To fulfil the objectives of the present study, following design and methodology was used:

In this Study, Correlation design was used where, health was the dependent variable/factor and there were two measures of health viz. Self-Rated Health (SRH) and General Health as measured by GHQ-28. Besides, there are three other variables viz. Stress, Optimism and Hardiness.

Table 3.1: Variables/ Factors included in the Study:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Variables / Factors in the Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Measures of Health:</td>
</tr>
<tr>
<td></td>
<td>i) Self-Rated Health</td>
</tr>
<tr>
<td></td>
<td>ii) General Health</td>
</tr>
<tr>
<td>2.</td>
<td>Police Specific Stress</td>
</tr>
<tr>
<td>3.</td>
<td>Hardiness:</td>
</tr>
<tr>
<td></td>
<td>i) Commitment</td>
</tr>
<tr>
<td></td>
<td>ii) Control</td>
</tr>
<tr>
<td></td>
<td>iii) Challenge</td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Optimism</td>
</tr>
</tbody>
</table>
Methodology

3.1 Sample

A sample of 300 Police Personnel working at different levels of organizational hierarchy was selected for the present study on incidental basis from various districts of Haryana. Out of the 300, 206 personnel were taken from those working at junior level of hierarchy, i.e. constables, head constables and Sub-Inspectors and 94 officers were taken from those working at upper level of hierarchy, i.e., Inspectors and D.S.P.’s. The sample was selected from various districts of Haryana like Rohtak, Sonepat, Gurgaon, Karnal, Kurukshetra, Hisar and Jind. The age of the participants included in the study ranged from 25-40 years and with a minimum five years of service in the police department. It was attempted to make the sample representative of the two hierarchy levels. District wise and hierarchy wise distribution of sample is shown in Table 3.2.

Table 3.2: District wise and Hierarchy wise Distribution of sample

<table>
<thead>
<tr>
<th>District</th>
<th>Rohtak</th>
<th>Jhajjar</th>
<th>Sonepat</th>
<th>Gurgaon</th>
<th>Karnal</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constable</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>15</td>
<td>71</td>
</tr>
<tr>
<td>Head-Constable</td>
<td>13</td>
<td>13</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>65</td>
</tr>
<tr>
<td>Sub-Inspector</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>70</td>
</tr>
<tr>
<td>Inspector</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>DSP</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>34</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>59</td>
<td>59</td>
<td>60</td>
<td>62</td>
<td>300</td>
</tr>
</tbody>
</table>
Methodology

Two major sampling techniques are generally used by researchers viz. “probability sampling” and “non-probability sampling”. In probability sampling, a researcher can “specify the probability of a participant being included in the sample”. Using non-probability sampling, “there is no way of estimating the probability of an element’s being included in a sample”. If the researcher is interested in generalizing the findings on the basis of results drawn from the sample to the general population, the probability sampling is all the more precise and useful. But, it is also much more complex and costlier than ‘non-probability sampling’.

Probability sampling is also named as “random sampling” or “representative sampling”. The word ‘random’ denotes “the procedure used to select elements from a population”.

By using random sampling, “each element in the population has an equal chance of being selected (simple random sampling) or a non-probability of being selected (stratified random sampling)”. ‘Sample’ refers to the characteristic of “representativeness” in the sense that parent population is represented in all ways out of a properly drawn sample. However, the difficulty involved in the random sampling forced researchers to think over other means and techniques which help derive equally.

In the present study, the sample was drawn following mixed technique, i.e., the selection of the district was random but the selection of the units was on non-random basis.

3.2 Tools Used:
The following tools were used to measure the criterion variables.

1. Measures of Health
   - Self-Rated Health
   - General Health Questionnaire-28 (Goldberg, 1978)

2. Police Specific Stress Questionnaire (Savery, Souter and Weaver, 1993).
Methodology

3. Hardiness Scale (Kobasa and Maddi, 1982).
4. Optimism Scale (Scheier and Carver, 1985).

A brief description of each scale is given below:

3.2.1 Self-Rated Health:

“Self-rated health is frequently used in large population surveys, and is a useful ‘opener’ in interview situations that allows interviewers to seek more nuanced and complex responses about people’s perceptions of their health"(Lim, Ma, Heng, Bhalla and Chew, 2007). Self-rated health was measured by single item, i.e., “ In general, what would you say about your present health.” It was rated on a five-point scale ranging from ‘Excellent’ (5) to ‘Poor’ (1). A score of 5 was given to ‘Excellent’, 4 to ‘very good’, 3 to ‘good’, 2 to ‘fair’, 1 to ‘poor’. The score ranged from 1 to 5 and high score indicates ‘good’ Self-Rated Health. Such single item measures and checklists of happiness, health and well-being/life satisfaction have been used extensively (Easterlin, 2001; Veenhoven, 1993).

3.2.3 General Health Questionnaire-28 (Goldberg, 1978):

The General Health Questionnaire (GHQ) was designed by David Goldberg and Paul William. It is a self-administered screening test which aimed at detecting psychiatric disorders among subjects in ‘community-settings’ and ‘non-psychiatric clinical settings’, such as “primary care or among general medical outpatients”(Goldberg, 1972, 1978).

The questionnaire was designed in such a way that it is “easy to administer, is acceptable to respondents, short in length and involves objectivity so that the person administering it does not require to make any subjective assessments about the respondent”. It aims to detect those forms of “psychiatric disorders” which may prove helpful to a patient in a medical setting.

There are several screening tests which are scaled from which the respondents can choose from. Most of these tests can also be used to detect cases by adding the scaled scores together. The scaled GHQ or GHQ-28 consists of 28 items and is derived by factor-analysis and consists of four sub-scales:
Methodology

- **A- Somatic Symptoms (items 1-7).**
- **B- Anxiety/Insomnia (items 8-14).**
- **C- Somatic Dysfunction (items 15-21).**
- **D- Severe Depression (items 22-28).**

Each item involves a question asking whether the respondent has recently experienced a particular symptom ranging from “less than usual” to “much more than usual”. The examples of the statements include: “Have you recently been feeling perfectly well and in good health”, “Have you been feeling in need of a good tonic”, or “been feeling run down and out of sorts” etc.

“GHQ has been shown to be acceptable and useful in occupational researches” (Banks, Clegg, Jackson, Kemp, Stafford & Wall, 1980) and “it was proved to be valid in respect of more comprehensive psychiatric interviews” (Goldberg, 1981).

The four-point response scale is scored on ‘Likert scale’ which can be assigned scores from ‘0-3’, i.e., score of ‘0’ for “less than usual”, score of ‘1’ for “no more than usual”, score of ‘2’ for “rather more than usual” and score of ‘3’ for “much more than usual”. Thus, a total possible score ranges from ‘0-84’.

This test has no relation with direct identification of people as ill but high scores have a fair probability of illness and lower psychological well-being. Reliability of GHQ-28 has been investigated by numerous studies. Test-retest reliability has been reported to be high, i.e., 0.78 to 0.90. (Robinson and Price, 1982) and inter-rater and intra-rater reliability have both been shown to be ‘excellent’, i.e., “Chronbach’s alpha from 0.90 to 0.95” (Failde and Ramos, 2000). “High internal consistency has also been reported” (Failde and Ramos, 2000). Various studies have shown results drawn by estimating a correlation coefficient between the GHQ and ‘standardized psychiatric assessment’ as part of the validity study. It was found that the median correlation between the GHQ and the criterion interview was +0.70 and that of GHQ-28, it was 0.76.
3.2.2 Police Specific Stress Questionnaire (Savery, Souter and Weaver, 1993):

The questionnaire includes 13 items that are to be responded on a five point scale ranging from “strongly disagree” to “strongly agree”, with a scoring weight of 0-4. A score of 0 is given for ‘Strongly Disagree’, 1 for ‘Disagree’, 2 for ‘Undecided’, 3 for ‘Agree’ and 4 for ‘Strongly Agree’. Thus, the total score may range from 0-52. Low score indicates low police specific stress among the police professionals whereas, a high score indicates a high level of police stress. The examples of the statements in the Questionnaire include: “My job tends to directly affect my health”, “I work under a great deal of tension”, “I often feel nervous before going to work” etc.

3.2.4 Optimism Scale (Scheier and Carver, 1985):

Optimism scale was developed by Scheier and Carver (1985) and is named as Life Orientation Test (LOT). The LOT acts as a tool to measure one’s general optimism level which is relative to dealing with the propensities of dealing with everyday life and one’s ability to believe that one can cope with these challenges. The LOT scale seems to assess “how energized and proactive the respondent is relative to being in charge and dealing with the vicissitudes of his daily experiences”. The LOT scale, therefore, assesses the “possible self” component (a feature of the Borkowski and Muthukrisna Model); Carver, Scheier, & Segerstrom (2010).

It is a 12-item scale to be assessed on a 5-point scale (ranging from ‘strongly agree’ to “strongly disagree”). It is a Likert scale on which the score varies from 0-4. The scale has 4 “filler items” which break response set and there are 4 out of the 8 items which are used to derive a “life orientation score”. These items are scored in a reverse manner. Eg.“ If something can go wrong for me, it will”, “ I hardly ever expect things to go my way”, “Things never work out the way I want them to”, “I rarely count on good things happening to me”. For these items, the scoring is done in the manner that a score of ‘0’ for “Strongly Agree”, ‘1’ for “Agree” ;’2’ for “Undecided”, ‘ 3’ for “Disagree” and ‘4’ for “Strongly Disagree”.

73
Methodology

The reliability in a sample of undergraduates sample of 240 was: $r = +0.79$, Cronbach alpha ($r = +0.76$). Both of these reliability measures are pretty good as it is essentially an 8-item scale. Scores on the LOT scale were positively associated with “self-esteem” scores, particularly in women and negatively associated with “depression and personal and social-alienation” scores.

3.2.5 Hardiness Scale (Kobasa and Maddi, 1982):

To measure the hardiness level of subjects Psychological Hardiness Scale (Kobasa & Maddi, 1982) was used. The scale consists of 12 ‘positively’ and ‘negatively’ keyed items covering the important dimensions of hardiness as “commitment”, “control” and “challenge”. Both conceptual and empirical care has been taken in designing the hardiness scale.

A large pool of conceptually-relevant items was gathered with required attention to language used that could minimize various response sets. In several samples, item and factor analyses led to revision of items. The resulting 12 items share the same design and discriminate respondents properly.

Reliability estimates of Internal consistency (Alpha coefficient) is in 0.90s for Total Hardiness scores, and 0.70s for ‘commitment, control and challenge’ scores. Stability appears to be in the 0.80s over two weeks or more time period.

In terms of ‘construct validity’, the test aims at producing a refined test that replicates the major findings regarding the stress-illness relationship.

It is a four-point Likert Scale which consists of items to be answered on the dimensions of “Strongly Agree” to “Strongly Disagree”. The score ranges from 0-3. A score of ‘0’ is given for “Strongly Disagree”, ‘1’ for ‘Mildly Disagree’, ‘2’ for Mildly Agree’ and ‘3’ for ‘Strongly Agree’. Thus the score ranges from ‘0-36’. Examples of the items include: “trying my best at work makes a difference”, “An average citizen can have impact on politics” etc.
3.3 Procedure:

A demographic profile sheet was prepared to gather general information about the participants which include name, age, sex, educational qualification, rural/urban, occupation and address etc. Then all the 300 participants were contacted personally after taking permission from the higher officials in each district’s concerned department. Investigator introduced herself as a research scholar and told them about the academic purpose and application of the present study. They were requested to answer frankly and honestly as the information was to be kept confidential and to be used only for research purposes. Demographic profile was used to establish a good rapport, and then, all the questionnaires were given to the subjects, one at a time and they were asked to read the instructions given on the top of each questionnaire. If they did not understand anything, it was made clear by the investigator. It was made clear that there were no ‘right’ or ‘wrong’ responses and if they had any queries, they could ask the investigator. The investigator tried to complete all tests to each subject in a single day. The procedure of test administration was uniform for all the subjects.

3.4 Scoring:

All the tests/questionnaires were scored according to the scoring procedures given in their respective manuals and has already been described with the description of each as given above.

3.5 Statistical Analysis:

The obtained data were analysed using the descriptive as well as inferential statistics. Mean, S.D. of all the scores were calculated. Percentages and Chi-Square were also calculated. For examining the relationship of health and stress, Pearson coefficient of correlation was calculated. For determining the role of predictor variables (i.e., optimism and hardiness) multiple regression was done and regression and ANOVA were also used for identifying the moderating role of optimism and hardiness in stress-health relationship.