life.

Individual Control - The individual control scale measures the extent to which a person believes he has control over his own life.

5.7.2.1 RELIABILITY AND VALIDITY

Split-half method of reliability was employed. Here the scale was divided into two parts of 12 statements each. Each part containing four statements each for P-powerful others, C-chance control, and I-individual control. The split-half reliability of the scale with N=380, was found to be 0.72 for P, 0.79 for C and 0.65 for I, using Spearman Brown’s formula. Further, with odd-even method, reliability coefficient was found to be 0.69 for P, 0.72 for C and 0.66 for I.

The test-retest reliability was also calculated for the present scale with N=200, retested after one week time. The test retest reliability coefficient was found to be 0.76, by calculating coefficient of correlation between two sets of scores on the same individual on the same scale, after one week time.
The scale was validated against Rotter’s Locus of Control that is concurrent validity was established. This was done by giving both the scales one after another with very little time interval in between. Scores of both the scales were than correlated with each other and the correlation coefficient was found out to be 0.54 (with N=220). The correlation coefficient is not very high as the two tests differ in their construction.

5.7.2.2 SCORING

This scale is hand scored with a stencil scoring key. Each answer scores 1, 2, 3, 4, or 5 points. A transparent scoring stencil key is placed on the test booklet and the answer appears as pencil or pen marks in the boxes on the given test booklet.

The scale has five response options, strongly agree, agree, undecided, disagree, and strongly disagree with a score of 5, 4, 3, 2 and 1.

5.7.3 QUALITY OF WORK LIFE- CONDITIONS/ FEELINGS (QWL- C/F)

The QWL- C/F consists of two short instruments. The first measures how well the basic human work needs are met by objective job conditions; the second provides one score representing the respondents overall feeling of separation or alienation from their own work self. The basic human work needs include need for autonomy or control, need for a whole meaningful job and need for interpersonal contact in the context of doing the job- are described in detail.

The scale has two parts; the first part has 25 items which asks the respondents to try to describe their actual work conditions objectively. The second part contains ten strongly interrelated items that measures the respondents’ subjective feelings about their personal relationships at work.
5.7.3.1 DIMENSIONS OF QUALITY OF WORK LIFE- CONDITIONS

1. Autonomy: The degree to which the respondent is free to take independent action on work related issues rather than having their actions approved by a supervisor.

2. Work Speed and Routine: The extent to which work is structured and routine. The more the work is structured and routine, the less personal control an individual has over the work.

3. Task-Related Interaction: Refers to the need for interpersonal contact in the context of doing work. It is important that such a contact be part of the task activity.

4. Personal Growth Opportunity: Refers to trying out new methods of work and learning about other jobs in other areas of the organization. This index seems to relate to the degree of meaning inherent in the jobs.

5. Work Complexity: Refers to the sociological concept of meaningfulness of work. It refers to repetitive tasks, undesired procedures, simple jobs and doing the same series of tasks all day.

3.7.3.2 SCORING

This scale has a different scoring for the QWL-C and QWL-F.

QWL-C Scoring: The scale consists of both positive and negative items. The scale has four response options: All of the time, Most of the time, Part of the time and Never, with a score of 1, 2, 3 and 4 for positive items and 4, 3, 2 and 1 for negative items. A total score of 15-20 indicates very high work conditions, 10-14 an average work conditions and 4-9 low work conditions.
QWL-F Scoring: The scale consists of both positive and negative items. The scale has five response options: strongly disagree, disagree, undecided, agree and strongly agree, with a score of 1, 2, 3, 4 and 5 for the former and 5, 4, 3, 2 and 1 for the latter. A total score of 37-44 indicates very high work feelings, 24-36 average work feelings, and 10-23 low work feelings.

A strong negative relationship will exist between each of the five QWL-C dimensions and the QWL-F score. The lower the QWL-C scores the higher the QWL-F score, indicating that when any of the basic human work needs are inadequately satisfied workers are likely to have strong feelings of alienation in their work place.

5.7.4 OCCUPATIONAL STRESS INDEX (OSI)

The Occupational Stress Index by A. K. Srivastava and A. P. Singh consists of 46 items, each to be rated on the five-point scale. Out of 46 items, 28 are true-keyed and the remaining 18 are false-keyed. The true keyed items are scored as follows: strongly disagree, disagree, undecided, agree and strongly agree with a score of 1, 2, 3, 4 and 5. The items relate to almost all relevant components of job areas which cause stress, such as, role over-load, role ambiguity, role conflict, group and political pressures, responsibility for persons, under-participation, powerlessness, poor peer relations, intrinsic impoverishment, low status, strenuous working conditions, and unprofitability. The Occupational Stress Index purports to measure the extent of stress, which employees perceive arising from various constituent and conditions of their job.
5.7.4.1 DIMENSIONS OF OCCUPATIONAL STRESS INDEX

1. **Role Overload:** Measured by the extent to which an individual feels that his work and the responsibilities entrusted to him are too much and that he has to hurriedly dispose of his duties to finish other duties.

2. **Role Ambiguity:** Measured in terms of available information about the nature of individuals' work objectives or purposes are not clear and he is not clear about the behavior expected by his superiors.

3. **Role Conflict:** Measured in terms of ascertaining the number of possibilities of contradictory instructions an individual receives, the inability to receive clear instructions about new assignments, and the difficulty to implement immediately the new policies and procedures in place of the ones that already exist.

4. **Unreasonable group and political pressures:** Measured by the extent of political pressure or group pressure an individual experiences in terms of adjustability, availability or non-availability to work with a particular group, the ability to conform to a particular group.

5. **Responsibility for persons:** Measured in terms of the individual's responsibility for productivity, the prospects of those employees under him and the progress and prosperity of those employees who are under him.

6. **Under participation:** Measured in terms of his suggestions being heeded by superiors, his co-operation being sought in solving administrative problems and in framing important policies and his opinion being sought in changing and modifying the working system.
7. **Powerlessness**: Measured in terms of the extent of power an individual exerts in the organisation, implementation of his ideas in training and consideration of his opinion in future appointments.

8. **Poor peer relations**: Measured in terms of his availability of his choice to choose his team mates and the extent to which his colleagues can malign him.

9. **Intrinsic impoverishment**: Measured in terms of the monotonous nature of his work, the opportunity to utilize his abilities and develop his aptitude and enhance efficiency.

10. **Low status**: Measured in terms of his self-respect, the social status attributed to his employment and the importance given to him by his superiors to his position and work.

11. **Strenuous working condition**: Measured in terms of the extent of tension, the extent of risk and complication involved and the feeling that his job has made his life cumbersome.

12. **Un-profitability**: Measured in terms of his view regarding the quantum of his salary and the incentive offered for additional work.

### 3.7.4.2 RELIABILITY AND VALIDITY

The reliability index ascertained by split-half (odd-even) method and Cronbach's alpha-Coefficient for the scale as a whole were found to be .935 and .90 respectively. The reliability indices of the 12 sub-scales were also computed on the split-half method and ranged between .549 to .840.

The validity of the Occupational Stress Index was determined by computing coefficients of correlation between the scales on the Occupational Stress Index and the various measures of job attitudes and job behaviour. The employees scores on the
Occupational Stress Index is likely to be positively correlated with the scores on the measures of such work manifests attitudinal and motivational personality variables which have proved lowering or moderating the level of occupational stress. The coefficients of correlation between the scores on the Occupational Stress Index and the measures of job involvement (Lodhal & Kejner, 1965), Work Motivation (Srivastava, 1980) Ego-strength (Hasan, 1970) and job satisfaction (Pestonjee, 1973) were found to be -.56 (N=225), -.44 (N=200), -.40 (N=205) and -.51 (N=500) respectively. The correlation between the scores on the OSI and the measures of Job anxiety (Srivastava, 1974) was found to be .59 (N=400)

3.7.4.3 SCORING

The questionnaire consists of both true keyed and false keyed questions. Therefore two different patterns of scoring have to be adopted for the two types of items. Table 5.8 indicates the scoring for the responses for the two categories of items.

<table>
<thead>
<tr>
<th>Categories of response</th>
<th>True-Keyed</th>
<th>False-Keyed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Undecided</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Agree</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>

5.8 DATA COLLECTION

The process of data collection consisted of a number of stages. The first stage involved getting permission from the concerned authorities in the two states. In Goa, the researcher met with the Chief Minister, since he was in-charge of the Home
Ministry, who after comprehending the importance of the present research sent a letter of recommendation to the Police Headquarters, Panaji. The researcher then met with the Director General of Police, Deputy Inspector General and Inspector General of Police who instructed her to seek the help of the Superintendent of Police. It was from the Superintendent of Police office that a list of all the police stations and the outposts in Goa were obtained. The Superintendent of Police's office sent a wireless notice to all the police stations in Goa to render the necessary assistance to the researcher.

In Karnataka, the researcher choose only the districts of Dharward, Belgaum and Karwar. In Dharward, the researcher met with the Commissioner of Police to get the necessary permission and a list of all the police stations. A wireless notice was also sent to all the police stations. In Belgaum and Karwar, the researcher met with the Superintendent of Police in both the districts to obtain the necessary permission.

In the second stage, the researcher visited the police stations and met with the officers in-charge, who then guided the researcher to meeting with the respondents.

In the third stage, the researcher met with the respondents, explained the need for answering such a questionnaire and in most cases remained with the respondents while they answered the questionnaires.

In a few cases, the in-charge of the police station gave the questionnaires to their personnel. The responses were either returned to the researcher or sent to the headquarters.
5.9 DATA PROCESSING AND SCORING

On completion of administration of the tests, they were first scrutinized to ensure if any items were left out by the respondents. Such questionnaires were not included in the total sample. The tests were then scored as per the instructions in their respective manuals.

5.10 DATA ANALYSIS

Once the scoring was complete, the data was analyzed using SPSS statistical package. The following statistical tests were used mean, standard deviation, t-test, one way ANOVA, Correlation and regression analysis.