Chapter 3: Literature Review

This chapter reviews the literature related to the theme of this research. With studies on various aspects of the theme pouring in at an incessant pace, the literature has grown manifold. This chapter presents a comprehensive review of the literature especially on role stress, personality traits and police. The review covers both conceptual and empirical contributions to the subject of study. Literature has been reviewed under different sub-sections.

3.1 Studies on Stress

Every human being encounters various kinds of challenges in his or her life. Different ages have different kinds of stress. In the prehistoric age, the nature was the main source of almost all stresses. Man was stressed due to factors like threat of wild animals, natural disasters; such as earthquake, flood, excessive rain, drought, famine, epidemics, and climate dangers; such as thunder and storm, inter group conflicts for searching food and living resources. The present day, world has witnessed substantial progress in science and technology. Now, man can manage the nature with greater confidence. However, other stressors have substituted natural stressors. Wars and conflicts for power have become a potent source of stress. Again, with the emergence of industrial society, new forms of stressors have replaced the earlier ones. These stressors may be political & economical uncertainty, regionalism, communalism, terrorism, urbanization, threat of war, nuclear threat, unemployment, poverty and job insecurity.

Over the past six decades, the stress had been the source of immense interest (Doublet, 2000). But it is an old concept. The term had evolved over several hundred years. Its discovery in the twentieth century was more of a rediscovery (Cassidy, 1999). It had been used in medicine for centuries (Hinkle, 1977). Robert Burton (1624) wrote about the sources of disease and melancholy (depression). He mentioned social stress as a key malady (cited in Hobfoll, 2004). In Indian context also, stress found a mention in the vedic literature, whereas it appeared as Dukha (Grief) and Dushchinta (anxiety). Walter Cannon was credited for originating research on the body’s response to stressors. Cannon (1914) first published his investigations on the adrenal medulla, in which he asserted that emotional stimuli were capable of releasing a substance which would prepare the animal for flight or
for defense. In fact, Cannon was also the first person to use the term stress to refer the physiological reactions caused by the perception of aversive or threatening situations (Bryce, 2001). Aziz (2004) noted that the phenomenon was old and inevitable which pervaded the human life right from the birth till death.

The present work environment has witnessed changes due to technological advances, organizational restructuring and various redesign options (Perrewe et al., 2000). These changes are potent enough to elevate levels of work stress (Conner & Douglas, 2005). This increased stress has led to a rise in the number of employees who have considered leaving their jobs. In order to provide stress management interventions, it is important to assess the stress in various contexts. Some of the studies are mentioned below. For ease of comparing the results between India and abroad, the review is categorized in two parts i.e. International studies on stress and Indian studies on stress.

3.1.1 International Studies
The phenomenon of stress in the organizational context was initially explored by Kahn & his colleagues (1964). In the early 1960s, Kahn et al. developed a research programme and succeeded in finding a number of stress-inducing factors within organizations and how they are connected with unfavorable mental and physical consequences (French & Caplan, 1972).

Picking up the thread, Rizzo et al. (1970) examined the relationship of Role Conflict and Role Ambiguity with anxiety, influence in organization and propensity to leave the organization. The study indicated that role conflict and role ambiguity both tended to correlate weakly but positively with anxiety and propensity to leave the organization. On the other hand, Role Conflict & Role Ambiguity both negatively correlated with influence in the organization. The study indicated stronger negative relationship between role ambiguity and job satisfaction.

Johnson (1979) investigated the relationship between situational and individual variables with role stress, psychosomatic symptoms and job satisfaction in entry level police and safety officers. The study reported that high role stress was significantly correlated with low group cohesiveness, high need for independence,
low need for achievement, high dogmatism, less distortion in responding, external locus of control and more psychosomatic symptoms.

Oliver’s (1980) study on 208 employees in two Canadian retail organization reported that functional interdependence failed to moderate the relationships among social task characteristics, role conflict and outcomes such as job satisfaction, tension, tendency to leave the organization, satisfaction with contextual factors (peers, supervisors, pay and job security) and growth satisfaction. The moderating effects of Role Conflict on the task characteristics were found to be highly significant.

Abdel-Halim’s (1982) study focused on 89 middle-lower managerial personnel in a manufacturing firm. Instruments included the State-Trait Anxiety Inventory and items from the Job Diagnostic Survey and Leader Behavior Description Questionnaire. The results indicated that social support variables from the work group and from the supervisor moderated the relationship of Role Conflict with job satisfaction and job involvement but not with job anxiety.

Osipow et al. (1985) noted that older respondents generally report more overload and responsibility, boundary role, and physical environmental stress than their younger counterparts. Older subjects also displayed a trend towards decreasing vocational, psychological, physical and interpersonal strain than younger ones, and greater recreational self care and rational cognitive resources than younger subjects. The study pointed out towards the possibility of age moderating the stress-strain relationship.

Steffy & Laker (1991) noted that role stressors, perceived employment insecurity, and recent stressful life events led to greater alcohol intake and a propensity to use alcohol to relax and cope with work and personal tensions. Excessive workload contributed to use of alcohol as a coping mechanism among subjects.

Akinnusi (1993) assessed how level of education was associated with stress among managers. Positive correlation was reported between education and psychological stress. Highly qualified managers were also subject to more organizational stressors but suffer less job stress, probably because they occupy positions of authority and their jobs were more intrinsically satisfying than their less qualified counterparts.
Terry et al. (1993) investigated the effects of work stress on psychological well-being and job satisfaction among 153 employees of a large public sector organization. Role ambiguity and role conflict emerged as significant predictors of both psychological well-being and job satisfaction. There was also some support for the proposed role of under-utilization of skills. However, quantitative work overload did not have a significant effect on either psychological well-being or job satisfaction. It was also reported that irrespective of the level of stress, supervisor support had main effects on employee’s well-being.

Vander & de Heus (1993) examined the difference between male and female Dutch managers in respect of work stress, social support and strains. They reported that although both work and life support were negatively correlated with work stress, only weak support was strongly correlated to each measure of strain.

Eriksen (1994) reviewed the literature to assess the role of social support in the pathogenesis of coronary heart disease. It was reported that social support was capable of moderating potentially harmful negative emotions and the potentially harmful cardiovascular response to psychological challenge. However, a lack of control with personality factors in most of the studies made this conclusion uncertain.

Spielberger & Reheiser (1994) measured perceived psychological severity and anxiety of 30 job stressor events, using men and women as subjects working in the university and corporate settings. The study revealed that overall stress level was similar for men and women. However, significant differences were reported in perceived severity and frequency of occurrence of individual stressor events as per gender.

Williams et al. (1997) reported that high job demands and low decision latitude were positively correlated with negative emotions (for instance; anxiety, anger and depression), reduce level of social support and negative feelings in dealing with coworkers and supervisors.

Sparks & Cooper (1999) opined that in order to get the better understanding of the relationships, the stress model should be more specific to the sample. They emphasized the need to develop occupation-specific stress questionnaire to pinpoint the particular stressors in an occupational group.
Picking the idea, Fairbrother & Warn (2003) carried out a study on 100 naval officers comprising 65 males and 35 females using a tailor-made questionnaire for the group. The median age for the group was 21 years and 90 percent of the group was 25 years or younger. Major stressors reported for naval officers were lack of clarity in the work role, disruption of everyday routine, disruption of personal life. Discomfort due to physical environment, psychosocial factors of leadership, team work and social climate were not noted stressful for naval officers. It was also reported that job satisfaction had influence of supportive work climate, perception of being a part of a team and an absence of feelings that one’s personal life had been disrupted.

Larson (2004) examined the job stress among 683 internal auditors who were members of the American Institute of Certified Public Accountants. Stress diagnostic Survey (SDS; Ivancevich & Matteson, 1983) was used to collect the data. Respondents indicated that the organizational role stressors in their work environment were more stressful than individual job factors, such as time pressure and overload stress. The major sources of stress were competition for rewards, politics and career development.

Aizzat et al. (2005) assessed the influence of organizational variables (conflict, blocked career, alienation, work overload, and unfavorable work environment) on job stress among managers. It also examined whether this relationship varied according to the individual’s level of Neuroticism. The study selected 285 respondents. Results of hierarchical regression indicated that three of the five organizational variables (conflict, blocked career, and alienation) had significant positive effects on job stress. Neuroticism was found to moderate the effects of the three organizational stressors (alienation, work overload, and unfavorable work environment) on job stress.

Yahaya et al. (2009) explored the causes of occupational stress within the organization and its implication on job satisfaction, intention to leave and absenteeism. Findings indicated that occupational stress had no direct effect on intention to leave and absenteeism but had direct negative effect on job satisfaction. Job satisfaction reported negative effect on intention to leave and absenteeism. The study suggested a need to increase job satisfaction by reducing
occupational stress. By reducing stress companies could reduce intention to leave and absenteeism among employees.

Aghdasi et al. (2011) surveyed 234 Iranian employees to analyze direct and indirect effects of Emotional Intelligence on occupational stress, job satisfaction and organizational commitment. The study indicated that emotional intelligence did not have any direct and indirect effect on occupational stress, job satisfaction, and Organizational Commitment. Moreover, occupational stress not only had a direct negative effect on job satisfaction, it also had an indirect negative effect on organizational commitment. Job satisfaction had a strong direct positive effect on organizational commitment.

Cicei (2011) undertook a study on 102 employees of five Romanian public organizations to identify the relationship between occupational stress and organizational commitment. It was indicated that high level of stress could lead to low organizational commitment, which could contribute to employee turnover and might lead to low firm’s performance.

Feizabadi et al. (2012) carried out a study on 348 respondents to assess the relationship between job stress and the quality of life in sports teachers in Masshad city. The result of the study indicated that there was no significant difference in stress with respect to fair pay, social dependence of work life, overall life space, social integrity and development of human ability.

The studies mentioned above indicate an active interest among researchers towards the theme of organizational stress. It may be inferred from the studies that job demands, low decision latitude, lack of social support, negative relationship with coworkers & supervisors, negative work environment, time pressure, lack of growth opportunities etc. are the major sources of organizational stress worldwide. The consequences of stress were greater alcohol intake, absenteeism, intention to leave the job, lesser job satisfaction, low organizational commitment and increased level of negative emotions.

3.1.2 Indian Studies
With modernization and technological advancement, the number of people encountered with stress in India has also increased manifold. In this section, the studies related to organizational stress in Indian context has been presented.
It was observed that worst victims of mental stress were businessmen and business executives (Nagarajan, 2007). Shah (1980) studied the impact of stress on a sample of officers representing cooperative banks, market and consumer society, industrial society, and cooperative departments. The psychological consequences felt by these officers were fatigue, exhaustion, migraine, headaches, hypertension, loss of appetite, indigestion, sleeplessness and dizziness.

Parasuram & Alutto (1981) conducted a study on individuals in middle and junior level positions. He noted that role frustration and technical problems were the major sources of stress.

Srivastava (1982) was interested to understand the relationship between employee’s production level and role stress. The results indicated that the employees belonging to high and low level production groups significantly differed from each other with regard to their indices of perceived role stress. The employees producing more were observed to perceive lesser ambiguities, conflicts and workload with regard to their job roles as compared to those belonging to low producing group.

Sreelatha (1988) observed that managers who were young and were earning higher salary experienced more organizational stress, Role Overload and Role Conflict than the managers that were older and were earning less salary.

Singh & Nath (1991) explored the effects of organizational role stress on job involvement among banking personnel. The results indicated that subjects with high organizational role stress (overall as well as dimension wise) had lesser job involvement in comparison to the subjects having low organizational role stress (overall as well as dimension wise).

Srivastava (1991) conducted a study on 300 supervisory personnel and investigated the effects of the avoidance and approach modes of coping on organizational stress and mental health. Organizational Role Stress (ORS) scale, the Mental Health Questionnaire (MHQ), and the Projective Instrument for Coping Strategies were administrated to respondents. Role Stress exhibited positive relationship with mental health. It was also observed that approach group experienced more role stress than the avoidance group, but scored lower on the MHQ than the avoidance group. The findings suggested that approach coping
contributed to immediate perceived stress, but in the long run reduced tension and anxiety. However, avoidance strategies might reduce immediate stress, but in the long run led to greater tension and anxiety.

Pandey (1995) conducted a study on rail engine drivers of Indian Railways to explore the relationship between role efficacy and role stress. The respondents reported Role Overload, Resource Inadequacy and Personal Inadequacy. In this study, level of education was positively correlated with the role stress.

Bhatt (1997) studied the relationship between job stress, job involvement and job satisfaction among male and female primary school teachers. The sample was selected from public and private schools. The result indicated that job stress of public school teacher was significantly and negatively associated with job involvement. Job satisfaction and job involvement were significantly and positively correlated. The result also indicated significant negative partial correlation on job involvement between private and public school teachers.

Parveen (1999) conducted a study on 140 managerial personnel comprising commercial managers (N=70) and technical managers (N=70) to assess the organizational role stress and perceived organizational climate on employees’ health. It was noted that some dimensions of organizational role stress and organizational climate influenced physical and psychological health of both groups of managers.

Nirmala (2002) attempted to identify main sources of occupational stress. He also examined the relationship between various sources of occupational stress and job performance. The respondents were 175 cashiers-cum-clerks of nationalized banks of Haryana. The findings indicated a negative correlation between the major sources of occupational stress and job performance.

Sharma et al. (2010) carried out a study on 150 lawyers to determine the impact of burnout and psychosocial stressors on the job satisfaction. The factors causing job dissatisfaction were reported as Emotional Exhaustion, Depersonalization, reduced Personal Accomplishment and stress. Females’ lawyers reported significantly higher psychosocial stressors and burnout as compared to males.
In summary, it can be concluded that almost all the occupational groups are experiencing stress at workplace. It is also evident that stress decreases job satisfaction and organizational commitment. The employees experiencing work stress are under threat of physical and psychological disorders. They also report an intention to leave the organization. The studies mentioned above are based on the various instruments measuring stress among employees. As discussed earlier, *Organizational Role Stress* (ORS) scale is an oft used instrument to measure role stress. In the next section, the studies that have specifically employed Organizational Role Stress (ORS) scale to assess stress are being perused.

### 3.1.3 Studies based on ORS

The credit for introducing concept of role into organizational research is generally given to Kahn et al. (1964) with the publication of their book entitled *Organizational Role Stress: Studies in Role conflict and Ambiguity*. They proposed a *Role Episode Model* in their study of the organizational stress. It exhibited the interaction between the role sender and role incumbent (focal person) including feedback loop from the incumbent back to the role senders and from the role senders back to incumbent. They further clarified that to adequately perform his or her role, person must know what were the expectations of the role set (rights, duties and responsibilities), what activities would fulfill the role responsibilities, what consequences or role performance were to self, others and the organization. Pareek (1976) used the term *role* to indicate the position of person in the system. Later on, Pareek (1993) explained an individual’s role in terms of two role systems i.e. *Role Space* and *Role Set*.

The ORS scale was developed by a team of researchers at Indian Institute of Management Ahmedabad (IIMA), headed by *Prof. Udai Paeek*. Some ORS scale (Pareek, 1983) based studies are mentioned below:

Ahmad et al (1985) conducted a study of stress among executives. A group of 30 executives from the public sector and another group of 30 executives from the private sector were compared on role stress. Out of ten dimensions of role stress, significant differences were observed on only three dimensions i.e. *Role Isolation, Role Ambiguity* and *Self Role Distance*. It was noted that public sector executives experienced slightly more stress than their counterparts of the private sector.
Kumari & Sharma (1990) examined the relationship and the moderating role of social support on four indices of well-being, namely, organizational role stress, anxiety, job satisfaction, and general well-being on 200 male medical doctors. Doctors with higher social support perceived less stress in their organizational roles, were less anxious, had more job satisfaction and had better well-being than their counterparts with lower social support.

Singh & Singh (1992) approached 400 middle level managers to know the effects of role stress, organizational climate and ego-strength on the psychological strains namely, environmental frustration, anger reactions, latent hostility and job-anxiety. The results indicated significant differences between the mean scores of environmental frustration, anger reactions and job-anxiety in high and low role stress groups; between the mean scores of job anxiety in high and low organizational climate groups and between the mean scores of job anxiety in high and low ego-strength groups. The Interaction effect of all the three variables (role stress, organizational climate and ego-strength) on psychological strains was also found to be statistically significant.

Pandey (1998) carried out a study on 450 BHEL, Haridwar employees to assess the impact of personality dimensions on the organizational role stress of the employees. The findings of the study indicated that Psychoticism-reality and Neuroticism-stability dimensions were found positively associated with individuals' perceived organizational role stress. On the other hand, Extroversion-Introversion dimension was found negatively associated with perceived organizational role stress. The findings of this study indicated that high degree of psychotic (tough mindedness) and neurotic (emotional) tendencies in one's personality might lead to high degree of role stress and Extroversion tendency.

Mohan & Chauhan (1999) conducted a study on 174 middle level managers from Government, Public and Private sectors. The study compared the organizational role stress among government, public and private sector managers. The managers of Public Sector experienced higher Role Erosion and Self Role Conflict followed by Government and the private sector. The private sector reported a better work climate which was giving enough forward orientation in one's job role and also less amount of intra-personal conflict situations.
Mishra & Bhardwaj (2003) undertook a study on a sample of 120 male air traffic controllers working at three major international airports of India, namely, Delhi, Calcutta and Mumbai. The results reported that Inter Role Distance and Resource Inadequacy were dominant stressors whereas Personal Inadequacy and Role Ambiguity were least contributors of role stress.

Aziz (2004) carried out a study on 264 women information technology professionals to investigate the intensity of role stress among women in the IT sector. It was observed that women information technology professionals were experiencing high degree of role stress. Resource Inadequacy emerged as the most potent stressor among the women IT professionals.

Ahmady et al. (2007) conducted a study on 333 faculty members of three public medical schools in Iran to investigate the organizational role stress. The findings indicated that all faculty members were experiencing high level of role stress. The major stressors identified among faculty members were Role Overload, Role Expectation Conflict, Inter Role Distance, Resource Inadequacy, Role Stagnation, and Role Isolation.

Lehal (2007) carried out a study on 200 executives from public and private sectors of Punjab to assess the Organizational Role Stress (ORS) and Job Satisfaction (JS) among the executives. The study reported that the executives of public sector were experiencing less ORS and high JS than executives of private sector. Further in public sector, female executives were more stressed than their male counterparts. On the other hand, female executives of public sector were reported experiencing higher satisfaction level. It was also reported that organizational role stress and job satisfaction had a strong but negative correlation.

Bhattacharya & Basu (2007) examined relationship of gender and age on the Distress, Wellness and Organizational Role Stress among professionals. Results of the study reported that women were experiencing greater wellness and older personnel were experiencing more distress.

Lu (2008) conducted a study on 246 nurses of Philippines, both female and male, to investigate the organizational role stress among them. The questionnaires assessed five main role stress indices, namely; burnout (Maslach Burnout Inventory, 1982), organizational role stress (Pareek, 1993), Self-efficacy
(Schwarzer & Jerusalem, 1995), Hazard exposure (Lu, 2005) and Situational Factors (Minnesota Satisfaction Questionnaire Short Form). The study indicated that there was a significant correlation existing among burnout and self-efficacy, hazard exposure and organizational role stress. In addition, organizational role stress and age had been reported to be the most significant predictors of burnout.

Tankha (2006) investigated the effect of role stress in a sample of 120 nursing professionals of government and private hospitals. The results indicated that male nurses were experiencing significantly higher stress level than female nurses. Second, male nurses of private hospitals reported significantly higher stress than the government nurses on eight out of the ten dimensions of Organizational Role Stress Scale.

Dasgupta & Kumar (2009) collected data from 253 doctors to understand sources of role stress among doctors of Shimla. The factors causing role stress among doctors were Role Overload, Self Role distance, Role Isolation, Inter Role Distance, Role Stagnation, Role Expectation conflict, Role ambiguity and Role Inadequacy. Role Overload recorded 40 percent variance making it most significant stressor among the doctors. Overall, no significant difference was reported on stress levels between male and female doctors except on Inter-role distance and Role Inadequacy.

Agrawal & Majupuria (2010) carried out a study to examine the role stress among Indian chartered accountants (CAs). The results indicated the presence of moderate levels of role stress among CAs. Role Overload emerged as the most potent stressor for CAs. But, they indicated low levels of Role Erosion and Role Ambiguity. Female CAs had higher levels of Role Stagnation while male CAs reported more Role Ambiguity. In addition, the Role Expectation Conflict was higher in CAs working as employees than those running their own professional practice.

Cardoso & Fernandes (2011) carried out a study on 147 doctors of Goa Medical College to assess the impact of marital status, management level and social support on organizational role stress. The results indicated that stress had no relationship with marital status. However role stress had a negative correlation with level of management as well as social support.
Chaturvedi (2011) investigated the difference in role stress among teachers (both male and female) working in private and government institutes. The total sample of the study was 180. It was reported that women employees were more stressed than their male counterparts. Age was observed to have a significant impact on stress level.

It may be noted from the studies perused above that the employees across occupational groups are experiencing role stress. While comparing the nature and intensity of stress, it is found that ATC, police, doctors and nursing are relatively more stressed occupations than others. Although different occupational groups have different role stressors but most of them are experiencing Inter Role Distance and Resource Inadequacy. It is also noted that female employees are experiencing more stress than their male counterparts.

As the study is aimed to assess the relationship of personality traits with role stress, studies in respect of personality are perused in the next section.

3.2 Studies on Personality

The idea of personality is an old one. Aristotle, Theophrastus and Hippocrates are cited as progenitors to the trait approach of personality (Morgan, 2008; Allport, 1937; Matthew et al., 2003). Aristotle, the celebrated Greek philosopher had done pioneering work on moral conduct. He argued in his theory of Golden Mean that moral behavior is the product of dispositions (Aristotle, n.d./n.d.; Hergenhahn, 2005; Matthews et al., 2003). On the basis of Aristotle teachings, Theophrastus created character sketches. The sketches described how a person is expected to act in most situations. The character descriptions were considered as consistent across both time and place (Allport, 1961).

Centuries later, Hippocrates (370 BC), father of medicine, described bodily humours as causative agents in pathology (Hergenhahn, 2005; Hippocrates, n.d./1952). He argued that human body contained four humours, namely - yellow bile, black bile, blood and phlegm (Allport, 1937; Friedman and Schustack, 2003; Hergenhahn, 2005). Galen (190 AD), after Hippocrates, described the relationship between the humours and corresponding character (Table 3.1).
Table 3.1: Relationship between Humours and Characters

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Fluid</th>
<th>Humour/Temperament</th>
<th>Character</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Yellow bile</td>
<td>Choleric</td>
<td>Irritable, quick tempered, fiery</td>
</tr>
<tr>
<td>2.</td>
<td>Black bile</td>
<td>Melancholic</td>
<td>Depressed, negative affects</td>
</tr>
<tr>
<td>3.</td>
<td>Blood</td>
<td>Sanguine</td>
<td>Optimistic, positive, cheerful</td>
</tr>
<tr>
<td>4.</td>
<td>Phlegm</td>
<td>Phlegmatic</td>
<td>Calm, lethargic, unemotional</td>
</tr>
</tbody>
</table>

Source: Morgan, 2008

It was reported that the description of melancholic temperament resembled with the modern day personality trait of Neuroticism (Matthews et al., 2003). Kant placed these four humours into two dimensions, which he labeled as feeling and activity (Hergenhan, 2005; Matthew et al., 2003). After many years of research, Wundt (1893, 1902, and 1904) argued that these four humours were the interaction effect of two dimensions. He crystallized these dimensions as strong-weak emotions versus changeable-unchangeable activity respectively (Hergenhan, 2005). The original views of Kant and Wundt were cited as resembling the present-day traits of Neuroticism and Extroversion (Eysenck, 1960; Guyer, 2006). Further, the research of Galton (1884) on personality noted that personality differences existed in all languages (Goldberg, 1990). At that time, modern statistics analysis such as factor analysis, structure equation modeling, correlation and regression did not exist. The times have changed. With the advent of these methods, and the influence of viewpoints of Allport, Eysenck and Cattell, the modern approach of personality traits had flourished (Matthews et al., 2003).

The first major theory of personality was propounded by Allport. He believed on the assumption of Uniqueness and individual differences. Allport & Odbert developed a list of 17,953 adjectives, which are generally used to distinguish between individual behaviors (Allport & Odbert, 1936). After compiling the terms, Allport began his work to determine a basis for a psychological
classification of terms (Allport, 1937; Allport & Odbert, 1936). Furthermore, Allport & Odbert achieved their objective after creating four parallel columns. Each column was created in such a way to describe a fundamental aspect of personality. As the founder of the systematic study of personality psychology in United States, Allport’s contributions were monumental and continue to influence contemporary thinking in personality psychology (Funder, 1991). The task of abridgment of Allport’s list was done by Cattell (Friedman & Shustack, 2003).

*Cattell* favored *data-based* approach as the best approach to define the nature and the operations of personality (Carducci, 2009). Cattell preferred to base his personality theory on empirical observations. Cattell’s approach was based on structural learning and systems (Cattell, 1980; Ryckman, 1993). This approach examined the transactions occurring between personality and environment (Ryckman, 1993). Cattell attempted to account for individual differences in personality by simplifying and objectifying the composition of personality. He used mathematical and statistical techniques to achieve the objective (Cattell, 1980; Eysenck, 1994; Friedman & Schustack, 2003). Cattell liked Allport argument that languages were accountable for individual differences in personality (Eysenck, 1994). On the basis of the notion, Cattell re-examined the list of terms formulated by Allport & Odbert (1936; Eysenck, 1994). Further, Cattell grouped synonyms and antonyms of the terms together, used by Allport & Odbert’s list (1943 cited in Taylor, 2004). Cattell created 160 bipolar categories. He also included terms related to interests and abilities to the list and created 171 bipolar categories of the traits (1943 cited in Taylor, 2004). Further, Cattell applied Cluster analysis on these traits, which produced 67 trait variables. Cattell subsequently researched on these 67 traits variables (1945; 1947 cited in Taylor, 2004) and reduced these 67 variables into 12 factors. Later, these 12 factors led to the development of the *16 Personality Factor Questionnaire* (16-PF; Cattell et al., 1970).

The basic concept of Cattell’s viewpoint are designed to achieve what he felt was the basic goal of personality psychology. The goal of the Cattell’s approach was to predict what an individual will do in specific situation (Carducci, 2009; Figure 3.1).
Eysenck (1994) criticized Cattell’s theory and argued that it provided an erroneous explanation of traits and Cattell failed to explain the features of the personality traits. On the basis of his own ideas, Eysenck presented his theory of hierarchal nature of traits.

Eysenck theory of trait had main focus on scientific pursuits as well as conceptual clarity (Pervin & John, 2001). As Cattell, Eysenck also relied on factor analysis extensively to help identify the existence of the underlying dimensions of personality. But, he did not rely solely on the factor analysis, but he also emphasized the conceptual part of the personality (Carducci, 2009). Eysenck proposed three basic types of personality traits, namely, Extraversion-Introversion (E), Neuroticism (N), and Psychoticism (P). The theory was criticized arguing that these three dimensions in personality were not able to capture all individual differences. Criticism gave emergence to five factor model of personality traits.

Costa & McCrae (1991) proposed five factor model of personality traits. These five factors were identified as Neuroticism, Extroversion, Openness to Experience, Agreeableness and Conscientiousness. Zuckerman & his colleagues (1988, 1991) proposed an alternative approach to five factor model and they developed an alternative five factor model. The model was developed by comparing 46 commonly used scales based on three, four, five and six dimensions of personality questionnaires. Zuckerman (1993) concluded that both the three factor model of Eysenck and five factor model of McCrae & Costa were robust and reliable.

Based on these understandings and further statistical analysis of the data, a new questionnaire was developed, known as Zuckerman Kuhlman Personality
Questionnaire (ZKPQ scale). The items of ZKPQ scales were aimed to define the five factors more clearly. The scale also excluded the items showing a strong social desirability influence (Aluja et al., 2006).

At the beginning of the twenty-first century there was an ongoing debate about the different structural models that described human personality. Till date, Eysenck’s three-factor and the five-factor model were the most widely investigated. These models had been largely replicated across different languages and cultures (Kallasmaa et al., 2000; McCrae & Costa, 1997), creating more attention than Cattell’s (1957) and Guildford & Zimmerman’s (1956) personality models.

Two dimensions could define the most basic and parsimonious personality structure; Extraversion and Neuroticism. First historical view of these dimensions was provided by the Hippocrates humoral theory. Furthermore, Wundt proposed an important change from the categorical typology of personality to a quantitative two-dimensional taxonomy, considering two basic characteristics related to affective reactivity: the strength of emotions and the speed of change. The former would correspond to Neuroticism (or anxiety according to Cattell), while the latter would be equivalent to Eysenck’s Extraversion. These two dimensions had strong temperament loading, and they were related to both emotional levels and activity.

A third basic dimension of personality called Psychoticism, was subsequently developed (Eysenck & Eysenck, 1976). Psychoticism is usually defined by a lack of empathy, cruelty, impulsiveness, hostility, aggressiveness, emotional indifference, socialization deficit and psychopathy. Psychoticism is also defined as a personality dimension of a temperamental nature that differs from Extraversion and Neuroticism which would be closer to the domain of character. It can be concluded after twenty five years of research that Psychoticism is a fundamental component of personality that allows understanding the socialization process, both in children and adults (Aluja, 1999).

Zuckerman, Kuhlman & Camac (1988) and later, Zuckerman, Kuhlman, Thornquist & Kiers (1991) proposed an alternative five factor model formed by Impulsive Sensation Seeking, Aggression-Hostility, Activity, Sociability, and Neuroticism-Anxiety. Furthermore, Aluja, Rossier, Garcia, Algleitner, Kuhlman &
Zuckerman (2006) proposed a cross-cultural shortened form of the Zuckerman Kuhlman personality Questionnaire (ZKPQ-50-CC). The five factor personality model integrates Extraversion, Neuroticism, Agreeableness, Conscientiousness and Openness to Experience or Culture. Agreeableness and Conscientiousness have been related to socialization whereas Openness is defined by a wide range of interests, non-conformism, intellectual curiosity, high speed for variety and liberal in the value systems (Costa and McCrae, 1992). Unlike the Costa & McCrae model, the Eysenck and Zuckerman models provide a casual explanation of personality (Aluja et al., 2004a). Zuckerman-Kuhlman Personality Questionnaire is of particular interest for the present study because this provides an alternative five-factor structure that includes dimensions of Impulsive-Sensation Seeking, Neuroticism-Anxiety, Aggression-Hostility, Activity and Sociability that is of particular significance in the context of police personnel. The preceding discussion traces evolution of trait approach of personality. The next section presents a review of empirical studies carried out based on these personality theories.

3.2.1 Studies on Personality Traits
Schweiger et al. (1998) evaluated 51 healthy students (15 male, 36 female) to examine the relationship between an individual’s autonomic tone and his prominent personality traits. A wide range of personality factors were assessed in the study. The personality factors were assessed through questionnaires, namely, ‘Freiburger Personality Inventory’ (FPI-R; Fahrenberg et al., 1984), a German version of the ‘Manifest Anxiety Scale’ (MAS; Luck & Timaeus, 1969) and one German version of ‘Inventory for the Assessment of Psychosomatic Illness Processes’ (‘Fragebogen zur Abschatzung des psychosomatischen Krankheitsgeschehens’ [FAPK]; Koch, 1981). The physiology was measured through pre-ejection period and High Frequency power. ANOVA and ANCOVA were used for analysis. Results of two-factor ANOVAs revealed substantial differences in personality characteristics depending on the level of sympathetic and parasympathetic tone respectively. But no significant interaction effects were found. The study also reported relationships between sympathetic tone and some prominent personality traits.
Busato (1999) carried out a survey on the sample of 900 university students to identify the relationship among learning styles, the Big Five personality traits and achievement motivation in higher education. Three instruments were used for data collection, viz. Learning style (ILS; Vermunt, 1994) and vijf persoonlijkheidsfactoren test (5PFT; Elshout & Akkerman, 1975) and prestatie-motivatie-test (PMT; Hermans, 1976). The analysis revealed that Extraversion, Conscientiousness, Openness to experience and Agreeableness correlated positively with the meaning directed, reproduction directed and application directed learning style. Conscientiousness and Openness to Experience were associated negatively with the undirected learning style. Besides, it was observed that Neuroticism correlated positively with the undirected learning style and negatively with the meaning and reproduction directed learning style. Positive correlations were found for Achievement Motivation with the meaning, reproduction and the application directed learning style, and a negative one with the undirected learning style.

Lauriola & Levin (2001) carried out an exploratory study on 76 subjects (38 males and 38 females) for examining the relationship among personality traits, socio-demographic factor and risky decision-making. The two instruments administrated were Short Adjective Checklist measuring the Big-Five (SACBIF; Perugini & Leone, 1996) and a pictorial questionnaire for measuring the risk taking. Correlation and Sequential regression analysis were used for analysis. It was reported that personality traits had a relationship with risky decision making. Personality traits had a different relationship for gains and losses. Participants scoring high on Openness to Experience were associated with greater risk-taking. Similarly participants, who had a higher score on Neuroticism, were associated with less risk-taking.

Lounsbury et al. (2007) examined personality traits of 1059 information technology professional to identify the job satisfaction and career satisfaction in information technology sector. Personality traits were measured using Personal style Inventory (PSI; Lounsbury & Gibson, 2006). Job satisfaction was measured by a seven item scale and career satisfaction by a five item scale developed by Lounsbury et al. (2004). The results demonstrated that personality traits were
linked to both the job satisfaction and career satisfaction of IT professionals. *Emotional Resilience* was observed to be highly correlated with *job satisfaction* and *career satisfaction*. It was also reported that introverts were better suited for IT work.

Zhang (2007) investigated the impact of personality traits on teaching styles among Chinese high school teachers. The study was conducted on 157 teachers of two senior high schools in Nanjing, the People Republic of China. Apart from some qualitative measures, two instruments were used to measure the responses, namely; *Thinking Style in Teaching Inventory* (TSTI; Grigorenko & Sternberg, 1993) and *NEO Five-Factor Inventory* (NE)-FFI; Costa & McCrae, 1992). The study reported that teachers’ personality traits played a significant role in their teaching styles beyond their gender, educational level, and their perceptions of the quality of their students. It was also observed that the teachers who were highly educated were significantly more creative in their teaching (Type I styles; legislative, judicial, hierarchical, global, and liberal styles), but significantly less conservative in their teaching (Type II styles; executive, local, monarchic, and conservative styles). The study noted a significant positive relationship between *Conscientiousness* and three teaching styles (legislative, judicial, and liberal). The study reported a significantly negative relationship between the *Openness* scale and all Type II styles.

Chamorro-Premuzic et al. (2007) conducted a study on 112 students and non-student participants. This study examined the role of *trait emotional intelligence* on *happy personality*. Three instruments were administrated in the study, viz. *Ten Item Personality Inventory* (TIPI; Gosling et al., 2003), *Oxford Happiness inventory* (OHI; Argyle et al., 1989), and *Trait Emotional-Intelligence Questionnaire-Short Form* (TEIQue-SF; Petrides & Furnham, 2006). Four of the five personality traits, namely, *Stability*, *Extraversion*, *Conscientiousness* and *Agreeableness*, were positively correlated with both *Happiness* and *Trait Emotional Intelligence*. A significant amount of shared variance between *Happiness* and the personality traits was explained by *Trait Emotional Intelligence*. The shared variance partly mediated *Stability* and *Conscientiousness* to *Happiness*, and fully mediated *Agreeableness* and *Happiness.*
Chapman et al. (2007) conducted a study to examine the gender differences in five factor personality traits in an elderly sample of 486 older adults. Personality traits were measured by NEO-FFI questionnaire. The results revealed that older women had higher scores on *Neuroticism* and *Agreeableness* than older men.

Hirschi (2008) carried out a study on the sample of 492 Swiss adolescents to identify the personality complexes prevalent in adolescents on the basis of traits, interests, work values and self-evaluations. Personality Traits were measured by NEO-FFI, vocational interests by *Revised General Interest Structure Test* (AIST-R; Bergmann & Eder, 2005), work values by *Work Value Scale* (Ros et al., 1999), and core self-evaluations by *Inventory for the Measurement of Self-Efficacy and Externality* (FKK; Krampen, 1991). Exploratory and Confirmatory Factor analysis was performed to get the resultant factors. Five factors were identified which accounted for 60% of variance among the relations of the variables. The factors were *enterprising-conventional interests, favorable personality dispositions, social-artistic personality characteristics, investigative-realistic interests* and *work value endorsement*.

Yang et al. (2008) undertook a study on 2,773 students of Taiwan to evaluate the influence of personality traits and nonsevere life events on depressive episode in nonreferred adolescents. The data was collected from various instruments, namely, *Center for Epidemiologic Studies Depression* (CES-D; Radloff, 1977), *Juvenile Eysenck Personality Questionnaire* (JEPQ; Eysenck & Eysenck, 1975) and *Life Event Checklist* (LEC; Johnson & McCutcheon, 1980). The analysis indicated that only elevated *Neuroticism* was associated with a single episode of depressive *Symptoms*, whereas a medium level *Neuroticism, Extraversion* or *negative life events* exhibited association with the occurrence of two episodes. No interactions were found between all personality traits or between personality and negative life events.

Jensen and Patel (2011) carried out a study to predict Counterproductive Work Behavior (CWB) from the interaction of personality traits. The study included 517 employees (UK=97; Netherlands=183; Turkey=172 and Greece=65). Two types of CWB, namely, CWB-O (organization) and CWB-I (individual) were measured using *Voluntary Work Behavior Questionnaire* (Coyne & Gentle, 2006).
Personality Traits were measured by administering *Personality Item Tool* (IPIP; Goldberg, 1999). Confirmatory Factor Analysis was used. Results indicated that the interaction of traits increases the prediction of CWB over and above a single trait approach. The interactions suggest employees perform the least CWB when they are high on both traits (Agreeableness & Emotional Stability; Conscientiousness & Emotional Stability and Conscientiousness & Agreeableness). But low levels on either trait relate to increased CWB.

Amrai et al. (2011) conducted a study on 205 university students to examine the relationship between personality traits and *Spiritual Intelligence*. The findings reported that personality traits played a significant role in people’s Spiritual Intelligence. Findings also revealed that there was a negative relationship between Neuroticism and Spiritual Intelligence and positive relationship between Conscientiousness, Agreeableness and Extroversion. Openness reported no relationship with Spiritual Intelligence.

Zhang (2011) collected the data from 362 (136 male, 226 female) students of China to examine the construct of hardiness with the personality traits among Chinese university students. Respondents filled the *Dispositional Hardiness Scale* (DHS; Bartone et al., 1989) and the *Revised NEO Personality Inventory*. Results indicated that younger students had high commitment and control hardiness than older students. Older students scored significantly higher on the Neuroticism scale, but lower on the Agreeableness scale. Female students scored higher on the commitment and control hardiness subscales, as well as on the Agreeableness and Conscientiousness than did their male counterparts. Results also indicated that personality traits statistically predicted Hardiness irrespective of age and gender among students. These results supported the argument that Hardiness represents a healthy personality disposition.

Peltokorpi & Froese (2012) conducted a study on 181 expatriate of Japan to examine the impact of their personality traits on cross-cultural adjustment. For measuring Cross-Cultural Adjustment, a 14-items scale developed by Black et al., 1989 was used. Expatriate personality was measured using *Multicultural Personality Questionnaire*. Confirmatory factor Analysis proved model fit for cross-cultural adjustment. The data analysis brought out positive relationships
among the personality traits of Open Mindedness & interaction adjustment, emotional stability, cultural empathy & general adjustment, and Social Initiative & work adjustment.

It may be noted from the studies perused above that Neuroticism has a negative association with risk taking, sensation seeking and spiritual intelligence while it is positively correlated with depressive symptoms and negative emotions. Neuroticism increases with age. On the other hand, Extraversion and Emotional Resilience are positively correlated with job satisfaction and career satisfaction.

The focus of the present research is personality traits and stress. The section presents a review of studies focusing on both these variables.

### 3.3 Studies on Personality Traits and Stress

Various attempts have been made to identify factors that cause stress among people. Attempts have been made to establish a link between the incidence of stress and the personality of individuals. For instance, Akinboye & Adeyemo (2002) reported that some people were generally more stress prone while others were generally less stress prone depending on their personality traits. In the same vein, Riolli & Savicki (2003), Raedeke & Smith (2004) and Van-Dierendonck (2005) reported that personality characteristics of employees have the tendency to moderate the effect of stressful situations on employees such that certain traits may buffer or enhance more negative outcomes than others. Some of the research studies showing the relationship between personality and stress are presented below:

Harigopal (1980) investigated the influence of the personality factors ego strength and dominance vs. submissiveness on role stress variables viz. role ambiguity and role conflict. The results suggested that individuals having high and low ego strength differ significantly on role ambiguity and role conflict. Ego Strength was found to moderate the relationship between the Role Ambiguity & Job Satisfaction, Role Ambiguity & Job Involvement, and Role Conflict & Job Involvement. Dominance vs. Submissiveness was found to moderate the relationship between Role Conflict and Job Involvement.

Pruessner et al. (1997) examined 20 healthy non-smokers males to assess the association of personality traits and cortisol stress response. Data was collected
using Questionnaire for Competence and Control (FKK; Krampen, 1991) and the Gissen-Test (G-T; Beckmann et al., 1991). After first trial, personality traits did not correlate with cortisol stress response, but as the increasing number of cortisol responses was aggregated, significant correlations between variables were observed.

Cao et al. (2002) investigated personality abnormalities in patients with Chronic Tension Type Headache (CTH), Episodic Tension-Type Headache (ETH), Migraine with Aura and Migraine without Aura (MA). The sample size was 72 patients suffering from CTH, 33 with ETH, 15 with MA and 57 with migraine without aura. Personality traits were assessed using Zuckerman Kuhlman Personality Questionnaire (ZKPQ). ETH and MO groups showed significantly greater Neuroticism-Anxiety and depression. In addition, the MO group scored significantly higher on Aggression-Hostility than healthy controls. No abnormal personality trait was observed in patients with MA.

Harris et al. (2003) collected data from 144 undergraduate students and examined the relation between Big Five Personality Traits and anxiety about aging. Data was collected through NEO-Five Factor Inventory and the Anxiety about Aging Scale (AAS; Lasher & Faulkender, 1993). Findings noted a positive relation between neuroticism and overall anxiety about aging. Anxiety about aging was reported to be inversely related to Agreeableness, Conscientiousness, and Extraversion and reported no relation with openness to experience. In addition, the relationship among Big Five Personality traits and four dimensions of anxiety about aging (anxiety about changes in physical appearance, fear of old people, psychological concerns and anxiety about age-related losses) were noted as significantly different.

Persson & Orbaek (2003) selected 101 healthy women to examine the influence of personality traits on neuropsychological test performance and self reported health. Several instruments were administered for collecting the data, namely, the Karolinska Scales of Personality (KSP; Klinteberg et al., 1986), the State Trait Anxiety inventory- Trait Scale (Spielberger et al., 1983), Neuropsychological tests (WHO, 1985): General Knowledge tests like Synonyms (SRB; Dureman et al., 1971) and WAIS-R Information (Wechsler, 1992); Perceptual and motor speed test
like APT two-choice visual reaction time (APT RT-2; Levander & Elithorn, 1987); the Milner pathway (Milner, 1965), Cronholm-Molander verbal memory test (Cronholm & Molander, 1957), General Health Questionnaire-30 (GHQ-30; Goldberg et al., 1978), Symptom Checklist-90 (SCL-90; Derogatis, 1992), EuroQuest (EQ; Chouaniere et al., 1997), Job Content questionnaire and Interview schedule for Social interaction. Bivariate regression analyses reported that both age and years of schooling influenced performance in neuropsychological test scores. The analysis indicated statistically significant effects of KSP psychic anxiety in 10 of the 15 outcome measures. The high-anxiety half of the subjects had higher symptom scores, lower availability of social interaction scores as well as lower adequacy of attachment scores than low-anxiety half of the respondents.

Aizzat et al. (2005) conducted a study on 285 managers to determine the influence of organizational stressors (conflict, blocked career, alienation, work overload, and unfavourable work environment) on job stress among managers in Malaysia. The study also examined whether this relationship varied according to the individual’s level of neuroticism. Organizational Stressors were measured using a 25-items questionnaire developed by Davis et al. (2000). The other two instruments were 12-items scale derived from NEO Five Factor Inventory and 20-items screening inventory (Goldberg & Hillier, 1978). Analyses of responses reported that three of the five organizational variables (conflict, blocked career, and alienation) had significant positive effect on job stress. Neuroticism was found to moderate the effects of the three organizational stressors (alienation, work overload, and unfavourable work environment) on job stress.

Chioqueta & Stile (2005) carried out a study on 219 university students to investigate the relationship between personality traits, depression, hopelessness, and suicide ideation. The study used three instruments, namely, NEO Personality Inventory Revised, the Beck Hopelessness Scale (BHS; Beck et al., 1974), and Hopkins Symptoms Check List (HSCL-25; Derogatis et al., 1973). The results indicated that depressive symptoms were positively predicted by Neuroticism and Openness, and negatively predicted by Extraversion. Hopelessness was positively predicted by Neuroticism and negatively predicted by Extraversion. Finally, Suicide Ideation was positively predicted by Neuroticism. Further, it was found
that depressive symptoms were positively predicted by the Neuroticism facets, angry hostility and depression, and negatively predicted by the Extraversion facet, positive emotions, and by the Openness facet, actions. Hopelessness was positively predicted by the Neuroticism facet, depression, and negatively predicted by the Extraversion facets, assertiveness and positive emotions. Among the Neuroticism facets, depression positively predicted Suicide Ideation, while self-consciousness negatively predicted Suicide Ideation.

Hudek-Knezevic et al. (2006) carried out a study on 214 nurses to examine the role of personality traits, social support and coping styles on burnout. Four instruments were used for data collection, namely Big Five Inventory (BFI; Benet-Martinez & John, 1998), Social Support Appraisal Scale (SS-A; Vaux et al., 1986), Coping Orientation to Problems Experienced (COPE; Carver et al., 1989) and Maslach Burnout Inventory (MBI; Maslach & Jackson, 1986). Personality traits were included into the first step of analysis, three sources of social support (co-workers, family and friends support) in the second, and in the third step three coping styles (problem-focused coping, emotion-focused coping and avoidance coping) were included. The results indicated that out of five personality traits, Neuroticism positively predicted exhaustion, while Agreeableness negatively predicted reduced professional efficacy. As regards three sources of social support, only co-worker support negatively predicted exhaustion as well as reduced professional efficacy. Regarding coping styles examined, only Avoidance Coping positively predicted depersonalization.

Grant & Langan-Fox (2006) conducted a research study on 211 middle managers (88 men, and 123 women) to examine the combined/interactive effect of the Big five traits in predicting stress, coping and strain among managers. Five instruments were used to collect the data from the respondents, i.e. NEO-Five Factor Inventory Form, Measures of Subjective Work Environment Stress, Brief COPE inventory, Occupational Stress Indicator (OSI) and OSI-Job Satisfaction Scale (Cooper et al., 1988). The study reported that low Neuroticism with high Extraversion & high Conscientiousness predicted lower stressor exposure, physical ill health and job dissatisfaction. It was also reported that high Neuroticism-low Conscientiousness predicted higher stressor exposure,
dysfunctional coping, physical ill-health and job dissatisfaction and lower problem-focused coping. Further, it was indicated that in predicting job dissatisfaction, there was the interactional influence of high Neuroticism and low Agreeableness.

Krause & Broderick (2006) investigated relationships among personality, locus of control, and current post-injury employment status with spinal cord injury. The sample size of the study was 1,391 participants. Participants with higher internal Locus of Control and activity (personality) reported more favorable employment outcomes. Higher scores on chance and powerful others (Locus of Control), Neuroticism, and Aggression-Hostility (personality) were associated with diminished employment outcomes.

Lamb (2009) conducted a study on 187 call centre employees of South Africa to examine the role of personality traits and resilience as predictors of Job Stress and burnout. The instruments used for measurement of variables were International Personality Item Pool (IPIP; Goldberg et al., 2006); The Resilience Scale (Wagnid & Young, 1993); Maslach Burnout Inventory, and the Experience of Work and Life Circumstances Questionnaire. The study indicated a linear relationship between job stress and the personality factors, i.e. Emotional Stability and Openness to Experience. Conscientiousness was found to be a valid predictor of the emotional exhaustion and Depersonalization dimensions of burnout. Resilience, or more specifically acceptance of self and life, was also reported to be a valid predictor of Depersonalization. Conscientiousness, Agreeableness, and Resilience were reported to be valid predictors of the personal accomplishment dimension of burnout.

Popoola & Illugbo (2010) conducted a study on 370 female teachers of Osun State teaching service to examine their stress level. It also aimed to determine the relationship between stress and personality traits of self concept, Extraversion, Locus of Control and Achievement Motivation. Five research instruments were used to collect data for the study. These are the Stress Assessment Inventory (SAI; Akinboye & Adeyemo, 2002) and four personality inventories namely Tennessee Self-Concept Scale (TSCS; Fitts, 1964), Rotter’s Internal-External Locus of Control Scale (LCS; Rotter, 1966), Questionnaire Measure of Need Achievement
(QMNA; Herman, 1970) and Eysenck Personality Inventory. The results exhibited that 80.3% of female teachers were experiencing low level of stress. No significant relationship between stress and personality traits of Extraversion, Locus of Control, self concept, and achievement motivation was observed. The results also noted that marital status of female teachers significantly influenced the stress experienced by them. Divorced females were reported to experience more stress than those who were either single or married. The study concluded that personality traits were not substantial predictors of the level of stress experienced by female teachers.

Vohma et al. (2010) attempted to identify differences in personality domains and various demographic and clinical variables of panic disorder. The data was collected from 193 patients and 314 matched healthy subjects using the Swedish university scales of Personality (SSP; Aluoja et al., 2009). It was revealed that in all personality traits, except for Detachment and Physical Trait Aggression, significant differences were observed between panic disorder group and healthy subjects. Neuroticism and Aggressiveness, but not Extraversion, were significantly higher in panic disorder group than the healthy group. The study added to the evidence of maladaptive personality disposition in patients with panic disorder in addition to other traits, particularly for high Neuroticism and manifest somatic trait anxiety.

Jovanovic et al. (2011) conducted a study on a sample of 260 drivers (137 males, 123 females) to explore the relationship between five-factor of personality and aggressive behavior during driving. Data was collected through three instruments, namely, UK driving anger scale, Driving anger expression inventory, and Personality inventory (NEO-PI-R; Djuric-Jocic et al., 2004). It was hypothesized that Neuroticism correlated with aggressive driving indirectly through anger, whereas other four traits were directly connected with aggressive driving. Analysis indicated that Neuroticism, Agreeableness and Conscientiousness predicted driving-related anger and aggression. The relationship between Neuroticism and aggressive driving was mediated by the driver’s anger, whereas Agreeableness and Conscientiousness had both a direct and indirect relations with aggressive driving.
The review of the literature revealed that certain personality traits such as Neuroticism, Anxiety, Sensation Seeking, Hostility and Introversion could make the individuals more vulnerable to stress while certain personality traits such as Extraversion, Activity, Sociability and Conscientiousness could decrease the stress level of the individuals.

The aim of the present research study is to identify the stress level of the police personnel. The next section presents a review of studies focusing on police stress worldwide as also in Indian context.

3.4 Studies on Police Stress

Fairly large literature on police stress had been produced since the mid-1970s. These studies focus on issues like intensity, prevalence, sources, and consequences of stress (Aaron, 2000; He et al., 2005; Laufersweler-Dwyer & Dwyer, 2000; Lee, 2002). Some studies had concentrated on the stress of dealing with dangerous and violent situations or on factors external to the police department (Morash et al., 2008). But, it is also increasingly clear that workplace problems including negative relationships with co-workers & superiors, opportunities to determine one's job activities and for promotion have also been related to stress in some settings (Brown et al., 1996; Crank et al., 1995; Hurrell, 1995; Juniper, 1996; Kirkcaldy et al., 1995). Coman & Evans (1991) observed that because of the pervasiveness of these factors in police organizations, organizational sources of stress are particularly important to them. Brooks & Piquero (1998) also noted that problems in the police organization are more predictive of stress than are other types of possible stressors. Finally, Zhao et al. (2000) noted that police officers' perceptions of their work environment had a significant impact on multiple measures of stress.

Police work generates its own unique stresses. Symonds (1970) proposed two general areas of job strain in police-vocation i.e. pressure resulting from the unique responsibilities of law enforcement and tension arising from the organizational aspects of policing. Stressors which had been considered inherent to police work include physically or psychologically threatening events, such as in-progress felony calls, physical attacks, high speed chases, and the death or injury of another police officer (Violanti & Aron, 1993). Organizational stressors...
In police work had been related to policies, procedures, shift work, poor or no equipment and inadequate support mechanisms from superiors (Kroes et al., 1974; Violanti & Aron, 1994). Spielberger et al. (1981) suggested negative encounters with the public, courts and media as organizational pressures and psychological threats (Ursitti, 2011).

In comparison to other occupations, police work has been identified as one of society’s most stressful occupations (Alexander, 1999; Anshel, 2000). The exposure to these stressful conditions could lead to ill health of police officers. It is important to have a productive and healthy police service that serves as an important contributor to the stability and economic growth of a country. Thus, it is necessary to investigate possible factors that contribute to work-related well being of the police officers (Mostert & Rothmann, 2006).

In order to compare the results from India as well as outside India, the review is categorized in two parts-International studies on police stress and Indian studies on police stress.

3.4.1 International Studies

Police research has received considerable emphasis worldwide. The section presents a review of such studies:

Some occupations such as police work had historically required shift work (Violanti et al., 2008). Shift work requires a rearrangement of awake & sleep time. This could lead to disruption of circadian rhythm, which in turn causes internal de-synchronization and subsequent psychological and physiological disturbances (Violanti et al., 2008). Gerber et al. (2010) surveyed 460 police officers to examine how shift system contributed to stress and sleep pattern. The data was collected through **Shift vs. Non-Shift Work Questionnaire**, **Trier Inventory for the Assessment of Chronic Stress (TICS)**; Schulz et al., 2003), **Pittsburgh Sleep Quality Index**, and **Short form Health Survey (SF-12)**; Bullinger & Kirchberger, 1998). MANCOVA was performed to test the differences in the dependent variables. Shift work was associated with increased social stress, work discontent and sleep complaints. Stress was found associated with increased sleep complaints and lower scores in perceived health.
Mostert & Rothmann (2006) carried out a study on 1,794 South African police officers to assess whether background variables, i.e. job stress, and personality traits could predict the work related well being (burnout and work engagement) of police personnel. The instruments used were Maslach Burnout Inventory- General Survey (MBI-GS) (Schaufeli et al., 1996), the Utrecht Work Engagement Scale (UWES) (Schaufeli et al., 2002), the Police Stress Inventory (PSI) (Pienaar & Rothmann, 2003) and Personality Characteristics Inventory (PCI) (Mount and Barrick, 2002). The results indicated that age, gender and race explained a small percentage of the variance in exhaustion, cynicism and vigor/dedication. Stress arising out of job demands and lack of resources predicted exhaustion and cynicism. Emotional Stability and Conscientiousness inversely predicted Exhaustion and Cynicism, while Emotional Stability, Conscientiousness and Extraversion predicted vigor and dedication. Stress arising out of job demands predicted only a small percentage of the variance in vigor and dedication.

Shane (2010) carried out a survey on 461 police officers and examined the impact of organizational stressors on police performance on two large urban police departments in Michigan and New Jersey. Police Stress Questionnaire (PSQ; McCreary & Thompson, 2006) was used in the survey. The results reported that performance decreased as perceived stressors increased. It was also observed that organizational stressors were significantly different from operational stressors.

Kohan & Mazmanian (2011) carried out a study on 199 police officers of three police departments to identify the nature of the police work, burnout, and pro-organizational behavior. The questionnaire used were The Police Daily Hassles and Uplifts scales (PDHS and PDUS; Hart et al., 1993; 1994), Maslach Burnout Inventory, Organizational citizenship behavior, Revised way of Coping checklist (WCCL; Folkman & Lazarus, 1985), Positive and Negative Affect Schedule (PANAS; Watson et al., 1988), and Social Desirability Scale (SDS; Crowne & Marlowe, 1960). Findings indicated that appraisal of negative experiences depended on the frequency of exposure to the different facets of work whereas positive organizational experiences were perceived as being more uplifting than operational ones. Burnout and OCB were more strongly associated with organizational experiences than with other operational experiences.
The events and situations experienced in police work have generally been described in four categories—organizational practices & characteristics; criminal justice practices & characteristics; public practices & characteristics and police work itself (Fain & McCormick, 1988; Territo & Vetter, 1981). Other studies based on officers’ perceptions, grouped these factors in two categories; the stressors stemming from organizational factors and those rooted in the nature of police work (Morash et al., 2006). The first group, rather than the latter one has emerged as more effective in determining the level of stress among police officers (Morash et al., 2006; Buker & Wiecko, 2007). Stressors rooted in organizations typically relate to administrative policies and attitudes that were bothersome to officers (Violanti & Aron, 1995). These stressors may be supervision (management) practices, promotion practices and work conditions (Storch & Panzarella, 1996). More specifically, these stressors included lack of participation in decisions affecting daily organizational practices; lack of administrative support; a punishment centered philosophy or unfair discipline and alienation among police officers resulting from the quasi-militaristic nature of the organization (Buker & Wiecko, 2007). On the other hand, nature of police work, as a stressor had also been problematic but it was not severe. For instance, police officers rarely mentioned danger, violence or human misery as source of stress in their work environment, as long as questionnaires did not specifically ask about the existence or the extent of these factors (Storch & Panzarella, 1996). Threats of physical harm and exposure to violence were not common for many small-sized police departments. Police officers therefore, might be describing their work as being more dangerous than it actually is (Buker & Wiecko, 2007).

Storch & Panzarella (1996) stated that it is undeniable that police work includes moments of very high stress, even terror, but these moments are rare. They further expounded that most workdays passed without dramatic events; however, when these significant events did occur, they were often experienced as Eustress, as positive stressors, by officers who enjoyed the excitement of the job. The statement was supported by one study carried out by Newman and Rucker-Reed in USA (2004). They undertook an anonymous survey of 100 Deputy U.S. Marshals by asking open-ended questions and also by State Trait Anxiety Questionnaire.
The respondents scored low on the State Trait Anxiety Inventory. The main stressors identified by the respondents were related to organizational variables, such as, problems with management, bad bosses, and work environment. More stress was experienced by deputies who were inclined to think about job-related illnesses or being injured while duty, those who were facing retirement, and those who disliked their current assignments.

Buker & Wiecko (2007) conducted a study on 812 police officers of Turkish National Police to assess the effects of commonly explained police stressors’ on the members of a developing country’s centralized police department. The data was collected through Brief Symptom Inventory (BSI) (Derogatis & Melisaratos, 1983); Job Diagnostic Survey (JDS; Hackman & Oldham, 1980) and Job Satisfaction Scale (Smith et al., 1969). This study indicated that organizational issues were the most important sources of stress in policing. It was also reported that several police stressors, as observed for local police departments, might not have the same effects for larger, centralized police departments.

Lack of employee commitment to the organization is one of the negative consequences of stress. Two different approaches of defining organizational commitment reported in the literature were an employee’s intention to continue employment in an organization (Meyer & Allen, 1997) and an attitude in the form of an attachment between the individual and the organization that was reflected in the relative strength of an employee’s psychological identification and involvement with the organization. Jaramillo et al. (2005) collected the responses of 150 police personnel to comprehensively investigate the effects of police stress (internal to the organization) on organizational commitment. Results indicated that, in addition to job satisfaction, supervisor’s support, group cohesiveness and promotion opportunities were the best predictors of Organizational Commitment among law enforcement officers. The results also indicated a significant relationship between organizational commitment and intention to leave.

It is believed that suicide is a leading cause of death among police officers (Janik & Kravitz, 1994) and that policing, as an occupational group is dangerous, stressful and associated with high levels of suicide (Hill & Clawson, 1988). Burke & Mikkelsen (2007) carried out a study on 766 police officers of Norway to
examine potential predictors of suicide ideation among them. The data was collected through several questionnaire, namely, *Copenhagen Psychological Questionnaire* (COPSOC; Kristensen & Borg, 2001); *Maslach Burnout Inventory-General Survey* (MBI-GS; Schaufeli et al., 1996) and *Suicidal Ideation Scale* (Paykel et al., 1974). It was observed that unmarried police officers, officers reporting higher levels of both *Exhaustion* and *Cynicism*, and officers engaged in less active coping and officers reporting lower level of social support indicated more suicidal ideation.

Kop et al. (1999) studied a sample of 358 Dutch police officers to understand the stressors in police work and to investigate the relationship between burnout and the attitude of officers towards violence. Data was collected through a self-report questionnaire and *Maslach Burnout Inventory*. The results indicated that organizational stressors were more prevalent than task-related stressors. Police officers often felt *poor management, reorganization, bureaucratic interference, administration, shift work, bureaucracy and unmotivated colleagues*. Police officers reported low level of emotional exhaustion. The study also noted a relationship between lack of reciprocity at interpersonal and organizational levels and higher levels of burnout. Further, the study observed a relationship between burnout and the use of self-reported violence.

Myendeki (2008) conducted a study on 89 (58 males, 29 females) police officers to assess whether coping strategies used by police officers helped them to moderate the outcome of burnout resulting from job stress. *The Maslach Burnout Inventory – General Survey, Police Stress Inventory* and *COPE* (Carver et al., 1989) questionnaire were administered. Results indicated that when Lack of Resources existed, police officers adopted *Avoidance Coping* (COPE) as a strategy, which led to the experience of Exhaustion. Results also indicated that police officers used Active Coping, Cognitive Coping and Turning to Religion as means of moderating the stress-burnout relationship. Results also indicated that the Avoidance Coping, used by male police officers led to *Cynicism*. When female police officers experienced Job Demands and a Lack of Resources they used Seeking Emotional Support as a coping strategy. Male police officers used Active Coping as a strategy to regulate the stress-burnout relationship while female
police officers adopted Active Coping and Turning to Religion to moderate the effects of job stress and burnout.

Agolla (2009) collected data from the sample of 229 police officers of Botswana to identify the potent stressors in police job. The questionnaire was developed by the researchers themselves for this particular study. The study reported that police officers of Botswana police department were under high level of stress. The most potent stressors for police officers were identified as injuries while on duty, use force when job demands, work overload and inadequate resources. The perceived police stress symptoms identified were feeling of restlessness, trouble in concentrating, worries and thinking of concerns at night and weekend, feeling tensed and anxiety, feeling of depressed, increase in appetite, loss of personal enjoyment and feeling of lack of energy. The coping strategies used by police officers were identified as exercising, socializing, healthy eating or diets, career planning and employee training.

Chueh et al. (2011) carried out a study on 698 male police officers to understand the association between the severity of psychosomatic symptoms and perceived work stress among male police officers in southern Taiwan. The results of multiple regression analysis reported that the police officers who perceived high-work stress reported more severe psychosomatic symptoms than those who perceived low-work stress and perceived social support had a moderating effect on the association between severity of psychosomatic symptoms and perceived work stress.

Komarovskaya et al. (2011) examined the relationship between killing or seriously injuring someone in the line of duty and mental health symptoms in a sample of 400 police officers. It was reported that killing or seriously injuring someone in the line of duty was significantly associated with PTSD symptoms and marginally associated with depression symptoms.

The review of literature revealed that major stressors for police personnel are both job related and organizational related. The job related stressors are routine job demands, work overload, exposure to crises, physical attacks, death or injury of fellow police officer and negative encounter with public, court as well as with media. The organizational stressors for police are negative work environment,
negative relationship with coworkers and seniors, lack of promotion, unfair discipline practices, bureaucratic interference and shift work. While comparing severity of job related and organizational related stressors among police personnel, organization specific stressors are found more prominent among police personnel. The next section presents the review of studies related to police stress carried out in Indian context.

3.4.2 Indian Studies

In comparison to other countries, limited studies on police stress have been carried out in India. With the growing focus on the role of police in a changing democratic society, some police officers began to show interest in the problems of job stress in policemen (Mathur, 1989). Some pioneering work on the subject has been carried out by Bhaskar (1986), Mathur (1993, 1994, 1995), Kalia (1995), Channa Basavanna et al. (1996), Talib (1999), Chakraborty (2002) and Verma (2005). These studies are perused below:

Dangwal & Gangopadhyaya (1982) carried out a study to understand the relationship between alienation and stress among subordinate ranks of police. They observed positive relationship between alienation and stress. Police Inspectors in the age group 31-40 years emerged as the most stressed age group. It was also reported that higher the educational qualification, higher the stress level.

Bhaskar’s study (1986) appears to be the first Indian doctoral thesis on police stress. She examined the relationship of personality factors and job stress among 390 male Delhi police officers from different ranks. Factors intrinsic to job and relationship at work were found to be the most dominant contributors to stress. Personal and family background variables such as age, educational qualification, salary, length of experience, number of years in the present position, marital status, size of family etc. were reported to play a significant role in the perception of job stress. She also found that personality factors had a significant role in the perception of job stress.

Pillai (1987) undertook a study on a sample of 2,015 persons including both police personnel and their wives in his sample. The sample comprised 1208 police constables, 332 head constables, 83 Police Sub Inspectors, 10 Police Inspectors and 382 wives of police personnel in Ahmedabad city. It was reported that
40.65% of the subjects were experiencing stress disorders. Head constables reported highest stress followed by wives of police personnel. Smoking as a symptom of stress was reported to be higher among constables, followed by head constables and Police Sub Inspectors.

Suresh (1992) carried out a study on subordinate officers to understand the relationship among police stress, personality and burnout in Madras police. The sample included women police also. The analysis reported a positive relationship between stress and burnout. Young officers (25-35 years) reported less stress in job events pertaining to routine stress than the middle aged (36-42 years) officers. Superiors reported more stress than subordinates. An increase in age was accompanied by increase in burnout. Officers with an experience of 12-20 years in police reported routine stress to be more stressful than those with lesser experience (2-11 years). No significant correlation was found between Type A personality and perceived stress.

While carrying out a study on CRPF and BSF police personnel, Mathur (1994) noted that specific police stressors for Indian police were work conditions, work overload, lack of recognition, fear of severe injury or being killed on duty, inadequate equipment, shooting someone in line of duty, Anti terrorist operations, confrontation with public, lack of job satisfaction and Police hierarchy. Tripathi et al. (1993) examined the nature of stress encountered by police personnel. Data was collected from 226 police personnel of four districts of Uttar Pradesh, namely Allahabad, Fatehpur, Pratapgarh and Kanpur. Major stressors identified in this study were atmosphere of mistrust at all levels, negative public image, negative self image, increased incidence of stressful life events and daily hassles, indication of idealizing suicide and depressive problems, negative health outcomes due to style characterized by hostility, maladjustment and unhappiness among frustrations and feelings of guilt, non grant of leave, inadequate housing / security for the family, irregular work hours, inadequate provisions for children’s education, lack of medical services, inconsistent policies regarding performance evaluation, accountability, promotion and transfer and insensitive handling of personnel.
In an exploratory study, Mathur (1993) studied organizational role stress among 30 police professionals. *Role erosion, Self Role Distance, Inter Role Distance* and *Role Stagnation* emerged as the potent stressors in this study. The total role stress was also observed high. In a more comprehensive study, Mathur (1995) investigated the level of awareness of stress among police personnel. A group of 71 Gazetted officers and 81 Non-Gazetted police personnel from 16 different states and central police organizations were included in the sample. The respondents were administered a police specific questionnaire designed for this study. The survey substantiated the fact that both the groups experienced job related stress. Major stressors faced by Gazetted officers were *suppression, suspension, departmental enquiry, death/sever injury to colleague, arresting criminals, use of weapons, carrying out anti-terrorist operation* etc. while subordinate police personnel were stressed due to suspension, carrying out anti-terrorist operation, personal injury/illness, facing departmental inquiry, *staying away from family, financial crisis, death/sever injury to colleague in line of duty, use of weapon, development of disease* etc.

Channa Basavanna et al. (1996) collected data from 2,354 police personnel belonging to various ranks in order to identify the psychiatric morbidity and the various factors contributing to their mental health problems. Data was collected from police personnel of various ranks from Bangalore, Hubli and Delhi. This study, undertaken at the behest of Bureau of Police Research and Development, comprehensively brought to the surface the problem of stress among police personnel. It was reported that 52% of Delhi’s policemen were not staying with family. Majority of policemen reported to work for more than 12 hours per day without any leave during the week. The major stressors reported were *too much responsibility, lack of time, conflicting orders, inherent incapability, no time for family, lack of resources for work executions, unpredictable role in the department*. Physical illness too emerged as a major problem in this sample. On clinical examination, 47% in Hubli, 37% in Bangalore and 52% in Delhi were reported to be suffering from mental disorders. On self report depression, dysthymia and anxiety emerged common ailments among police personnel.
Singhvi & Mathur (1997) conducted a study among a group of CRPF officers including 19 gazetted officers of the rank of Deputy Superintendent of Police and a group of 32 Non-Gazetted Officers. *Role Erosion* and *Inter Role Distance* were reported to be most dominant whereas *Role Ambiguity* and *Role Overload* were reported to be the least dominant contributors of role stress for the total sample. Talib (1999) carried out on a study on 178 police personnel to investigate the role stress among police personnel. The data comprised two groups of police personnel viz. civil police and PAC personnel. The study revealed that *Inter Role Distance*, *Resource Inadequacy* and *Role Erosion* were the dominant stressors for the police personnel. More than 42% respondents were reported either medium high or high stress level. The data analysis also resulted that respondents at subordinate level scored significantly higher on total stress than officers. The study demonstrated that PAC was the more stressed group than civil police.

Dhaliwal (2003) pointed out that most of the police personnel of India were overburdened with work and had to stay away from their families and children for long periods which often led to family problems and disputes. Inability to handle domestic tension and job related stress might translate into rude behavior on duty. It was reported that officers treat their subordinates in a *shabby* and insulting manner which was also a cause of stress among them.

Kumar (2006) investigated the stress profiles of police personnel posted in the police stations in Hyderabad. The major stressors affecting the life of police personnel were *insufficient time for family, work overload, accommodation problem,* lack of confidence of superiors, no time for intellectual development, recreation, *to keep everyone satisfied, risky situations,* problem of job coordination, lack of clarity in expectation and coping with superiors.

Deb et al. (2006) carried out a study on 60 Traffic police officers and 68 constables from *Kolkata* police to identify stress among them. The analysis revealed that traffic constables were experiencing more stress than traffic police officers. Police officers were reported stress due to role overload, responsibility for persons, unprofitability and strenuous working conditions while constables were stressed due to under participation, *powerlessness, responsibility for person* and *Role Overload.*
Nagar (2009) surveyed sixty police personnel belonging to three hierarchical level of police organization (CSP, Inspector and Constables) during a soft skill training session to explore the occupational stress and health of the police personnel. Results revealed that 40% constables, 20% inspectors and 10% CSPs were experiencing high level of occupational stress. The common health complains reported by police personnel were high blood pressure, diabetes, Sciatica, arthritis, migraine, asthma and Gastric problems.

Saha et al. (2010) conducted a study on police personnel of West Bengal to examine the cardiovascular status of police officers. It was observed that police officers experienced higher cardiovascular risk factors than the general population. Body mass index, blood pressure, cholesterol, triglyceride, High-density lipoprotein were higher in police personnel than non-police population.

Rani & Garg (2010) surveyed 128 police personnel to understand the relationship between burnout and marital adjustment. The findings reported a partial negative correlation between marital adjustment and burnout. Emotional Exhaustion and Depersonalization had a negative relationship with marital adjustment while personal accomplishment had a positive relationship with marital adjustment. The findings reported no significant difference in burnout across gender. On the other hand, male police officers were found to have low marital adjustment than females. Constables reported more marital adjustment than sub inspectors.

Selokar et al. (2011) carried out a study on 102 police personnel of Wardha city to identify occupational stress. Data was collected through The Professional Life Stress Test. The major stressors identified in the study were criticism by superiors, excess work, no rewards, inadequate values given to abilities and commitments and no satisfaction from work. Female police personnel reported higher stress and mental illness than males.

Bano (2011) undertook a study on 65 police personnel of Aligarh to identify major stressors among them. Findings reported that political pressure, lack of time for family, negative public image and low salary were the primary causes of stress among police personnel. It also emerged that stress was significantly more pronounced among those police personnel who were younger, more educated, posted in rural areas and had less work experience.
The review of related studies on police stress revealed that political pressure, lack of time for family, negative public image, inadequate salary, work overload, death/injury of fellow officer on duty, negative relationship at workplace, lack of promotions, time/job pressure etc. are major stressors for police personnel. The next section presents the literature review related to police personality.

3.5 Studies on Police Personality

Personality is the entire spectrum of characteristics representative of an individual (Ursitti, 2011). Personality encompasses values, motives, and behaviors that forge a unique composite of a person (Sigelman & Rider, 2003). One assumption that has been explored in the literature is that police officers have a distinct personality (Lefkowitz, 1975). Do police personnel possess certain personality dispositions that make them unique compared to other population? This question had been the subject off an extensive line of research (Bano & Talib, 2012). Empirical research overall had been inconclusive about the origin or dominance of particular traits in the police population, although several characteristics consistently had illustrated the police personality, including Hypervigilance, Suspiciousness, Alienation, Cynicism, and Authoritarianism (Symonds, 1970). Limited empirical data is available to elucidate qualities and characteristics of police officers prior to entry into law enforcement. Police officers generally had been portrayed from working class backgrounds, attracted to the career because of the salary, benefits, and pension, which satisfy a value of security (Symonds, 1970; Niederhoffer, 1967). Many police officers have also expressed an ardent desire to serve, protect, and help others, indicating altruism as a shared motive among the group (Reiser, 1974a; Symonds, 1970). Others have intimated a sense of adventurousness as the compelling reason they sought out police work (Storch & Panzarella, 1996).

Police agencies were expected to select those individuals who believed to possess the strongest physical, intellectual, and moral qualities. Symonds (1970) noted that many individuals who excel in these specific domains, regardless of occupation, tended to have developed rapidly and display certain qualities. He stated that in my studies of young people of all economic classes, men who exhibit the above traits seem to have sidestepped the adolescent process and have gone from childhood directly to adulthood. They tend to be conservative and
security bound. They are uncomfortable with rebellion and all forms of dramatic adolescent protest. These young men are idealistic, and have preserved an attitude towards authority that is one of respect, awe and, sometimes, reverence. They cannot understand, accept or tolerate any direct challenge of authority. They experience challenge as abuse and defiance.

While Symonds’ work limited itself to males, it suggested several dominant characteristics of law enforcement personnel. Violanti (2003) submitted that police socialization was a significant factor in police personality, and that once officers were ingrained into the police role, a range of cognitive and behavioral shifts occur. Hypervigilance had been recognized as one response inculcated into police recruits, and practiced and maintained throughout the careers of most officers (Gilmartin, 2002; Hillgren & Bond, 1975). Hypervigilance is an elevated state of awareness in which person is steadily attuned to potential threats and unusual activity in an environment. Police officers whose lives depend on the ability to detect danger essentially must adopt a worldview in which people and situations are perceived as suspicious. This perspective was believed to influence police officers on and off duty, and to catalyze other frequently identified characteristics of the police personality, such as suspiciousness, isolation, and cynicism. Empirical conclusions about the onset of suspiciousness in police officers had remained inconclusive (Lefkowitz, 1975), though the link of hypervigilance to other perceived police traits was discussed in the literature.

Gilmartin (2002) and Violanti (2003) noted that the physiological repercussions of Hypervigilance prompted police officers to detachment or withdrawal outside their police role. These arguments mentioned that the high energy phase of the hypervigilance cycle biologically required a subsequent, lower phase of intensity for officers to recharge and revitalize. Police officers who were physiologically addicted to the high energy associated with hypervigilance respond to the low feelings at the bottom of the cycle by avoiding time at home so as to avert the renewal experience, or by staying physically present but mentally detached from activities with family and friends. Withdrawal and detachment intersect with another police characteristic identified in the literature i.e. Isolation.
Isolation as a characteristic of police officers had been attributed to factors other than the lower phase of Hypervigilance. Skolnick (1993) observed that police officers, wary of people and situations as part of their occupational mindset, were themselves perceived by society as suspicious individuals because of the dangerous work they perform and the authoritative role they assume. Lefkowitz (1975) asserted that in spite of this professional unity, police were as suspicious of one another as of civilians. Others had mentioned that support and identification with colleagues enabled officers to withstand the outside pressures of law enforcement and instills a sense of certainty and morale that countered public opposition (Kroes et al., 1974; Reiser, 1974a).

Another quality conceptualized in the police personality is Cynicism, which Hillgren & Bond (1975) asserted officers might acquire for purposes of Self-preservation. Cynicism, much like suspiciousness, had appeared to manifest in police officers as a result of the police socialization process and had maintained itself in police culture via cohesive relationships with peers (Hillgren & Bond; Niederhoffer, 1967). Niederhoffer proposed two categories of police cynicism—one directed toward the public, and the other, at the police organization.

According to Niederhoffer (1967), Cynicism requires a person to draw certain conclusions about circumstances. For police officers, these inferences often were taken from continual negative encounters with individuals and situations on the streets and in police administration. Yet despite these circumstances, some police professionals acknowledged flaws and still believed that it was possible to change and improve the system. Lefkowitz (1975) noted that while Cynicism appeared to be a prevailing characteristic in the police population, this conclusion had lacked supporting evidence. Research that had determined a relationship between Cynicism and the police force had been disputed because of methodological limitations.

Literature suggests an interrelationship among many of the traits perceived in police officers (Lefkowitz, 1975; Niederhoffer, 1967; Skolnick, 1993). Authoritarianism, a trait is closely related to Cynicism, Suspiciousness, Solidarity and Social Isolation. Authoritarianism had been understood as an amalgamation of several qualities, including cynicism, conventionalism, black-or-white thinking,
and suspicion (Neiderhoffer). Symonds (1970) posited conservatism as a preexisting tendency in police officers. Studies that have focused on police Authoritarianism have yielded contradictory findings. Despite varying conclusions, literature establishes the traditional societal view of police officers as authoritarian figures (Reiser, 1974b; Skolnick, 1993). The power and control that police wield, symbolically via uniform and equipment, and literally with the extent of legal jurisdiction, could prompt conflicted responses from individuals (Reiser, 1974b). Niederhoffer (1967) captured the range of latent and overt emotion that could be triggered by the perception of police as authority figures. The policeman is a 'Rorschach' in uniform as he patrols his beat. His occupational accoutrements – shield, nightstick, gun, and summons book – clothe him in a mantle of symbolism that stimulates fantasy and projection. Children identify with him in the perennial game of cops and robbers. Teen-agers in autos stiffen with compulsive rage or anxiety at the sight of the patrol car. To people in trouble the police officer is a savior. In another metamorphosis the patrolman becomes a fierce ogre that mothers conjure up to frighten their disobedient youngsters. At one moment the policeman is hero, the next, monster (Niederhoffer, 1967).

The characterization of police as John Wayne (Reiser, 1974a, 1974b) and superhuman (Violanti, 2003) additionally had reflected the gamut of perceptions about the police personality. This summary of police personality traits by no means accounts for all police officers, and it must be noted that much of the police literature has focused almost exclusively on male officers. The analysis, however, has provided context for police stress following the stream of occupational stress literature which has emphasized personality as one of two antecedent factors of stress. The second factor, characteristics of the organization, must also be explored. The next and final section of the chapter presents the studies carried out on personality and stress among police personnel.

3.6. Studies on Personality, Stress and Police

Berg et al. (2005) carried on a study on 3,272 Norwegian police of all hierarchical levels to assess the most severe and frequent stressors for police personnel. They also aimed to study stress in relation to personality traits, work locus and control
and coping strategies. The data was collected through *Norwegian Police Stress Survey* (NPSS; Spielberger et al., 1981); *Job Stress Survey* (Spielberger et al., 1999); the *Basic Characteristic Inventory*, the *Work Locus of Control Scale* (WLCS; Spector, 1988); and *the Coping Strategies Scale*. Multivariate regression analysis was used. It was reported that work injuries were the most potent stressor but least frequent stressor. On the other hand, job pressure was reported as the least severe but most frequent stressor for police personnel. Females experienced less stress than males. Older police officers reported more job pressure severity and fewer work injuries. The correlations between personality traits, work locus of control and coping were moderate. The trait *Neuroticism* was associated with higher score for severity and lower levels of frequency. On the other hand, *Extraversion* indicated opposite results i.e. low score for severity and high level of frequency. Negative correlation was reported between *Neuroticism* and the stress frequency.

Jonker (2005) carried out a study on 2,153 police officials to assess the relationship among burnout, job stress and personality traits in the South African Police Service (SAPS). The responses were collected using *Maslach Burnout Inventory-General Survey* (MBI-GS), *Police Stress Indicator* (PSI) and *Personality Characteristics Inventory* (PCI). The results indicated that burnout was significantly related to job stress and personality traits. Job stress and personality traits were found also significantly correlated. Results reported that *Exhaustion* was best predicted by stress due to job demands, lack of resources, *Introversion, low Conscientiousness* and *low Emotional Stability*. *Cynicism* was best predicted by stress because of job demands, lack of resources, police demands, *low Emotional Stability* and *low Conscientiousness*. Professional efficacy was best predicted by low job stress, *Emotional Stability, Agreeableness* and *Conscientiousness*.

Lau et al. (2006) carried out a study to understand the relationship among personality types, coping and stress among Norwegian police personnel. They surveyed 3,272 police personnel of all ranks, administering a short form of the *Basic Character Inventory, Job Stress Survey* and *Coping Strategies Scale*. The study combined the three personality traits of *Neuroticism, Extraversion* and
Conscientiousness into eight personality types, namely- spectator, insecure, sceptic, brooder, hedonist, impulsive, entrepreneur and complicated. The results indicated that entrepreneur and hedonist personality types, characterized by a combination of high values on Extraversion and low values on Neuroticism, reported lower values on perceived stress compared to others, whereas the insecure and brooder types, which combined low Extraversion with high values on Neuroticism, reported higher levels on perceived stress. Further, the entrepreneur and complicated types reported higher values on active coping strategies, whereas those combining low Extraversion and low Conscientiousness reported either less control coping (the insecure type), or support coping (the spectator type).

Piernaar et al. (2007) conducted a study on 1,794 police personnel of South Africa to understand the relationship among occupational stress, personality traits, coping strategies and suicide ideation. It was reported that job demands were higher in the high suicide ideation group than in low suicide ideation group. The analysis indicated that suicide ideation was best predicted by three coping strategies namely- low Approach Coping, high Avoidance Coping, and low turning to religion. Suicide Ideation was also best predicted by two personality dimensions namely- low Emotional Stability and low Conscientiousness.

Chauhan & Desai (2010) conducted a study on 456 police personnel selected from urban and rural areas of Rajkot district to assess the role of personality as moderator variable in relationship between occupational stress and psychological well-being. The data was collected through Zuckerman’s Sensation Seeking Scale, Srivastava and Singh’s Occupational Stress Scale and Bhogle’s Psychological well-being scale. Results indicated a significant and inverse correlation between occupational stress and psychological well-being of police personnel. Results also noted that Sensation Seeking had significant moderating impact on psychological well-being of police personnel.

On the basis of the review of these studies it can be deduced that police personnel are experiencing high level of stress across the world. Police personnel are the organs of government. Their performance is crucial for ensuring peace and stability in the society. Review of research on police stress indicates that the
problem of stress is a severe one. It could act as a deterrent to effective job performance. The literature review also indicates that personality traits have a direct relationship with stress level of police. Personality traits could render an individual more susceptible to the effects of stress and it can also decrease the negative emotions. The next section presents the research gaps identified on the basis of extensive review of literature.

3.7 Research Gaps

Literature review perused above helps identify certain research gaps. The major research gaps are listed below:

- Limited research studies have been carried out on police stress in Indian context.
- There are some studies which carried out to examine role stress among Indian police personnel but they have limitations of sample size and longitudinal spread.
- There is need for more police specific studies using standard and open ended questionnaires so that the problem of stress could be understood in the larger context of occupational stress.
- Limited research work has been carried out exploring the relationship between personality traits and stress among police personnel in Indian context.
- Up to the best of author’s knowledge no study has been carried out using the ZKPQ-50-CC for examining personality traits and ORS for measuring role stress simultaneously for police personnel worldwide.

It establishes the need for further research in general. There is a need to explore the phenomenon in Indian context. This is expected to ensure an effective police system that forms the bedrock of peace and stability in the society.