"AN ANALYTICAL STUDY OF JOB STRESS AMONG SELECTED POLICE PERSONNEL IN THE STATE OF GUJARAT"

Thesis Submitted to

The Maharaja Sayajirao University of Baroda

For

The Degree of Doctor of Philosophy

[Commerce and Business Management]

By

Kalpesh Dhirubhai Naik
Assistant Professor
Department of Commerce & Business Management
Faculty of Commerce
The Maharaja Sayajirao University of Baroda,
Vadodara

Under the Guidance of

Dr. Umesh R. Dangarwala
M.Com. (Bus. Admn.), M.Com. (Acct.),
FCA, AICWA, M. Phil., Ph. D.
Associate Professor
Department of Commerce and Business Management
Faculty of Commerce
The Maharaja Sayajirao University of Baroda,
Vadodara

January, 2013

CERTIFICATE

This is to certify that the thesis entitled "An Analytical Study of Job Stress among Selected Police Personnel in the State of Gujarat" submitted by Kalpesh Dhirubhai Naik to the Maharaja Sayajirao University of Baroda, Vadodara for the award of Degree of Doctor of Philosophy in Commerce and Business Management is, to the best of my knowledge, the bonafide work done by Kalpesh Dhirubhai Naik under my supervision and guidance. The matter presented in this thesis incorporates the results of independent investigation carried out by the candidate himself.

Further, certified that Kalpesh Dhirubhai Naik, Research Scholar, has fulfilled / observed the provisions / requirements, regarding attendance contained in O.Ph.D. 3 (i).

Date: / /2013
Place: Vadodara

Dr. Umesh R. Dangarwala
Research Guide

DECLARATION

I hereby declare that the entire research work incorporated in the thesis entitled "An Analytical Study Of Job Stress among Selected Police Personnel in the State Of Gujarat" has been carried out by me under the supervision and guidance of Dr. Umesh R. Dangarwala, Associate Professor, Department of Commerce and Business Management, Faculty of Commerce, The Maharaja Sayajirao University of Baroda, Vadodara. The substance presented in this thesis incorporates the results of independent investigation carried out by me. To the best of my knowledge, no part of this thesis has been submitted for any degree or diploma to The Maharaja Sayajirao University of Baroda or any other University / Institution in India or abroad.

I also declare that I have fulfilled/observed the provisions/requirements regarding attendance contained in O.Ph.D. 3 (i).

Date: / /2013
Place: Vadodara

Kalpesh Dhirubhai Naik
Research Scholar

ACKNOWLEDGEMENT

It feel privileged to express my profound gratitude to my Research Guide, Dr. Umesh R. Dangarwala, Associate Professor, Department of Commerce and Business Management, Faculty of Commerce, The Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India., for his constant encouragement, inspiration, able guidance and his dedication towards my work and guiding my work to near perfection.

Words are inadequate to express my sense of gratitude to Prof. (Dr) Yogesh Singh, Vice Chancellor, The M.S. University of Baroda, Vadodara, for his encouragement, motivation and support.

I would like to place on record my deep sense of gratitude to Prof. A. R. Hingorani, retired Professor & Former Head Department of Commerce and Business Management, The M. S. University of Baroda, Prof. Parimal H. Vyas, Head, Department of Commerce and Business Management and Dean, Faculty of Commerce, The M. S. University of Baroda, Prof. Amitaben S. Kantawala, Head, Department of Accounts and Financial Management, The M. S. University of Baroda, Prof. Sharad Bansal, Head, Department of Cooperative Studies and Rural Management, Faculty of Commerce, The M. S. University of Baroda, Prof. R. G. Kothari, Dean faculty of Education & Psychology, The M. S. University of Baroda, Prof. R. Sengupta, Head, Department of Chemical Engineering, Faculty of Technology and Engineering, The M. S. University of Baroda, and Prof. Uma Joshi, Dean Faculty of Family and Community Sciences, The M. S. University of Baroda who in spite of their busy schedule helped me a lot by providing the necessary information required for the study.

I am deeply indebted and thankful to Dr. D. M. Pestonji, Retired Professor, Indian Institute of Management, Ahmedabad (IIMA) for his continuous guidance in shaping this thesis.

I owe my sincere thanks to the librarians & staff of The Hansa Mehta Library, The Maharaja Sayajirao University of Baroda, Vikram Sarabhai Library IIM Ahmedabad, Library of Institute of Management, Nirma University Ahmedabad, Library of Ahmedabad Management Association, Ahmedabad.

I express my gratitude to my friends and colleagues, of the Department, Faculty and University for all the help given to me to complete this study.

I wish to put on record my deep sense of gratitude and indebtedness to my fellow research scholar and dear friend Md. Mahtab Alam for extending timely support and suggestion for the study.

I extend my heartfelt and earnest thanks to all the fellow Research Scholars, under the supervision of Dr. Umesh R Dangarwala, Dr. Haitham Mahmoud Abdelrazeq Nakhleh, Mr. Pritesh Y. Shukla, Mr. Ankur Amin, Ms. Nisha Patel and Ms. Krupa Rao for their all round support, and the healthy continuous discussion during this study.

I would be failing in my duty, if I fail to acknowledge Ma. Sureshji Jain, who has always acted as a motivating force and encouraged me during the course of this study.

My heartfelt thanks to all the respondents' police personnel who have been willing to participate in this study. I am also grateful to Police Training Academy "Karai" Gandhi Nagar for timely support that they have extended to me.

I would also like to acknowledge Ms. Belaben Desai, Associate Professor, Department of English, The M.S. University of Baroda for her dedicated remark.

My parents, my sister, my nephew dear Yash Naik & Dhairay Joshi and other family members have always been an energetic force in all my endeavors. Without their support and love it would have been difficult for me to complete this assignment.

How can I forget to acknowledge my wife Bijal and my son Vedant? My appreciations are due in abundance to them for their unforgettable, precious and priceless contribution and support to me in reaching this milestone in my career.

Above all, I prostrate before God the Almighty, for helping me to achieve my goal. Without thou invisible hand holding me, I am nothing at all.

Kalpesh Dhirubhai Naik
Research Scholar

This Thesis
is
Dedicated
To
My
"Beloved Parents"

Mr. Dhirubhai Naik
&
Mrs. Gitaben Naik

LIST OF TABLES

ABBREVIATIONS USED IN THE THESIS	
OSEG	Occupational Stress Evaluation Grid
MSS	Mental Symptoms of Stress
PSS	Physical Symptoms of Stress
OSS	Other Symptoms of Stress
PSSS	Personal Sphere of Sources of Stress;
IPSSS	Interpersonal Sphere of Sources of Stress
WSSS	Work Sphere of Sources of Stress
RSSS	Recreational Sphere of Sources of Stress
CS	Coping Strategies.
SIMSS	Severity Index of Mental Symptoms of Stress.
SIPSS	SIPSS = Severity Index of Physical Symptoms of Stress.
SIOSS	Severity Index of Other Symptoms of Stress.
SIPSSS	Severity Index of Personal Sphere of Sources of Stress.
SIIPSSS	Severity Index of Interpersonal Sphere of Sources of Stress.
SIWSSS	Severity Index of Work Sphere of Sources of Stress.
SIRSSS	Severity Index of Recreational Sphere of Sources of Stress.
SICS	Severity Index of Coping Strategies.
OLS	Ordinary Least Square

CHAPTER – 1

BASIC CONCEPT OF STRESS ITS MEANING & DEFINITION:

INTRODUCTION:

This introductory chapter defines and explains the concept of stress, the terminology, its types, and its impact on organization & individual. The chapter is divided into five sections for the purpose of detailed, sound and scientific enquiry to develop a conceptual understanding about stress and its impact. The first section deals with the basic concept of stress in general followed by the second section which deals with the various definitions of stress and its various types. The third section deals with the concept of organizational stress and its impact on organizations. The fourth section deals with the concept of police stress and its sources, symptoms, impact and the consequences, followed by conclusion.

1.1: BASIC CONCEPT OF STRESS:

The use of terminology "Stress" in our daily conversation has increases. Though we all talk so much about stress but it often isn't clear what stress really is about all? We are well aware with some terms which are used synonymously for stress. These terms are stress, strain, conflict, burnout, depression and pressure.

Many people consider stress is something that happens to them, an event such as a harm or encouragement. Whereas others think stress is what happens to our bodies, psyche and our behaviour in response to an event. When something happens to us, we as a reflex action start evaluating the situation mentally. We try to come to a decision, if it is threatening to us, how we need to deal with the situation and what skills and strategies we can use. If we come to conclusions that the demands of the situation overshadow the skills we have, then we label the circumstances as "stressful" and need to react it with the classic "stress response". If we trust that our coping skills prevail over the demands of the situation, then we don't see it as "stressful". Some situations in life are stress-provoking, but they are our thoughts about situations that determine whether they are a problem to us or not. How we

look it and perceive a stress-inducing event and how we react to it determines its impact on our health. If we respond in a negative way our health and happiness suffer. When we understand ourselves and our reactions to stress-provoking situations, we can learn to handle stress more effectively. [1]

Stress may be understood as a state of tension experienced by individuals facing extraordinary demands, constraints or opportunities. The pressures of modern life, coupled with the demands of a job, can lead to emotional imbalances that are collectively labeled 'Stress'. However, stress is not always unpleasant. Stress is the spice of life and the absence of stress makes life dull, monotonous and spiritless. [2]

While no definition of stress has been universally accepted, three common classes of definition are as follows: one is a stimulus, an environmental event, usually a threat, that affects the body in complex ways; in this interpretation, stress is referred to as a "stressor", one that evokes complex reactions of the various systems of the body.

A second definition is that stress is a bodily reaction to stressors; consequently, complex interaction of systems of the body can result in deleterious consequences to those systems and organs to the point of a person becoming "stressed out"; and serious illness can follow. This class fits Hans Selye's definition of stress as the nonspecific response of the body to any demand. The demands, Hans Selye (1978/1956) held, can be positive ones (Eustress) or negative ones (Distress).

A third type is an interactive one between environmental events (stressors) and bodily reactions such that stressors affect systems of the body and the resulting behaviour feeds back to affect the environmental stressors. However, they can also lead in complex ways to a variety of mental or physical problems.

To a scientist, stress is any action or situation that places special physical or psychological demands upon a person, anything that can unbalance his individual equilibrium. And while the physiological response to such a demand is surprisingly

uniform, the forms of stress are innumerable. Stress may be unconscious like the noise of a city or the daily chore of driving a car. Perhaps the one incontestable statement that can be made about stress is that it belongs to everyone to businessmen and professors, to mother and their children, to factory workers. Stress is a part of the fabric of life. Nothing can isolate stress from human beings as is evident from various researches and studies. Stress can be managed but not simply done away with. Today, widely accepted ideas about stress are challenged by new research, and conclusions once firmly established may be turned completely around. The latest evidence suggested (Ogden Tanner, 1979) reveals, some stress is necessary to the well being and a lack can be harmful. Stress definitely causes some serious ailments. Severe stress makes people accident-prone. [3]

At one time or another, most people experience stress. The term stress has been used to describe a variety of negative feelings and reactions that accompany threatening or challenging situations. However, not all stress reactions are negative. A certain amount of stress is actually necessary for survival. For example, birth is one of the most stressful experiences of life. The high level of hormones released during birth, which are also involved in the stress response, are believed to prepare the newborn infant to adapt to the challenges of life outside the womb.

These biological responses to stress make the newborn more alert, promoting the bonding process and, by extension, the child's physical survival. The stress reaction maximizes the expenditure of energy which helps prepare the body to meet a threatening or challenging situation and the individual tends to mobilize a great deal of effort in order to deal with the event. Both the sympathetic/adrenal and pituitary/adrenal systems become activated in response to stress. The sympathetic system is a fast-acting system that allows us to respond to the immediate demands of the situation by activating and increasing arousal. The pituitary/adrenal system is slower-acting and prolongs the aroused state. However, while a certain amount of stress is necessary for survival; prolonged stress can affect health adversely (Bernard & Krupat, 1994).

Stress has generally been viewed as a set of neurological and physiological reactions that serves an adaptive function (Franken, 1994). Traditionally, stress research has been oriented toward studies involving the body's reaction to stress and the cognitive processes that influence the perception of stress. However, social perspectives of the stress response have noted that different people experiencing similar life conditions are not necessarily affected in the same manner (Pearlin, 1982). Research into the societal and cultural influences of stress make it necessary to re-examine how stress is defined and studied. [4]

Stress is an individual's response to a disturbing factor in the environment, and consequence of such reaction. Stress involves interaction of the person and environment. To quote a definition: "Stress is an adaptive response to an external situation that results in physical, psychological and / or behavioural deviations for organizational participants" (Fred Luthans, 1998). The physical or psychological demands from the environment that cause stress are called stressors. They create stress or the potential for stress when an individual perceives them as representing a demand that may exceed that person's ability to respond. How an individual experiences stress depends on (i) the person's perception of the situation, (ii) the person's past experience, (iii) the presence or absence of social support, and (iv) individual differences with regard to stress reactions (Don Hellriegel, et. al., 2001).

Stress can manifest itself in both a positive way and a negative way. Stress is said to be positive when situation offers an opportunity to one to gain something. Eustress is the term used to describe positive stress. It is negative when stress is associated with heart-disease, alcoholism, drug abuse, marital breakdowns, absenteeism, child abuse and a host of other social, physical, organizational and emotional problems. Stress is associated with constraints and demands. The former prevents an individual from doing what he or she desires. The later refers to the loss of something desired. Constraints and demands can lead to potential stress. When they are coupled with uncertainty of outcome and importance of outcome, potential stress becomes actual stress.

To understand and clarify the meaning of stress, it is useful to state what does not constitute stress:

I. Stress is not simply anxiety or nervous tension.
II. Stress need not always be damaging.
III. Stress is not always due to overwork but may also result from having too little to do.
IV. Stress cannot be avoided.
V. Stress is body's biological response mechanisms but the body has limited capacity to respond to stressors.[5]

People experience different levels of stress which may stem from personal events in their lives (financial problems, health concerns etc.) or at work. The organisation may get negatively affected by work put in by under-stressed as well as over-stressed employees.

Ivancevich and Matteson have defined stress as, "An adaptive response, medicated by individual characteristics and/or psychological processes, that is a consequence of any external action, situation, or event that place special physical and or psychological demands upon a person."

A simple definition of stress with reference to industrial and organizational psychology is as follows: "Stress is a consequence of or a general response to an action or situation that places special or psychological demands or both on a person". [6]

1.2: DEFINITION AND VARIOUS TYPES OF STRESS:

There are numbers of definitions of stress as well as number of events that can lead to the experience of stress. People say they are stressed when they take an examination, when having to deal with a frustrating work situation, or when experiencing relationship difficulties. Stressful situations can be viewed as harmful, threatening, or challenging. With so many factors that contribute to stress, it is difficult to define the concept of "stress". Hans Selye (1982) points out that few people define the concept of stress in the same way or even bother to attempt a clear-cut definition. According to Selye, an important aspect of stress is that a wide variety of dissimilar situations are capable of producing the stress response such as fatigue, effort, pain, fear, and even success. This has led to several definitions of stress, each of which highlights different aspects of stress. One of the most comprehensive models of stress is the Bio-psychosocial Model of Stress (Bernard & Krupat, 1994). According to the Bio-psychosocial Model of Stress, stress involves three components: an external component, an internal component, and the interaction between the external and internal components.

The external component of the Bio psychosocial Model of stress involves environmental events that precede the recognition of stress and can elicit a stress response. As previously mentioned, the stress reaction is elicited by a wide variety of psychosocial stimuli that are either physiologically or emotionally threatening and disrupt the body's homeostasis (Cannon, 1932). We are usually aware of stressors when we feel conflicted, frustrated, or pressured. Most of the common stressors fall within four broad categories: personal, social/familial, work, and the environment. These stressful events have been linked to a variety of psychological physical complaints. For example bereavement is a particularly difficult stressor and has provided some of the first systematic evidence of a link between stress and immune functioning. Bereavement research generally supports a relationship between a sense of loss and lowered immune system functioning. Health problems and increased accidents are also associated with stressful work demands, job insecurity and changes in job responsibilities (Bernard & Krupat, 1994). Stressors also differ in their

duration. Acute stressors are stressors of relatively short duration and are generally not considered to be a health risk because they are limited by time. Chronic stressors are of relatively longer duration and can pose a serious health risk due to their prolonged activation of the body's stress response.

The internal component of stress involves a set of neurological and physiological reactions to stress. Hans Selye (1985) defined stress as "nonspecific" in that the stress response can result from a variety of different kinds of stressors and he thus focused on the internal aspects of stress. Selye noted that a person who is subjected to prolonged stress goes through three phases: Alarm Reaction, Stage of Resistance and Exhaustion. He termed this set of responses as the General Adaptation Syndrome (GAS). This general reaction to stress is viewed as a set of reactions that mobilize the organism's resources to deal with an impending threat. The Alarm Reaction is equivalent to the fight-or-flight response and includes the various neurological and physiological responses when confronted with a stressor.

When a threat is perceived the hypothalamus signals both the sympathetic nervous system and the pituitary. The sympathetic nervous system stimulates the adrenal glands. The adrenal glands release corticosteroids to increase metabolism which provides immediate energy. The pituitary gland releases adrenocorticotrophic hormone (ACTH) which also affects the adrenal glands. The adrenal glands then release epinephrine and norepinephrine which prolongs the fight-or-flight response. The Stage of Resistance is a continued state of arousal.

If the stressful situation is prolonged, the high level of hormones during the resistance phase may upset homeostasis and harm the internal organs leaving the organism vulnerable to disease. There is evidence from animal research that the adrenal glands actually increase in size during the resistance stage which may reflect the prolonged activity. The Exhaustion stage occurs after prolonged resistance. During this stage, the body's energy reserves are finally exhausted and breakdown occurs.

Selye has noted that, in humans, many of the diseases precipitated or caused by stress occur in the resistance stage and he refers to these as "diseases of adaptation." These diseases of adaptation include headaches, insomnia, high blood pressure, and cardiovascular and kidney diseases. In general, the central nervous system and hormonal responses aid adaptation. However, it can sometimes lead to disease especially when the state of stress is prolonged or intense.

Richard Dienstbier (1989) questions the emphasis that the GAS places on the role of chronic stress and proposes another model of stress, Physiological Toughening, which focuses on the duration of stressful events. He points out that stressors vary in their durations. Acute stressors are the briefest and often involve a tangible threat that is readily identified as a stressor. Chronic stressors have a longer duration and are not readily identified as stressors because they are often ambiguous and intangible. Because chronic stressors have become a part of modern life, they are taken for granted and can therefore pose a serious health risk if they are not recognized and properly managed.

Physiological Toughening is concerned with the third category of stressors, intermittent stressors. Intermittent stressors are the most variable in duration, alternating between periods of stress and calm. If an intermittent stressor is viewed as a challenge, it may improve one's physiological resistance to stress by causing repeated, periodic increases in sympathetic arousal which conditions the body to better withstand subsequent stressors. This can be seen from research indicating that experienced subjects show few or none of the deleterious effects of environmental stressors. For example, astronauts are trained to have available response sequences, plans, and problem-solving strategies for all imaginable emergencies. Emergencies are therefore transformed into routine situations decreasing the intensity of the stressful situation (Mandler, 1982).

Mandler's (1982) Interruption Theory of Stress provides a transition between the internal component of stress and the interaction component. Mandler defines stress

as an emergency signaling interruption. The basic premise is that autonomic activity results whenever some organized action or thought process is interrupted. The term interruption is used in the sense that any event, whether external or internal to the individual, prevents completion of some action, thought sequences, or plan and is considered to be interrupted. Interruption can occur in the perceptual, cognitive, behavioral, or problem-solving domains. The consequences of the interruption will always be autonomic activity and will be interpreted emotionally in any number of ways, ranging from the most joyful to the most noxious.

The Bio-psychosocial Model of Stress is the interaction between the external and internal components, involving the individual's cognitive processes. Lazarus et. al., (1984b; 1978) have proposed a cognitive theory of stress which addresses this interaction. They refer to this interaction as a transaction, taking into account the ongoing relationship between the individual and the environment. Their theory places emphasis on the meaning that an event has for the individual and not on the physiological responses. Lazarus et al. believe that one's view of a situation determines whether an event is experienced as stressful or not, making stress the consequence of appraisal and not the antecedent of stress. According to this theory, the way an individual appraises an event plays a fundamental role in determining, not only the magnitude of the stress response, but also the kind of coping strategies that the individual may employ in his/her efforts to deal with the stress.

According to the Transaction Theory of Stress, the cognitive appraisal of stress is a two-part process which involves a primary appraisal and a secondary appraisal. Primary appraisal involves the determination of an event as stressful. During primary appraisal, the event or situation can be categorized as irrelevant, beneficial, or stressful. If the event is appraised as stressful, the event is then evaluated as either a harm/loss, a threat, or a challenge. A harm/loss refers to an injury or damage that has already taken place. A threat refers to something that could produce harm or loss. A challenge event refers to the potential for growth, mastery, or some form of gain. Lazarus argues that we cannot assess the origins of stress by looking solely at

the nature of the environmental event, rather stress is a process that involves the interaction of the individual with the environment. These categories are based mostly on one's own prior experiences and learning. Also, each of these categories generate different emotional responses. Harm/loss stressors can elicit anger, disgust, sadness, or disappointment. Threatening stressors can produce anxiety and challenging stressors can produce excitement.

This theory helps to integrate both the motivational aspects of stress and the varying emotions that are associated with the experience of stress. Secondary appraisal occurs after assessment of the event as a threat or a challenge. During secondary appraisal the individual now evaluates his or her coping resources and options. According to the theory of transactions, stress arises only when a particular transaction is appraised by the person as relevant to his or her well-being. In order for an event to be appraised as a stressor, it must be personally relevant and there must be a perceived mismatch between a situation's demands and one's resources to cope with it.

Dienstbier (1989) offers a reformulation of the Transaction theory, which focuses on the emotional consequences of appraising an event as a stressor or as a challenge. He asserts that when an event is appraised as a challenge, it leads to different physiological consequences than when it is appraised as a harm/loss or threat. Dienstbier uses the term stress to refer to transactions that lead only to negative emotions and he uses the term challenge to describe a transaction that could lead both to positive and negative emotions.

A series of studies by Marianne Frankenhaeuser (1986) and colleagues provide some support for Dienstbier's assertion that a stressor evaluated as a challenge should be viewed more positively than a harm/loss or threat event. According to Frankenhaeuser, physiological reactions to stressors depend on two factors: effort and distress. She found that there are three categories of physiological responses to stress. Effort with distress leads to the increase of both catecholamine and cortisol

secretion and results from daily hassles. These stressors are experienced as negative emotions. This category corresponds to Dienstbier's characterization of the negative emotions present in an event appraised as a harm/loss or as a threat. Effort without distress leads to an increase of catecholamine and suppression of cortisol secretion. These stressors are experienced as positive emotions.

This category corresponds to Dienstbier's characterization of the positive emotions present in events appraised as challenging. Distress without effort leads to increase cortisol secretion but not necessarily to catecholamine secretion. This is the pattern often found in depressed individuals.

Traditionally, stress research has been oriented toward studies involving the body's reaction to stressors (a physiological perspective) and the cognitive processes that appraise the event or situation as a stressor (a cognitive perspective). However, current social perspectives of the stress response have noted that different people experiencing similar life conditions are not necessarily affected in the same manner. There is a growing interest in the epidemiology of diseases that seems to rise from stress. It has been noted that the incidence of hypertension, cardiovascular ailments, and depression varies with such factors as race, sex, marital status, and income.

This kind of socioeconomic variation of disease indicates that the stressors that presumably dispose people toward these illnesses are somehow linked to the conditions that people confront as they occupy their various positions and status in the society. Pearlin (1982) observes that individuals' coping strategies are primarily social in nature. The manner in which people attempt to avoid or resolve stressful situations, the cognitive strategies that they use to reduce threat, and the techniques for managing tensions are largely learned from the groups to which they belong. Although the coping strategies used by individuals are often distinct, coping dispositions are to a large extent acquired from the social environment.

The orientation toward stress research is changing as awareness of the social and cultural contexts involved in stress and coping are examined. The bio-psychosocial model of stress incorporates a variety of social factors into its model that influence stress reaction and perception. However, research into the cultural differences that may exist in stress reactions are also needed to examine how various social and cultural structures influence the individual's experience of stress. Culture and society may shape events that are perceived as stressful, what coping strategies are used in a particular society, and what institutional mechanisms we may turn to for assistance (Fumiko Naughton, personal communication).

Pearlin (1982) suggests that society, its value systems, the stratified ordering of its populations, the organization of its institutions, and the rapidity and extent of changes in these elements can be sources of stress. For example, Merton (1957) suggests that society can elicit stress by promoting values that conflict with the structures in which they are acted upon. Merton argues that the system of values in the United States promotes attainment of monetary and honorable success among more people than could be accommodated by the opportunity structures available. As a consequence, many of those individuals who internalize these culturally prized goals are doomed to failure.

As researchers incorporate a social-cultural perspective to stress research, the definitions of stress, which currently incorporate the physiological and cognitive components of stress, need to be re-examined and re-defined to reflect both social and cultural differences. These social and cultural differences may increase our knowledge about stress and how stress can be effectively managed given the constraints imposed upon the individual by the existing values in a particular culture. A re-definition of stress, that would reflect cultural mediation in the experience of stress, might be that "stress is a set of neurological and physiological reactions that serve an adaptive function in the environmental, social, and cultural values and structures within which the individual acts upon." [7]

According to experts, the **definition of stress** is the body's innate response to a physical, mental or emotional stressors that can either be real or imagined. The stressor can be a stressful event that can either be depressing or wonderful. Stress is powerful because it can affect one's overall health. Its effects can either be negative or positive depending on the types of stress one experience. In simple terms, the definition of stress is, the body's natural defense or survival mechanism to protect itself. It is also called the "flight-or-fight response". Its medical term is neuroendocrine response. When one is stressed most of the time, inflammation can set in inside the body. Chronic inflammation can feed immature or damaged cells in the body. Instead of dying, these cells can turn malignant.

1.2.1: Distress (Negative Stress):

Hans Selye (1978/1956) first distinguished between distress and Eustress (positive stress). "Distress" has been used to refer to negative aspects of the body's reactions to stress, such as depression, anxiety, anger, and exhaustion. There is a common notion that a stressor is an effect that is perceived as stressful by an individual, so that what is distressful for one person may not be so for another. When one perceives negative stressful events, a number of complex internal processes follow. First, the entire body is activated in the startle reaction wherein neural impulses reverberate between the striated muscles and the brain; later the autonomic system becomes involved. The pituitary gland releases hormones, principally adrenocorticotrophic hormone (ACTH), which acts on the cortex of the adrenal glands to release corticosteroids. The corticosteroids depress the immune system by inhibiting both the action of scavenger cells and various types of lymphocytes (cells from the lymph nodes) as well as their abilities to reproduce. When distress situations are chronic, there is atrophy of lymph node tissue and enlargement of adrenal glands. Distress has been linked with coronary heart disease, the speeding up of aging through hormonal imbalance, nervous conditions, and the development of degenerative diseases.

1.2.2: Family Stress:

A family that functions well is one that draws upon its resources to meet stressors and becomes stronger by conquering problems. A family that does not bring forth enough resources to cope with stressors allows the strain to fragment the group. The healthy family, in contrast to the unhealthy family, develops creative techniques, flexible rules, and mutual support. Family stress uniquely involves intimate interrelationships such that, if one member is under stress, it affects the whole family. The toll on individuals in these highly stressed situations is extremely high. Some research indicates that people who are divorced have higher rates of suicide, homicide, and cancer and are three times more likely to get into car accidents than no divorced people.

1.2.3: Female Stress:

"Female Stress Syndrome" is a label for what a woman experiences when chronic or excessive social or psychological demands are placed upon her by others or by herself. Early symptoms include Fatigue, loss of concentration, Headaches, and Depression. Extreme cases of female stress can lead to premenstrual tension, loss of menstruation, Sexual Dysfunction (frigidity, vaginismus, etc.), infertility, postpartum depression, and menopausal melancholia, as well as Anorexia, Bulimia, and Anxiety.

1.2.4: Management-Induced Stress:

Many managers may unknowingly contribute to the stress disorders afflicting their employees. They may do this by inefficiently directing their employees' energies. As a result, the concentration and judgment of the employees can be impaired. The organization's productivity also can suffer, along with the individual employee. Sometimes managerial-induced stress can increase the likelihood of accidents in the workplace. Common signs of stress among employees are groaning, continual complaining, and frequent shifting of the eyes, an unnaturally high-pitched voice, jumping with alarm at sudden noises, and being highly emotional or anxious. Clenched fists, a tight jaw, and tension in the neck and shoulder area are signs that a person may be trying to suppress an outburst. Resulting chronic, excessive muscular

tension constitutes a serious health problem. It has been linked with high blood pressure, insomnia, gastrointestinal disorders including colitis, gout, headaches, backaches, asthma, and the like. Further, when one is under stress, the immune system weakens.

1.2.5: Mental Health and Stress:

The association between mental health and stress has been a focus of mental health researchers; that relationship has been especially at the forefront within recent years. As Avison & Gotlib (1994) stated: "Investigators have become aware of the vast array of different experiences that constitute the universe of stressors. Similarly, they have recognized that stressors manifest themselves in a wide range of different mental health outcomes."

Research has considered stressful life events-especially those that are chronic, the vulnerability of individuals to these stressors, and how stressors influence the varieties of health disorders. In fact, the potential influences of chronic stressors on that great variety of mental health disorders are so numerous that we sample here but a few. Mental health disorders are critical problems for untold millions of people in all countries. Perhaps up to one-third of all primary health care visits worldwide are accounted for by Depression and Anxiety disorders. Suicide consistently ranks as one of the most frequent causes of death; in particular, it is among the top two or three causes of death for young people.

1.2.6: Money (Financial) Stress:

Two conditions that are major stressors for people are (1) having too little money and a poor (or no) financial plan; and (2) having too much money with a bent toward greed. Although the latter is relatively uncommon, it does make our headlines sporadically when multimillionaires gamble huge fortunes and even commit illegal acts in order to further enhance their already sizable finances. Focusing on the first condition, one problem is that many people overburdened with debt are not aware of

such stress; the Los Angeles Consumer Credit Counseling Services published the following signs:

- Pervasive worry about money
- Fighting with spouse about money (80% of divorces are linked to money problems)
- No savings
- Living from paycheck to paycheck (is the month longer than your money?)
- Debts add up to 20% or more of income (add up all monthly debt payments, excluding first mortgage, and divide into net income; the percentage should not exceed 20%).
- Using credit cards for basic living expenses, such as groceries.
- Making only minimum payments on your debt (Markam, 1996, D6)

1.2.7: Police Stress:

The sources of stress for police are so numerous and commonly known that they will not be elaborated here. The effects of their jobs on their family lives and visa versa are especially deserving of attention.

1.2.8: Pregnancy and Childbirth Stress:

During pregnancy and childbirth, a woman experiences dramatic physical changes, often with considerable physical discomfort and pain; for example, she will frequently suffer from Fatigue, Backache, weight gain, nausea, swelling, Constipation, Hemorrhoids, leg cramps, and dizziness. Physical changes including fluctuating hormone levels can also lead to changes in body image that can become a psychological stressor. Even successful childbirth can be stressful in the sense of Eustress (positive stress) due to overreaction with excess tension. [8]

1.3. CONCEPTS OF ORGANIZATIONAL AND OCCUPATIONAL STRESS

There is relatively little research on the causes and the implications of organizational stress, and there is no *one* acceptable definition. We consider organizational stress to be the result of those factors in an organization that cause stress for the individual employee, and in turn, have negative organizational consequences. For example, because of organizational needs or changes, factors such as increased workload or changes in reporting relationships may occur. Such changes in the organizational climate or structure may precipitate a stressful environment among the employees. The employees' stress may cause negative consequences, including absenteeism, burnout, lack of trust, performance problems, or an erosion of positive communication and interaction.

1.3.1: Causes of Organizational Stress

There are many causes of stress within an organization including organizational structure, leadership style and quality, the demands of tasks and roles, balancing efficiency of services with high quality standards, the increasing "24/7" mentality, structural changes and changes in business processes, and the quality of communication throughout the organization.

1.3.1a: Organizational Change

Change is difficult for an institution and for its employees. There is uncertainty about the future, about what the organization will "look like," and how the employees feel they will fit into the new structure. While some individuals embrace change, most simply accept it—and with widely varying degrees of willingness. There are those, however, who refuse to change. The subsequent rejection of cooperative progress puts increased stress on supervisors, colleagues, and the institution as a whole.

According to the old adage, "most people do not like any change that does not jingle in their pockets." The typical tendency is to resist it. Yet, in *A Survival Guide to the*

Stress of Organizational Change, the authors state, "resisting change is one of the most common causes of stress on the job" (Pritchett and Pound 1995).

Employees frequently become fearful during times of organizational change because of the instability change causes. They question their abilities to perform in an unknown future. There is a tendency to leave what Stephen Covey calls their "circle of influence" and spend significant time in their "circle of concern," worrying over possibilities outside their span of control (Covey 1989). Ironically, by clinging to the security blanket of what is known to them, employees can increase their stress levels exponentially. The large-scale result is infectious damage to the organization.

1.3.1b: Leadership

The quality of leadership is a critical factor relative to the stress of the organization. Are organizational leaders viewed as competent, ethical, strategic, approachable, and fair? Do they have reasonable expectations? Do they clearly communicate their vision and directions? If not, the organization will experience stress. True leadership does not come from the position held but rather from creating a vision, setting an example, and inviting participation. An intelligent leader reads and understands books, but a great leader reads and understands people.

As noted by Kouzes and Posner in *The Leadership Challenge,* "Leaders don't command and control; they serve and support" (Kouzes and Posner 1995). Leaders can create stress if employees do not think they have the good of the institution and its people in their minds…and in their hearts.

1.3.1c: Changes in Roles and Tasks

Many organizations find it necessary to examine ways in which business is conducted. Whether seen as positive or negative, many colleges and universities are re-examining processes and services, as well as staffing, and are taking on more "business-like" approaches to accomplish their work. This may mean streamlining or

greater use of technology (including less in-person contact and more online interactions). It generally requires employees to learn new skills and commit themselves to continuous learning. While exciting for some, and taken in their stride by many, it is resented or rejected by a percentage of employee populations.

As roles and tasks change, there is a potential for stress-producing ambiguity, placing increased emphasis on the importance of adequate and timely communication. Clarity of job descriptions, reporting relationships, and performance standards are critical in combating the potential stress caused by changes in role and/or tasks.

1.3.1d: Balance in Work and Life

As technology increases, we are witnessing a struggle—not just with continuous learning and the expectation that the work will be accomplished more quickly, but also with a quality dilemma. For those who provide a service rather than a product, there is inherent stress in balancing process efficiencies with customer expectations for quality and personal hands-on assistance.

Another significant contributing factor to organizational stress is the "24/7" expectation in an increasing number of jobs. Many employees express concern that they do not have a "life outside of work" anymore. Office-related e-mails infringe on employees' evenings and weekends. With the over use of laptop computers, the expectation seems to be growing that we can work wherever we go. Employees risk becoming resentful and are vulnerable to burnout. Some cease to have the energy and the enthusiasm they had in the past. As they lose their spark and creativity, the organization loses a major resource. [9]

The modem world, which is said to be a world of achievements, is also a world of stress. One finds stress everywhere, whether it be a family, a business organisation/ enterprise or any other social or economic organization. The extent of stress is, however, a matter of degree. Some organizations are more harmonious whereas

others have greater friction and tension. Stress in organizations has been defined in terms of a misfit between a person's skills and abilities and the demands of his/her job and as a misfit in terms of a person's needs not being fulfilled by his job environment.

Cooper and Marshall (1976) are of the view that occupational stress refers to environmental factors or stressors such as work overload, role conflict, role ambiguity, and poor working conditions associated with a particular job. Caplan et al. (1975) define organizational stress in general and role stress in particular. From the point of view of an individual, two role systems are important: role space and role set.

Role Space: Each individual occupies and plays several roles. A person 'X' is a son, a father, an executive, a member of a club and so on. All these roles constitute role space. In the centre of the role space is the self. Role space, thus, can be defined as "the dynamic interrelationship both between the self and the various roles an individual occupies, amongst these roles."

Role Set: The individual's role in the organization is defined by the expectations of other significant roles, and those of the individual himself/herself. The role set is "the pattern of relationship between the role being considered and other roles. Pareek (1983) pioneered work on the role stress by identifying as many as ten different types of organisational role stresses. They are described here briefly:

Inter-Role Distance (IRD): It is experienced when there is a conflict between organisational and non-organizational roles. For example, the role of an executive versus the role of a husband/wife.

Role Stagnation (RS): This kind of stress is the result of the gap between the demand to outgrow a previous role and to occupy a new role effectively. It is the feeling of

being stuck in the same role. Such a type of stress results in perception that there is no opportunity for one's career progression.

Role Expectation Conflict (REC): This type of stress is generated by different expectations by different significant persons about the same' role; and the role occupant's ambivalence about whom to please.

Role Erosion (RE): This kind of role stress is the function of the role occupant's feeling that some functions which should properly belong to his /her role are transferred to / or performed by some other role. This can also happen when the functions are performed by the role occupant but the credit for it goes to someone else. Another manifestation is in the form of underutilisation in the role.

Role Overload (RO): When the role occupant feels that there are too many expectations from the significant roles in his/her role set, he/she experiences role overload. There are two aspects of this stress: quantitative and qualitative. The former refers to having too much to do, while latter refers to things being too difficult and the accountability in the role.

Role Isolation (RI): This type of role stress refers to the psychological distance between the occupant's role and other roles in the same role set. It is also defined as role distance which is different from inter-role distance (IRD), in the sense that while IRD refers to the distance among various occupied by the same individual, role isolation (RI) is characterized by the feelings that others do not reach out easily, indicative of the absence of strong linkages of one's role with other roles. This can be geographic or systematic.

Personal Inadequacy (PI): This type of stress arises when the role occupant feels that he/she does not have the necessary skills and training for effectively performing the functions expected from his/her role. This is bound to happen when the

organizations do not impart periodic training to enable the employees to cope with the fast changes both within and outside the organization.

Self-Role Distance (SRD): When the role a person occupies goes against his/her self-concept, then he/she feels self-role distance type of stress. This is essentially a conflict arising out of mismatch between the person and his/her job.

Role Ambiguity (RA): It refers to the lack of clarity about the expectations of the role which may arise out of lack of information or understanding. It may exist in relation to activities, responsibilities, personal styles, and norms and may operate at three stages: When the role sender holds his expectations about the role, when he/she sends it, and when the occupant receives those expectations.

Resource Inadequacy (Rin): This type of stress is evident when the role occupant feels that he/she is not provided with adequate resources for performing the functions expected from his/her role. Pareek (1983) developed and standardised the Organisational Role Stress Scale (ORS Scale) to measure the above mentioned role stresses. He noted that until recently research was done on the three role stresses, namely, role ambiguity, role overload and role conflict. However, he found many other role stresses in organizations. The ORS scale is certainly one of the best instruments available today for measuring a wide variety of role stresses. It is worth noting here that role-based stresses not only affect the pleasantness on the job and increase general fatigue but also reduce one's potentiality to perform effectively as they tend to immobilise the person to use the available resource effectively. [10]

Occupational stress is a term used to define ongoing stress that is related to the workplace. The stress may have to do with the responsibilities associated with the work itself, or be caused by conditions that are based in the corporate culture or personality conflicts. As with other forms of tension, occupation stress can eventually affect both physical and emotional well being if not managed effectively. Stress is an

inherent factor in any type of vocation or career. At its best, the presence of stress can be a motivator that urges the individual to strive for excellence.

However, excess amounts of stress can lead to a lack of productivity, a loss of confidence, and the inability to perform routine tasks. As a result, quality employees lose their enthusiasm for their work and eventually withdraw from the company. When left unchecked, occupational stress can lead to emotional and physical disorders that began to impact personal as well as professional lives. The individual may develop a level of tension that interferes with sleep, making relaxation outside the workplace impossible. Over a time, period of this stress can trigger emotional disorders such as anxiety, depression and in some cases various phobias that further inhibit the ability to enjoy any aspect of living.

During the middle of the 20th century, employers began to initiate programs to help reshape corporate cultures in an effort to minimize the amount of productive stress found in the workplace. For many companies, this meant developing an occupational stress definition that was relevant to the individual business and the working environment as it was currently constituted. With the working definition in place, employers began to utilize resources such as confidential reporting methods, professional counselling, and employee committees to identify areas where the corporate climate could be enhanced and reduce stress levels at the same time. Over the years, the tools used to identify and effectively deal with occupational stress have continued to evolve.

Today, there is a standard occupational stress index that is used in many stress management programs to assess the potential for negative stress to undermine one or more employees. There are also various incarnations of an occupational stress indicator listing that can help individuals determine whether general conditions have the potential to lead to unhealthy stress levels.

In response to tools such as the occupational stress scale, counselling and employee training programs often include individual and group counselling opportunities. These programs seek to teach employers and employees how to look at the workplace objectively, then take steps to contain or eliminate factors that are highly likely to undermine the confidence and function of employees. As a result, the company enjoys a higher level of productivity and the employee enjoys a more positive work environment within a company that is more likely to provide employment for many years to come. [11]

Occupational (job, work or workplace) stress has become one of the most serious health issues in the modern world (Lu et. al., 2003, 479), as it occurs in any job and is more pervasive than it was decades ago. The domain of work differs considerably from the working environment that was prevalent 30 years ago: longer hours at work are not unusual, frequent changes in culture and structure are often cited, as well as the loss of lifetime career paths (Cooper & Locke, 2000 in Fotinatos Ventouratos & Cooper 2005), which all leads to greater presence and levels of stress.

Occupational stress, in particular, is the inability to cope with the pressures in a job (Rees, 1997), because of a poor fit between someone's abilities and his/her work requirements and conditions (Holmlund-Rytkonen & Strandvik, 2005). It is a mental and physical condition which affects an individual's productivity, effectiveness, personal health and quality of work (Comish & Swindle, 1994, 26). The main components of the work-stress process are potential sources of stress (stressors), factors of individual differences (moderators/mediators), and consequences of stress (strain) (Lu et. al., 2003, 481). Stressors (job-related and extra-organizational) are objective events, stress is the subjective experience of the event, and strain is the poor response to stress. Accordingly, the nature and effects of stress might be best understood by saying that some environmental variables (stressors), when interpreted by the individual (cognitive interpretation), may lead to stress (Dua, 1994, 59). [12]

1.4. POLICE STRESS

Perhaps one of the most important findings in police stress research is that stress in law enforcement is difficult to measure and cannot be attributed to just one factor. In essence, police stress is a complex formula that has many different contributory factors. Symonds (1970) was one of the first researchers to recognize that the causes of police stress could be divided into different types which he described as (1) the stress experienced due to the nature of police work (i.e., occupational stressors), and (2) stress which is the result of the nature of the police agency (i.e., organizational stressors). With the addition of intra-interpersonal and health consequences, these four categories serve as landmarks for the researcher's journey through the considerable amount of literature that has amassed over the past several decades on this topic (e.g., Anshel, 2000; Brown & Campbell, 1994; Crank & Caldero, 1991; Gersons, Carlier, Lamberts, & Kolk, 2000; Kroes et al., 1974; Martelli, Waters, & Martelli, 1989; Storch & Panzarella, 1996; Symonds, 1970).

1.4.1: Intra-Interpersonal Stressors

Some researchers have proposed that there are certain personality factors that make it difficult to perform the essential functions of police work and they are the key contributors to the experience of stress. The objective of this clinically oriented approach has been to determine if certain personality traits predispose an officer to suffer higher levels of stress than others (Burke, 1989; Beutler et al., 1988; Black, 2000; *Area Review 3* Downloaded By: [INFLIBNET India Order] At: 08:28 6 April 2010 Brown & Campbell, 1994; Sarchione, Cuttler, Muchinsky, & Nelson- Gray, 1998; Scogin, Schumacher, Gardner, & Chaplin, 1995).

These factors have included, but are not limited to, levels of self-confidence and self-esteem (Hewitt & Flett, 1991; Frost, Marten, Lahart, & Rosenblate, 1990), optimism/pessimism (Alkus & Padesky, 1983; Scheier, Weintraub, & Carver, 1986; Violanti & Aron, 1993), extraversion/ introversion (Costa, Somerfield, McCrae,1996; Hart et al., 1995; Krohne, 1996), hardiness (Kobassa, 1979; Li-Ping Tang, 1992),

cynicism (Abraham, 2000; Chandler & Jones, 1979; Regoli, Poole & Hewitt, 1979; Wilt & Bannon, 1976), authoritarianism (Coleman & Gorman, 1992; Genz & Lester, 1976; Jensen, 1957), and type A personalities (Davidson & Veno, 1980; Fenster & Locke, 1973; Kirmeyer & Diamond, 1985).

Psychological testing conducted for the purpose of screening appropriate candidates suggests that certain personality aspects are preferable in policing (Murrel, 1998; Murrel, Lester, & Arcuri, 1978). Self-confidence and self-esteem are related but different concepts. The extent to which a person approves of or likes him/herself is defined as his/her self-esteem, whereas self-confidence refers to the level of assurance one has in his/her ability to succeed (Anshel, 2000). Lower levels of self-confidence and self-esteem have been associated with greater job satisfaction in police work (Hewitt & Flett, 1991). Officers who are confident in their abilities to carry out tasks effectively and hold themselves in high regard are generally more satisfied with their profession and in turn feel less stressed (Hewitt & Flett, 1991; Frost et al., 1990).

Those who tend to have a more positive outlook on life and feel hopeful about their abilities and their future are generally happy individuals (Scheier et al., 1986). Similarly, officers who have a positive sense of self, tend to be more hopeful about the future and therefore are more optimistic and satisfied in their work (Alkus & Padesky, 1983; Burke, 1989; Violanti & Aron, 1993; Scheier et al., 1986).

A related characteristic that has been associated with stress among police officers is introversion versus extroversion. This trait has been linked to social support seeking (Anshel, 2000), which is a concept that is highly linked to job satisfaction (e.g., Crank, Regoli, Hewitt, & Culbertson, 1995; Kaufmann & Beehr, 1986; Cherniss & Egnatios, 1978). Researchers have found that optimists tend to concentrate on the positive aspects of a situation, they tend to remain stable under pressure, whereas pessimists tend to catastrophize events and feel significantly more bothered by anxiety provoking aspects of situations (Anshel, 2000; Scheier et. al.). Optimism has also been

related to the concept of hardiness in police officers (Lefcourt, 1992; Li-Ping Tang & Hammontree, 1992).

Kobassa (1979) states that hardiness is associated with one's level of commitment, perceived control, and the degree to which he/she enjoys being challenged. Hence, officers who are hardy tend to be more optimistic, have higher self-esteem and self-confidence, and experience less strain in a stressful event (Lefcourt, 1992; Li-Ping Tang & Hammontree, 1992; Kobassa, 1979). Cynicism in police officers has also been identified as prevalent and problematic (Brown & Campbell, 1994; Lotz & Regoli, 1977). Although cynicism is believed to be unsettling with respect to police-community relations, it has also been recognized as a means of coping with stressful situations (Anshel, 2000; Brown & Campbell, 1994; Byrne, 1961). Related to this concept is the authoritative personality of police officers that has been well researched in the literature (e.g., Coleman & Gorman, 1982; Jensen, 1975). The authoritative officer tends to have poorer relations with the community and expects adherence to his/her demands (Wilt & Bannon, 1976). He/she may tend to be more of a perfectionist (Frost et al., 1990; Hewitt & Flett, 1991) and experience greater frustration in stressful events (Anshel, 2000; Brown & Campbell, 1994).

The aforementioned characteristics are consistent with the type A personality. Although empirically inconclusive, this personality type is believed to be more prevalent in police officers as compared to the general population (Kirmeyer & Diamond, 1985; Davidson & Veno, 1980).

Those who are classified as type A personalities tend to have higher expectations for themselves, be more competitive, strive for perfection, and have higher demands (Kirmeyer & Diamond, 1985; Davidson & Veno, 1980; Friedman & Roseman, 1974). Such individuals are more likely to experience adverse psychological and physical effects of stressful situations (Cooper & Marshall, 1976). Despite efforts to discover the "police personality," research in this area has yielded inconclusive results. Additionally, studies that have attempted to determine the characteristics of police

personality contain some methodological errors (Brown & Campbell, 1994). In his review of the police personality studies, Lefkowitz (1975) stated that many of the conclusions proposed in this area are based on subjective interpretations of law enforcement "experts," making the generalizablility and validity of the research questionable. Several other studies have hardly found any significant difference between police officers and the general population (Davidson, 1979; Gudjonsson & Adlam, 1983; McLaren, Gollan, & Horwell, 1998).

In addition, there have also been arguments regarding the maladaptiveness of these characteristics. Some have argued that although these characteristics may not be desirable attributes, they are not necessarily the cause of adverse occupational defects (Davidson & Veno, 1980; Reiser, 1976).

1.4.2: Occupational Stressors

Although personality styles are believed to contribute and/or interact with the inherent demands of police work, resulting in poor work performance and/or burnout; the concerns regarding the relationship between and stress the tasks performed as a police officer have led to a second area of police stress research (e.g., Anshel, 2000; Brown & Campbell, 1994; Crank & Caldero, 1991; Kroes, 1979; Kroes et al., 1974a; Kroes et al., 1974b; MacLeod & Paton, 1999; Martelli et al., 1989; Storch & Panzarella, 1996; Stephens & Long, 2000; Symonds, 1970).

There is little debate that policing is, at times, traumatic and stressful. The occupation of policing involves various tasks that are potentially harmful and life threatening. What has been the subject of debate is whether or not policing is a uniquely strenuous profession. Nonetheless, officers are often exposed to disturbing images and are forced to encounter circumstances that most other occupations can avoid (Stephens & Long, 2000). Hence, the external stressors that may give rise to the stress of a police officer include a variety of entities. Research has identified a series of work related stressors and some have attempted to rank officer reported stressors (e.g., Kroes, et al., 1974; Stephens, Long, & Flett, 1999; Violanti & Aron, 1994; Violanti,

1994). The most commonly identified stressors in the literature have been classified into six primary factors that are briefly outlined in the following paragraphs. These stress factors include: (a) dealings with the judicial system; (b) public scrutiny and media coverage; (c) officer involved shootings; (d) encountering victims of crime and fatalities (particularly children); (e) community relations; and (f) encountering violent/unpredictable situations.

Dealing with the judicial system has been identified as a source of stress in police work (Ayres & Flanagan, 1994; Kroes, 1974a; Kroes, et al., 1974b; Stratton, 1978). Officers have reported that court proceedings and dealings with judicial system personnel such as prosecutors and defense lawyers are an aggravating component of the job (Ayres & Flanagan, 1994; Kroes, 1985). Some officers feel that the judicial system is too lenient on certain criminals. They feel that their hard work in capturing a suspect and gathering evidence against him/her is wasted when plea bargains are offered or when suspects are released due to technicalities (Ayres & Flanagan, 1994; Kroes et al., 1974b; Stratton, 1978).

The media has elicited public scrutiny that has also been identified as stressful in policing (Violanti, 1994; Kroes, 1985; Kroes et al., 1974a). Many police departments have had to withstand public humiliation by the media. The Los Angeles Police Department and the New York City Police Department are prime examples of police agencies that are all too familiar with public scrutiny. Distorted reports by the media about incidents of police "disappointments" damage the organization's public image (Eisenberg, 1975). These criticisms by the media bring disrepute to the police organizations and subsequently affect the morale of the institution (Davidson & Veno, 1980; Eisenberg, 1975; Kroes & Gould, 1974; Kroes et al., 1974b; Violanti, 1994). Officer-involved shootings such as killing someone in the line of duty, a fellow officer being killed, or being shot at by a suspect have all been identified as stressful encounters in police work (Violanti, 1994; Gersons, 1989; Coman, 1987; Coman & Evans, 1991; Stratton, Parker & Shibbe, 1984; Sewell, 1983; Kroes & Gould, 1974; Kroes et. al., 1974).

As a result of these types of incidents, officers may experience posttraumatic symptoms (Gersons et. al., 2000) and other personal problems (Alkus & Padesky, 1981). If these traumatic events are not dealt with appropriately, the officer's symptoms may persist leading to poor job performance and severe psychological or physical ailments (Anshel, 2000; Stephens & Long, 2000; Paton & Smith, 1999). The nature of police work can, at times, require officers to put themselves in dangerous and unpredictable situations. Officers are frequently dispatched to calls where there is little information available about what is occurring on the scene.

As a result, officers must be prepared to face danger, assaultive individuals, or even catastrophes (Blau, 1994). The constant threat of being in danger can be strenuous to the officer (Wells, Getman, Blau, 1988). Officers have reported that responding to a scene where things are unpredictable and the potential for danger is unknown, is even more stressful than actually knowing that there is definite danger awaiting, such as an armed robbery in progress (Blau, 1994; Kroes, 1979; Kroes & Gould, 1974; Kroes et al., 1974b; MacLeod & Paton, 1999; Stratton, 1980).

As part of their job, officers often have to face difficult situations such as encountering victims of crime. Many officers have reported that they feel a great deal of psychological distress from dealing with victims of crime and fatalities, particularly children (Violanti, 1994; Alexander & Wells, 1991; Duckworth & Charlesworth, 1988; Durham, McCammon & Allison, 1985; Kroes, 1985; Kroes et al., 1974b). Studies have found that officers who encounter these types of situations sometimes experience posttraumatic stress symptoms and often feel guilty. (Duckworth & Charlesworth, 1988).

Studies have also found more extreme symptoms such as severe anxiety and depression experienced by officers who have been exposed to these types of traumatic events (Alexander & Wells, 1991). When a crime occurs, police officers are usually the first to be called out to the scene, having to face victims of crime and

brutality. Officers have revealed in several studies that encountering victims of crime is difficult for them (e.g., Kroes & Gould, 1974; Kroes et al., 1974b; MacLeod & Paton, 1999; Violanti, 1994; Sewell, 1983). Many a times, officers are called out to scenes where they have to face abused or injured children (Martin, McKean, & Veltkamp, 1986; Violanti, 1994).

Many police officers have reported that encountering victims of crime, particularly the vulnerable, is particularly disturbing (Violanti, 1994). In addition to confronting victims of crime, it has also been reported that officers are anguished by encountering victims of accidents and natural disasters (Duckworth & Charlesworth, 1988; Durham, McCammon, & Allison, 1985). Scholars have argued that repeated exposure to such traumatic events causes the officer to question the notion of a "just world" (Young, 1989), causing grave psychological damage.

However, others have argued that police officers do not share the same assumption of a "just world," merely by the nature of their occupation which forces them to witness crime, violence, and injustice everyday (Brown & Campbell, 1994). Another form of police stress identified in the literature is that of community relations (Brown & Campbell, 1994; Kroes, 1985; Kroes & Gould, 1974; Kroes et al., 1974b; Violanti & Aron, 1993; Violanti, 1994; Wilson, 1968).

Police officers report that when the community has negative impression of them, it infuriates poor relations, which makes their work difficult. Figley (1999) describes a phenomenon called "Compassion Fatigue" which is the emotional toll that policing takes on the officer (as cited in Brown & Campbell, 1994). He states that the lack of appreciation displayed by the public towards police officers causes them to become cynical towards the community. With the trend towards community policing, this source of stress becomes particularly important as the officer's interaction with the neighbourhood increases (Brown & Campbell, 1994).

1.4.3: Organizational Stressors

The third category in which police stress literature can be classified is organizational stressors. Although these types of stressors are commonly cited as contributing to police stress (Ayres & Flanagan, 1994; Crank & Caldero, 1991; Evans & Coman, 1993; Kroes, 1979; Kroes et al., 1974b; Storch & Panzarella, 1996; Violanti & Aron, 1994; Violanti & Aron, 1993), exploration of the topic as an instrumental factor remains limited and relatively underdeveloped.

This is partly because those observations tend to be somewhat cursory, as the topic has not been well researched and mentioned as a peripheral contributory factor. Nevertheless, the existence of stressors generated by the police agency is irrefutable and thus warrants a closer examination. The following is a discussion of the most commonly cited organizational stressors in policing. First, every major study designates shift work as a major stressor. Because policing is round-the-clock, many officers are forced to work early mornings, late evenings, or swing shifts.

Although shift work can be viewed as an occupational stressor, having to work extensively long hours and rotating shifts are enforced by the organization (Ayres & Flanagan, 1994; Crank & Caldero, 1991; Sewell, 1981; Stratton, 1978). Some organizations have implemented 4/10 work schedules (4 days a week, 10 hour days) in an effort to alleviate the stress of five day work week schedules. Second, officers often report inadequate supervision and poor relationship as stressful. Supervisors who are judged to be unskillful, incompetent, and unfair are identified as variables within the organization that give rise to the stress of subordinates. Unfair practices include negative discipline, lack of due process, unjustified disciplinary action, unfair performance evaluation, and unfair promotion practices characterized by little opportunity for achieving higher rank (Ayres & Flanagan, 1994; Eisenberg, 1975; Kroes & Gould, 1974; Kroes et al., 1974b).

Third, lack of input into policy and decision-making is a major source of stress for line staff officers. Unable to provide input regarding decisions that directly affect

them and discouraged to express their feeling to their supervisors, these officers feel helpless and stressed (Ayres & Flanagan, 1994; Kroes, 1985; Violanti & Aron, 1993). Lack of recognition and insufficient administrative support is the fourth area of internal stressors. Officer's often that their work goes report unappreciated and unrecognized for good work. They feel that they are only confronted when problems arise.

If an incident occurs (i.e., a shoot out), line officers believe that they lack the support of administration and are sometimes used as scapegoats in the interest of public relations (Ayres & Flanagan, 1994; Kroes, 1985; Violanti & Aron, 1994). Excessive paperwork is cited as another organizational stressor. Although many officers understand the need for paperwork, they perceive some of the documentation to be excessive, unnecessary, or feel that there is a lack of clerical support in completing them (Ayres & Flanagan, 1994; Crank & Caldero, 1991; Violanti & Aron, 1994).

Insufficient pay and poor resources are also reported as organizational stressors. Officers have disclosed feelings of frustration with regard to wages and benefits. Moreover, lack of proper equipment and shortage of personnel are present within many law enforcement agencies and are seen as contributors to stress (Ayres & Flanagan, 1994; Davidson & Veno, 1980). Role conflict and ambiguity is also faced by many police officers. The department's goals and objectives may be unclear or contradictory causing doubt and fear for line staff officers while on duty (Ayres & Flanagan, 1994; Brown & Campbell, 1994). Officers are frequently forced to play a double role, that of a law enforcer and a social worker.

Many of the calls they respond to each day require them to counsel either victims or family members, while trying to maintain order. Furthermore, the challenge of facing departmental demands may at times be in direct conflict with the job objectives (Ayres & Flanagan, 1994). The next widely referenced area of organizational stress is isolation and/or boredom. This is seen as performing repetitive work,

understimulation as a result of not having enough to do on the job, and physical inactivity (Ayres & Flanagan, 1994; Kroes, 1985; Kroes et al., 1974b).

Finally, Reiser (1974) reported the internal discipline structure within a police department as very stressful. A police officer often feels that he/she is in double jeopardy in that he/she is not only liable criminally and civilly for a misdeed, but is also very likely to face punishment within the department. It is almost as though he/she is expected to maintain personal and moral standards at a level higher than is necessary for the general public (Reiser, 1974). The aforementioned findings clearly point to some significant aspects of police work that are related to stress experienced on the job, the argument that it may or may not exceeds that of other processions.

Several studies have attempted to rank the stressors prevalent in police work (e.g., Brown & Campbell, 1990; Crank & Caldero, 1991; Kroes et al., 1974; Kroes & Gould, 1974; Violanti & Aron, 1994). Notwithstanding personality factors and specific job tasks, the literature appears to indicate that organizational components within law enforcement are better predictors of burnout. Storch and Panzarella (1996) found that although some officers report discomfort related to the nature of police work, the key stressors in this profession appear to be more related to organizational factors than to the dangerousness of the work or encounters with human misery.

Crank and Caldero (1991) sought to measure stress based on self-report, as it was perceived by a group of officers. They categorized the responses into five "domains of content" and found organizational stressors as most frequently cited. Using an open-ended questionnaire, Sewell (1981) identified 144 events as stressful in the professional life of a police officer. Many of the commonly reported stressors experienced were related to the organization. Court appearances, writing a routine report, making a routine traffic stop, making a routine arrest, working on a holiday, and changing work shifts were identified frequently. Some of the less commonly reported experiences identified as stressful were death of a partner, dismissal,

murder committed by a police officer, taking a life in the line of duty, and suicide of an officer who is a close friend (Sewell, 1981).

Kroes et. al., (1974b) conducted a series of semi-structured interviews with the entire police force. Four major questions regarding stress were asked. These questions inquired about: (1) what does the policeman consider bothersome about the job, (2) what the policeman thought was bothersome to other policeman regarding the job, (3) from a list of stressors, what the interviewee found bothersome, and (4) what was it like when the interviewee was last uncomfortable in his/her job? The authors reported that the most significant stressors for the policemen appear to involve those situations or circumstances which produce a threat to his/her sense of professionalism and are highly related to the organization (Kroes et. al., 1974b).

1.4.4: Health Consequences of Police Stress

Police stress may lead to adverse consequences such as physical and psychological ailments at various levels. Routine stressors such as shift work, job overload, and management styles, as well as traumatic incidents such as a death of a partner, officer-involved shootings, or suicide of a colleague are all reported by police officers as being psychologically stressful as well as physically taxing (Brown & Campbell, 1990; Brown & Campbell, 1994; Brown et al., 1999; Crank & Caldero, 1991; Kroes et al., 1974b; Sewell, 1981; Storch & Panzarella, 1996; Violanti & Aron, 1993).

Among the psychological problems, diagnosable disorders such as depression, anxiety, drug and alcohol abuse (Dietrich & Smith, 1986; Violanti, Marshall, & Howell, 1985), posttraumatic stress disorder (Carlier, Voerman, & Gersons, 2000; Gersons, Carlier, Lamberts, & Kolk, 2000; Reiser & Geiger, 1984; Robinson, Sigman, & Wilson, 1997), suicide (Arrigo & Garsky, 1996; Baker & Baker, 1996; Cantor, Tyman, & Slater, 1995; Violanti, 1995a; Violanti, 1995b), and personal problems such as high rates of divorce (Terry, 1981) have been reported. The physical health problems reported include an array of illnesses (Milham, 1983; Gularnick, 1963) and high mortality rates (Violanti, Vena, & Marshall, 1986). Increasing reports of disease,

morbidity, and morality of police professionals are present in the literature (Sparrow, Thomas, & Weiss, 1983; Violanti et al., 1986).

Gularnick (1963) found police officers to have significantly greater incidence of heart disease, diabetes, and suicide. Milham (1979) indicated that police officers have an increased mortality risk for diseases such as cancers of the colon and liver, diabetes, and heart disease (as cited in Violanti et al., 1986). Kroes et al., (1974b) compared a group of Cincinnati police officers with a sample of civilians. Over 32 percent of these officers reported digestive disorders, while 24 percent reported headaches. These numbers are considerably higher than the 14 percent reported by the civilian population. Richard and Fell (1975) examined hospital and mental health center records in Tennessee. They found that between 1972 to 1974, police officers were treated with more health problems such as digestive and circulatory disorders than any other occupation.

Grenick and Pitchess (1973) found that police officers had high cholesterol levels and were also more overweight than normal. These findings indicate that police officers have a higher risk for developing coronary heart diseases (Grencik & Pitchess, 1973). Franke, Collins, and Hinz (1998) compared cardiovascular disease morbidity among a group of Iowa police officers, comparing them with a cohort of Iowa civilians. After taking into account several conventional risk factors such as tobacco use and age, they found that police officers display higher rates of cardiovascular disease than their counterparts (Franke et al., 1998). Violanti et al. (1986) conducted a longitudinal study (using archival data from a previous study) involving 2,376 police officers in a large metropolitan area. The researchers found that the overall mortality from all causes of death among these officers are comparable to the expected rate in the country (white male general population).

However, the rates of death due to cancer were significantly higher than the general population; specifically, cancer of the digestive (esophagus and colon) organs. Mortality from heart diseases typically increased with increasing years of service for

the police officer (Violanti et. al., 1986). It is likely that high mortality rates because of cancer and greater risk of death from heart diseases among police officers is related to police occupational factors, as well as lifestyle. (Violanti et. al., 1986). The stress related to work environment, irregular hours, poor eating habits, and lack of exercise are not unique to only police officers. These factors clearly contribute to ill health (Violanti et. al., 1986).

Unfortunately, research is sparse in the area of common physical illnesses and police personnel. This scarcity makes it difficult to assume that the presence of these disorders among police officers is due to their occupation. Thus, generalization in this area needs to be made with caution. Nonetheless, research indicates that officers may be at risk from diseases that can contribute to higher mortality rates, common physical illnesses, and the like. Similarly, another notable factor that contributes to the higher rates of mortality among law enforcement is that of suicide. Some researchers argue that the stress endured by police officers often leads to unhealthy coping mechanisms, the ultimate being suicide (Arrigo & Garsky, 1996). Researchers have argued that the inherent stressors present in police work, the lack of support from administration, and the lack of ample family support are all related to suicide among police (Arrigo & Garsky, 1996). Generally, research has been inconclusive regarding suicide in law enforcement.

Violanti (1995b) found that although there may not be higher rates of suicide among police, there is a trend towards increase suicide rates during the past two decades. Baker and Baker (1996) also agree that police die increasingly because of their more rapidly at their own lifestyle than at the hands of criminals. On the other hand, Cantor et al., (1995) found that there were methodological errors in studies that examined suicide among police personnel and concluded that there appears to be a general decline rather than increase in suicide rates. Nevertheless, the issue of suicide among law enforcement calls for great concern. Some researchers have stated that the effects of duty related stressors on police officers leads to Posttraumatic Stress Disorder (Robinson et al., 1997), which has been one of the leading cause of suicides

in law enforcement (Carlier et al., 1997). Posttraumatic Stress Disorder (PTSD) is one of the most researched areas in policing (Gersons et al., 2000; Carlier et al., 1997; Carlier et al., 2000; Carlier et al., 1996; Reiser, 1984; Robinson et al., 1997).

In "police officer as victim," Reiser (1984) provided a thorough discussion of posttraumatic syndrome among police officers. After having experienced a highly traumatic incident, a police officer may shift into an altered state of consciousness (Reiser, 1984). This shift can affect all five senses, resulting in tunnel vision, distortion in hearing, hyperawareness, and the individual may dissociate from his/her environment. If these symptoms continue without intervention, the officer may develop posttraumatic stress disorder (Sims & Sims, 1998).

Reiser (1984) suggests that police agencies need to understand that officers who have been involved in a traumatic incident suffer crisis. They will be emotionally unstable and depending on the nature of the intervention, they will either improve or deteriorate (Reese, 1982). Thus, police departments need to remain sensitive and treat the traumatized officer as a victim, not a suspect (Reiser, 1984). Another study examined internal and external risk factors for PTSD symptoms in 262 traumatized police officers at the three- and twelve month trauma (Carlier et. al., 1997). They found "introversion, difficulty in expressing feelings, emotional exhaustion at the time of trauma, insufficient time allowed by the employer to come to terms with trauma, dissatisfaction with organizational support, and insecure job future" (Carlier et. al., 1997, p. 498) to be present at this stage. At the twelve-month-post trauma stage, Carlier et al. (1997) states that "posttraumatic stress symptoms were further predicted by lack of hobbies, acute hyperarousal, subsequent traumatic events, job dissatisfaction, brooding over work, and lack of social interaction support in the private sphere" (p. 498). Virtually all studies suggested that intervention techniques offered by the department can greatly reduce the duration and intensity of trauma (Carlier et. al., 2000; Gersons et. al., 2000). The misuse of alcohol by police officers, has been extensively examined in the literature as well (Dietrich & Smith, 1986; Violanti et. al., 1985; Unkovic & Brown, 1978). These forms of unhealthy coping

mechanisms appear to be quite prevalent in law enforcement (Violanti et. al., 1985; Unkovic & Brown, 1978). Research has also noted that drinking is not only practiced by off-duty law enforcement personnel, but many officers admit to using alcohol while on-duty (Van Raalte, 1979).

Dietrich and Smith (1986) reported a thorough investigation of the literature pertaining to nonmedical drug use including alcohol among police officers. They found that officers appear to be influenced by a number of factors: the police culture, occupational deviance, occupational demands of the police officer, and coping functions (Dietrich & Smith, 1986). Work cultures such as the police organization appear to foster expectations of drinking, applaud it, and even belie its existence (Fine, Arkabas, & Bellinger, 1983; Dietrich & Smith, 1986). Also, due to the traditionally male-oriented environment of police settings, drinking is accepted for socializing and stress reduction (Babin, 1980; Dietrich & Smith, 1986). Drinking with colleagues is a phenomenon that symbolizes loyalty, trustworthiness, masculinity, and often reinforces the bond members share (Dietrich & Smith, 1986; Van Raalte, 1979). Drinking is viewed as an opportunity to engage in occupational deviance; in other words, a chance to violate rules. This phenomenon is a result of workplace experiences and is often reinforced by peer groups (Barker, 1978; Dietrich & Smith, 1986). Additionally, occupational demands of police work have been identified as related to alcohol use (Dietrich & Smith, 1986; Van Raalte, 1979; Violanti et al., 1985). Officers often indicate that drinking is regarded as a socially acceptable coping alternative (Violanti et al., 1985; Dietrich & Smith. 1985). Researchers have noted that as officers experience more stress on the job, their tendency to use alcohol as a coping method increases (Violanti et al., 1985).

Van Raalte (1979) conducted an informal survey involving 30 sworn police officers. He found that the evening shift has the highest rate of alcohol consumption, with reasons for drinking varying from social grounds to coping with stress. The results also indicate that many officers drink while on duty. Van Raalte (1979) also gave

examples of individuals who have experienced serious repercussions as a result of drinking.

Violanti et al. (1985), state that alcohol consumption among police is underestimated. These researchers sought to discover the relationship between police job demands, stress, coping, and alcohol use, and their impact on the police officer. They measured psychological stress, police job demands (emotional dissonance), and police coping responses (cynicism) of 500 officers. The researchers found that stress has a strong effect on the use of alcohol, while the effects of emotional dissonance and cynicism were small (Violanti et al., 1985).

Relatedly, stress has also been linked to various personal problems within the police department. Although research has been primarily inconclusive about divorce rates among law enforcement personnel (Kroes et. al., 1974a; Reiser, 1973), many agree that the demands of the job can be taxing on one's family life (Ayres & Flanagan, 1994; Brown & Campbell, 1994; Violanti, 1981). Studies have indicated that marital problems among police officer's families may be attributed to shift-work and the psychological demands of the job that results in undesirable attributes that contribute to marital discord (Arrigo & Garsky, 1996; Brown & Campbell, 1994).

When dealing with a complex organization such as a law enforcement agency, where multiple factors contribute to the employee's experiences, it is difficult to locate the exact antecedents of stress. In examining the relationship between job satisfaction and psychological burnout, Wolpin, Burke, and Greenglass (1991) agree that the recognition of the specific stressors is the most important factor in successfully dealing with job burnout. As indicated in the above review, this has been a challenging task for scholars who study police stress. [13]

1.5. SYMPTOMS OF STRESS AMONG POLICE

Police stress research in India has dealt with variables like Type – A personality, anxiety, irritation, depression, emotional exhaustion, depersonalization, alienation and burnout. However, if individually focused analyses are given undue emphasis they may have the major disadvantage of diverting attention away from organizational dysfunctions and toward individual faults (Handy, 1998). With broader social concern in focus, greater emphasis is being placed on the differing perceptions of organizational demographic groups with reference to stressors, differing incidence of somatic symptoms (strain) and differing use of coping strategies. Perceptions of policemen would throw light on the extent to which different groups experience the various job stressors. This study included some chronic occupational stressors in order to assess the police perceptions of the work environment.

1.5.1. Neglected Family Life:

The policeman's family life deserves more attention than it has received so far in studies related to the police. A heavy toll is exacted from the wives, children, and relatives of police personnel by the stressful aspects of police work. Chronic family bickering and strife, the disruptive effects of irregular work schedules on family centered activities, delinquency, promiscuity, school and adjustment problems among children are a heavy price paid by the police family. Kroes et. al., (1974) in their survey of 81 married police officers found that 79 of them felt police work had an adverse effect on their home life. In a detailed British study by (Cain, 1973) reported that police wives from both rural and urban areas felt that their children suffered from constantly changing shifts as they rarely saw their fathers. Changing work schedules, emotional exhaustion, negative public image, overprotecting the spouse and family, hardening of emotions, identity problems and problems with the children are inherent in the law enforcement career. (Territo and Vetter, 1981) A recent study (Kumar, 1995) reported insufficient time for the family as the top ranking stressor mentioned by 55 policemen of Hyderabad city. It is important to

recognize that the spouse and family are significant contributors to the success or failure in a law enforcement career. Marital and family strife, discord and unresolved emotional problems can negatively influence the police officer's development, motivation, productivity and effectiveness. Problems and frustrations encountered on the job may be brought home to the family. Conversely, an unsatisfactory home life can adversely affect the job performance and dealings with the public. In the US, law enforcement administrators have devised programmes for solving or at least reducing, marital problems within their organizations (Territo and Vetter, 1981). An urgent need to identify and overcome difficulties leading to marital discord and conflict among police personnel in India exists. Marriage, family and personal counselling services could also supplement other programmes. A study of police (Channabasavanna et. al., 1996) reported 52 per cent of personnel in Delhi do not stay with their families. Such findings reinforce the inclusion of this variable in the current study.

1.5.2. Job Boredom:

Law enforcement has often been characterized as entailing much boredom (Kroes, Margolis and Hurrell, 1979). Patrol work primarily involves routine, boring tasks or interventions which can lull an officer into complacency. Long periods of physical inactivity and repetitive work may induce boredom. However, boredom may be interrupted by unpredictable periods of high demand. Kroes (1976) described the price of this hypervigilant state due to unpredictability of potential danger: ".....though crisis may be relatively infrequent, the cop's body is acting as if they are constant. In this way, being in a constant state of peak preparedness tends to wear the officer down as much as if he were in actual danger. Cooper and Marshall (1976) emphasized the vital interaction of the job with the employee and that measures of overload and under load stem from the worker's perceptions....."

1.5.3. Quantitative Work Overload:

In a survey of stress in police personnel, Pragya Mathur (1993) reported work overload as the second highest ranking job related stressor mentioned in a police sample. Among the job related stressors identified by the Psychological Services Unit of the Dallas Police Department, job overload was one. In India, the strength of police personnel per unit population of 1000 was observed to be 1.4 according to the NCRB (1994). The National Institute of Mental Health and Neuro Sciences (Bangalore) submitted a report (1996) to the BPR & D on mental health problems among police personnel. Almost three fourths of the policemen pointed out that dependence on alcohol and intoxicating substance abuse is a necessary evil for them since they have to toil for more than 12 hours daily, without any weekly offs. Stratton (1978) also mentioned excessive paper work found within the law enforcement agencies as internal stressor. The excessive amount of paper work, the disproportionate number of cases handled per police station and the quantitative overload is too well known in India to deserve lengthy discussion here. As compared to the US and UK a policeman in India carries a burden much heavier than he is trained or expected to.

1.5.4. Noxious Physical Environment:

The physical work environment of the police exposes them to dangerous equipment (firearms, etc.), high levels of air pollution (traffic police, tear gas squads, etc.), temperatures that are too hot or too cold (regular duty in extreme weather conditions), exposure to excessive noise (riots, mobs, traffic, etc.) and these have also been included in the present study as stressors.

According to a study conducted by Central Road Research Institute and the All India Institute of Medical Sciences (1990), traffic policemen exposed for long hours to auto exhaust gases suffer from lung disorders, reduced breathing capacity, excessive carbon monoxide in blood and several other ailments. It was found that traffic policemen were subjected to as much as 200 to 500 percent larger quantities of individual noise pollution than the allowable normal in a 24 hour day. The experts

held that those policemen working constantly in adverse and extreme environmental conditions suffer damage to health and efficiency in the short as well as long run. (Hindustan Times, 13.12.90) Policemen are a high risk group exposed to a physical working environment which also deserves greater attention than it has received so far.

A "hazard allowance" maybe a good idea given the harmful effects on health and well being. Out of a total of 585 police personnel killed on duty during 1994, 24 were killed in dacoity operations or other raids, 16 by riotous mobs, 161 by other criminals, 17 on border duties and 367 in accidents. It is surprising that researchers in India have overlooked this important aspect of the police job environment as a potential stressor.

1.5.5. Communication Quality:

Relations with superiors, complaints about administration such as policy concerning work assignments, procedures and personal conduct and backing / support of patrolmen including the relationship and rapport between the patrolmen and administrators (Kroes, Margolis and Hurrell, Jr. 1974) are included in the area of communication quality. The quality of interaction and exchange of information play a key role in the world of work of a police officer. Styles of supervision / communication vary tremendously. Clarity of communication regarding job expectations defines the communication quality. Trouble with superiors at work was the most frequent stressful event experienced by over 100 British police officers in a study reported by Gudjonsson (1983).

Other researchers have also mentioned the importance of relationships at work (Bhaskar, 1986); poor channels of communication (Tripathi et al. 1983); lack of support from senior officers (NIMHANS Study, 1986). In an important study reported by Pragya Mathur (1995), trouble with the boss and trouble with subordinates was reported by more than 50 per cent of the police officers in the sample.

1.5.6. Praise:

Recognition and compensation, incentive or reward for well done work is extremely limited in law enforcement. One can count on being reprimanded for poor performance, but good performance somehow stands as the norm or expected behaviour. Most of the behavioural monitoring system is negative in nature and as such generates stress. Inadequate / low levels of pay (Kroes et. al., 1974); (Terry 1981); lack of personal recognition and frustration of ambition (Cooper et. al., 1982), inadequate reward or reinforcement (Eisenberg, 1976) have been reported as stressors for law enforcement personnel.

Policing appears to be a thankless job with more than its share of brickbats and few bouquets. Lack of recognition was ranked third as a stressor in a survey of police personnel in India (Mathur, Pragya 1993). A negative public image, insensitive handling and complaints against the police by the public further compound the issue of lack of recognition. The low salary, the facilities & perks made available to the personnel, the treatment meted out by senior personnel provides derisory compensation for the high stress job done by the ordinary policeman. Personal effort is rarely accorded due recognition and outstanding performance rarely receives any attention from the administration.

1.5.7. Procedural Justice:

The policies and procedures of the police organization have been known to cause discontent and dissatisfaction among personnel. Frequent transfers, suspension / suppression, delayed promotions, refusal of leave on time, departmental inquiries, lack of grievance redressal machinery are some of the stressful aspects of the police occupation (Mathur, 1995). Inadequate housing or security for the family, inadequate provision for children's education, lack of medical services, inconsistent policies regarding evaluation, accountability, promotion and transfer (Tripathi et. al., 1993) have been identified as major problem areas. Discontent with promotion prospects and career structure (Terry, 1981); autocratic management (Cooper et. al., 1982);

organizational practices and procedures (Swanson and Territo, 1983) and absence or lack of career development opportunity, offensive administrative policies (Eisenberg, 1976; Reiser, 1974) are included under procedural justice. Kroes, Hurrell, Jr., and Margolis (1974) found complaints about the policies and procedures were more frequent than those about the lack of support from higher echelon administrators. The greatest number of complaints concerned excessive paper work and red tape. A newspaper report (Hindustan Times, 31.12.92) highlighted the plight of policemen due to procedural policies. "In the last 11 months, 288 vigilance inquiries have been initiated against Delhi cops; 41 were suspended; 67 transferred and departmental inquiries initiated against 77, thus making it apparent that one slip may cost him his job." Delayed or irregular promotions and inconsistent leave policies are also rampant. Symonds (1970) also described problems concerning law enforcement, promotions, interdepartmental orders, assignments, tours of duty, etc.

1.5.8. Decision Latitude:

The extent to which the respondent's work environment allows control over job related decision making has been reported to be an important aspect of the job situation. Complaints about the lack of voice in decisions that directly affected the administrator's job were reported in a survey by Kroes, Hurrell, Jr., and Margolis (1974). Lack of participative management (Reiser 1974) is a stressor. Kroes (1976) felt that police administrators exacerbate the stress on officers by not letting them provide input into the policies and decisions which directly affect them. Like the soldier, the policeman is "not expected to question why but simply to do and die," Lack of participation in the decision making process may create frustration : A large number of studies suggest that increased participation in decision – making about conditions of work increases mental health and productivity of the employee (Caplan, 1985). This variable has not been studied by police researchers in India and is being explored in this study.

1.5.9. Reward Inequity or Distributive Justice:

Most policemen believe that what they do is important, but they are also very conscious of their low social status and the public's opinion of them (Territo and Vetter, 1981). Given the amount of effort both in terms of time and energy, a policeman gets inadequate reward. Kroes (1976) cited a study in which he compared the police with 23 other stressed occupations and found that the, police showed the greatest degree of dissatisfaction with their pay. He emphasized that a key to understanding this dissatisfaction lies in "being paid too little for one's work." In addition to being in a job that can call for putting one's life on the line, the police officer develops special skills and plays a multitude of roles which deserve appropriate compensation. Complaints about poor salary may be related to a larger issue of inadequate reward / reinforcement system (Eisenberg, 1975). The fairness of allocated organizational outcomes in relation to the input leaves much to be desired. Davidson (1970) reported that 64 per cent of Northern Territories policemen maintained that, their pay was less fair than other comparable occupations and 55% were, dissatisfied with their pay. In a recent study reported by NIMHANS (1996), it was found that only 27 per cent in Bangalore and 18 per cent police personnel in Delhi were satisfied with their jobs.

1.5.10. Role Ambiguity:

Most of those who have analyzed the police role have noted that on the surface level the job is fraught with contradictions and inconsistencies (Skolnick, 1986; Wilson, 1968). For a detailed study of the Indian Police: its Role and Challenges, a book by the same title authored by K. M. Mathur (1994) is an excellent reference. Role ambiguity exists when a worker has insufficient information about the expected work role, that is, there is uncertainty about the scope and responsibilities of the job and the expectations, of coworkers. Except for general statements like : enforce the law and maintain order, the duties of the police officer depend upon such diverse, factors as the oath of office, the law, court decisions, departmental policy, informal quota systems, the political climate, community pressures, commonsense, and

personality of the chief of police (Ward, 1971). However, policemen on the street find that legalistic solutions are frequently more appropriate.

Many police personnel are genuinely confused and mistaken about the nature of the job. In National Sample Survey Research (Kahn, Wolfe, Quinn, Snoek and Rosaenthal, 1964) found that role ambiguity was associated with high job related tension. McGrath (1976) noted that a job may be stressful if there is ambiguity in terms of how to go about it. This is perhaps a very prevalent form of task based stress in organizations because many organizational tasks are assigned in the form of statements of goal, of "ideal states" rather than the form of operational procedures to be followed. Role ambiguity has featured prominently in police research in India. (Chaudhary, 1990; Pragya Mathur, 1994) and expects different job behaviour, role conflict exists. Kroes (1976) cited conflicts between the expectations of immediate supervisors, top brass, city hall and the line officer who is at the bottom of the chain of command. He noted that conflict may arise when officers must enforce laws that they may personally question or ones which they are required to enforce, but which the public wishes that the police would discreetly ignore. A police officer's role in contemporary India is rather paradoxical in nature.

The law enforcement officer is called upon to act as a friend, helper and protector of life and property while at the same time wield a lathi or use a firearm at any moment to control agitated demonstrators or dangerous desperadoes. Fulfilling the expectations of the public, demands of the family and obligation to his organizational role poses a very difficult situation causing stress to the individual officers (Mathur, 1994). Role conflict has been described as the simultaneous occurrence of two or more sets of pressures such that compliance with one would make it more difficult to comply with the other. The policeman's job involves a lot of tightrope walking and role conflict is among the major stressors.

The emphasis in this study is on stress which results from the officers' perceptions of their working environment. The work environment exerts a causal influence on

mental and physical health, including both short term outcomes and long term impairment particularly cardiovascular disease (Jackson, 1983; Karasek, Jackson and Clegg, 1986). Findings from these studies also illustrate a process whereby perceptions of the work environment mediate the effects of objective work characteristics on health related outcomes.

Stress is the reason identified time and again by researchers of occupational hazards as the major debilitating factor in the police officer's job (Goodwin, 1975). [14]

CONCLUSION:

The concept of stress has been discussed comprehensively, highlighting the major definition, basic concepts, types, various impacts of stress – functional & dysfunctional, stress among police and its impact in general etc. An attempt has been made to provide conceptual clarity of stress by referring to various books, journals, magazine, research papers etc. Organizational Stress has also been discussed to know about the various types of organizational stress and its impact on organization as well as on individual. Towards the end of the chapter various symptoms of police stress have been discussed. This conceptual clarity will further help to discuss and identify its impact on police in general.

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CHAPTER – 2
ORGANIZATIONAL PROFILE OF THE POLICE:

INTRODUCTION:

This chapter discusses outlines Organizational Profile of the Police Force in detail. The chapter is divided into four sections. In first section police history at global level is discussed which includes USA, UK, China, etc. In the second section Police Structure and History in the Indian context is discussed followed by third section related to History and Structure of Gujarat Police. In the fourth section the role and responsibilities of police has been discussed followed by conclusion.

2.1. HISTORY OF POLICE FORCE AT GLOBAL SCENARIO

In most Western police forces, perhaps the most significant division is between preventive (uniformed) police and detectives. The terminology varies from country to country. Police functions include protecting life and property, enforcing criminal law, criminal investigations, regulating traffic, crowd control, and other public safety duties.

Police forces are often defined as being separate from military or other organizations involved in the defence of the state against foreign aggressors. The police are a constituted body of persons empowered by the state to enforce the law, protect property, and limit civil disorder. Their powers include the legitimized use of force. The term is most commonly associated with police services of a state that are authorized to exercise the police power of that state within a defined legal or territorial area of responsibility.

Policing has included an array of activities in different situations, but the predominant ones are concerned with the preservation of order. Police forces are usually organized and funded by some level of government. The level of government responsible for policing varies from place to place, and may be at the national, regional or local level. In some places there may be multiple police forces operating

in the same area, with each one having jurisdiction according to the type of crime or other circumstances. In the late 18th and early 19th centuries, in some societies, these developed within the context of maintaining the class system and the protection of private property.

Members in the police may be referred to as police officers, troopers, sheriffs, constables, rangers, peace officers or civic/civil guards. Police of the Soviet-era Eastern Europe were (or are, in some cases, like in the Russian Federation) called the militsiya. The Irish police are called the Garda Síochána ("guardians of the peace"). The first, evidence of the word police in English (c.1530), come from Middle French police, in turn from Latin politia, which is the Latinisation of the Greek πολιτεία (politeia), "citizenship, administration, civil polity" and that from πόλις (polis), "city". In ancient Greece the term πολισσόος (polissoos), referred to a person who was "guarding a city". This term comes from polis + the verb σ ζω (sōizō), "I save, I keep".

2.1.1. Ancient China: Police History

Law enforcement in Ancient China was carried out by "prefects". The notion of a "prefect" in China has existed for thousands of years. The prefecture system developed in both the Chu and Jin kingdoms of the Spring and Autumn period. In Jin, dozens of prefects were spread across the state, each having limited authority and employment period. Some prefects were responsible for handling investigations, much like modern police detectives.

In Ancient China, prefects were government officials appointed by local magistrates, who reported to higher authorities such as governors, who in turn were appointed by the head of the state, usually the Emperor of the dynasty. Law enforcement in Ancient China was also relatively progressive, allowing for female prefects, e.g. Lady Qu of Wuding who served between 1531-ca. 1557. Eventually the concept of the "prefecture system" spread to other cultures such as Korea and Japan.

2.1.2. Ancient Greece: Police History

In Ancient Greece, publicly owned slaves were used by magistrates as police. In Athens, a group of 300 Scythian slaves (the αβδο χοι, "rod-bearers") was used to guard public meetings to keep order and for crowd control, and also assisted in dealing with criminals, handling prisoners, and making arrests.

2.1.3. Roman Empire: Police History

In the Empire mostly, the Army, rather than a dedicated police organization, provided security. Local watchmen were hired by cities to provide some extra security. Magistrates such as procurators, fiscal and quaestors investigated crimes.

Under the reign of Augustus, when the population had grown to almost one million inhabitants, 14 wards were created; the wards were protected by seven squads of 1,000 men called "vigiles", who acted as firemen and night watchmen. Their duties included apprehending thieves and robbers and capturing runaway slaves.

2.1.4. Spain: Police History

Modern police in Europe has a precedent in the Hermandades, or "brotherhoods", peacekeeping associations of armed individuals, a characteristic of municipal life in medieval Spain, especially in Castile. As medieval Spanish kings often could not offer adequate protection, protective municipal leagues began to emerge in the 12th century against bandits and other rural criminals, and against the lawless nobility or to support one or another claimant to the crown.

These organizations were intended to be temporary, but became a long-standing fixture of Spain. The first recorded case of the formation of a hermandad occurred when the towns and the peasantry of the North united to police the pilgrim road to Santiago de Compostela in Galicia, and protect the pilgrims against robber knights. In one of their first acts after the war of succession, Ferdinand and Isabella established the centrally organized and efficient Holy Brotherhood (Santa

Hermandad) as a national police force. The original brotherhoods continued to serve as modest local police units until their final suppression in 1835.

2.1.5. France: Police History

The Gendarmerie is the direct descendant of the Marshalcy of the ancient regime, more commonly known by its French title, the Maréchaussée. During the Middle Ages, there were two Grand Officers of the Kingdom of France with police responsibilities: the Marshal of France and the Constable of France. The military policing responsibilities of the Marshal of France were delegated to the Marshal's provost, whose force was known as the Marshalcy because its authority ultimately derived from the Marshal. Another organisation, the Constabulary (French: Connétablie), was under the command of the Constable of France. The constabulary was regularised as a military body in 1337. Under King Francis I (who reigned 1515–1547), the Maréchaussée merged with the Constabulary. During the revolutionary period, marshalcy commanders generally placed themselves under the local constitutional authorities. As a result, the Maréchaussée, whose title was associated with the King, was not disbanded but simply renamed gendarmerie nationale in February 1791. Its personnel remained unchanged, and the role remained much as it was. However, from this point, the gendarmerie, unlike the marshalcy, was a fully military force.

The first police force in the modern sense was created by the Government of King Louis XIV in 1667 to police the city of Paris, then the largest city in Europe. The royal edict, registered by the Parliament of Paris on March 15, 1667 created the office of Lieutenant general de police ("lieutenant general of police"), who was to be the Head of the new Paris police force, and defined the task of the police as "ensuring the peace and quiet of the public and of private individuals, purging the city of what may cause disturbances, procuring abundance, and having each and everyone live according to their station and their duties".

This office was first held by Gabriel Nicolas de la Reynie, who had 44 commissaires de police (police commissioners) under his authority. In 1709, these commissioners were assisted by inspecteurs de police (police inspectors). The scheme of the Paris police force was extended to the rest of France by a royal edict of October 1699, resulting in the creation of Lieutenants General of Police in all large French cities and towns.

After the French Revolution, Napoléon I reorganized the police in Paris and other cities with more than 5,000 inhabitants on February 17, 1800 as the Prefecture of Police. On March 12, 1829, a government decree created the first uniformed police in France, known as sergents de ville ("city sergeants"),

2.1.6. Britain and Ireland: Police History

The first use of the word police ("Polles") in English comes from the book "The Second Part of the Institutes of the Lawes of England" published in 1642. The Assize of Arms of 1252, which required the appointment of constables to summon men to arms, quell breaches of peace, and to deliver offenders to the sheriffs or reeves, is cited as one of the earliest creation of the English police. The Statute of Winchester of 1285 is also cited as the primary legislation regulating the policing of the country between the Norman Conquest and the Metropolitan Police Act 1829.

In United Kingdom, the development of police forces was much slower than in the rest of Europe. The British police function was historically performed by private watchmen (existing from 1500 on), thief-takers, and so on. In London, night watchmen were the first paid law enforcement body in the country, augmenting the force of unpaid constables. They guarded the streets since 1663. They were later nicknamed 'Charlies', probably after the reigning monarch King Charles II.
In 1737, George II began paying some London and Middlesex watchmen tax moneys, beginning the shift to government control. In 1828, there were privately financed police units in no fewer than 45 parishes within a 10-mile radius of London.

Before the 19th century, the first use of the word "police" recorded in government documents in the United Kingdom was the appointment of Commissioners of Police for Scotland in 1714 and the creation of the Marine Police in 1798 (set up to protect merchandise at the Port of London). This force is still in operation today as part of the Metropolitan Police and is the oldest police force in the world. Even today, many British police forces are referred to officially by the term "Constabulary" rather than "Police".

The first organized police force in Ireland came about through the Peace Preservation Act of 1814, but the Irish Constabulary Act of 1822 marked the true beginning of the Royal Irish Constabulary.

The force had been rationalized and reorganized in an 1836 act and the first constabulary code of regulations was published in 1837. The discipline was tough and the pay poor. On September 29, 1829, the Metropolitan Police Act was passed by Parliament, allowing Sir Robert (Bobby) Peel, who introduced the Police Act., to found the London Metropolitan Police. This promoted the preventive role of police as a deterrent to urban crime and disorder.

2.1.7. Canada: Police History

In Canada, the Royal Newfoundland Constabulary was founded in 1729, making it the first police force in present day Canada. It was followed in 1834 by the Toronto police and in 1838 by police forces in Montreal and Quebec City. A national force, the Dominion Police, was founded in 1868. The famous Royal Northwest Mounted Police was founded in 1873.

2.1.8. Australia: Police History

In Australia the first police force having centralized command as well as jurisdiction over an entire colony was the South Australia Police, formed in 1838 under Henry Inman. However, whilst the New South Wales Police Force was established in 1862,

it was made up from a large number of policing and military units operating within the then Colony of New South Wales and traces its links back to the Royal Marines. The passing of the Police Regulation Act of 1862 essentially tightly regulated and centralized all of the police forces operating throughout the Colony of New South Wales.

2.1.9. Brazil: Police History

The first police investigator of Rio de Janeiro was recruited in 1566. By the seventeenth century, most "capitanias" already had local units with law enforcement functions. On July 9, 1775 a Cavalry Regiment was created in Minas Gerais for maintaining law and order. In 1808, the Portuguese royal family relocated to Brazil, due to the French invasion of Portugal. King João VI established the "Intendência Geral de Polícia" (General Police Intendancy) for investigations. He also created a Royal Police Guard for Rio de Janeiro in 1809. In 1831, after independence, each province started organizing its local "military police", with order maintenance tasks. The Federal Railroad Police was created in 1852.

2.1.10. United States: Police History

The United States has a system of policing based on the modern English (British). In 1789 the US Marshals Service was established, followed by other federal services such as the US Parks Police (1791) and US Mint Police (1792). The first city police services were established in Philadelphia in 1751, Richmond, Virginia in 1807, Boston in 1838, and New York in 1845. The US Secret Service was founded in 1865 and was for some time the main investigative body for the federal government. After the civil war, policing became more Para-military in character. In recent years, in addition to federal, state, and local forces, some special districts have been formed to provide extra police protection in designated areas. These districts may be known as neighborhood improvement districts, crime prevention districts, or security districts. There are more than 900,000 sworn law enforcement officers now serving in the United States. [1]

2.2. INDIAN POLICE: HISTORY AND STRUCTURE

The origin of police force in India can be traced to the earliest Vedic period in Indian history. Rig Veda and Atharva Veda mention certain kinds of crimes and punishments known to Vedic India. Manu, the law giver, talks about the art of secret intelligence prevalent in his times for the prevention and detection of crime. In the Lanka band of Valmiki's "Ramayana", there is a graphic description of Dandayudha Dharakas parading the streets of the little kingdom of Ravana when Hanuman was engaged in his espionage. Armed with "lathis" these policemen of the demon king can be well compared with police constables on patrol duty today. Valmiki writes about the crowd and traffic control techniques with skill, as if such organizations were there for long or would have been created if and when required. The Sanskrit dramas like *Mrichhakatikam* by Sudrak and *Shakuntalam* by Kalidas give some very vivid pictures of the police force at work in ancient India during the first few centuries after Christ.

We also have detailed and authentic accounts of police organization and police activities during the Mauryan and Gupta periods of Indian history. Kautilya's Arthashastra written about 310 B.C. is a monumental work, yielding systematic information about investigation patterns, punishment agencies and vice-control devices.

After the decline of the Hindu Kingdoms, the Sultans of Delhi revived and re-established some of the police traditions and functions of ancient Indian state. The *Ain-i-Akbari,* written by Abul Fazal, provides a glimpse into the organization and functioning of the police in those days. The Kotwal was essentially an urban officer, who acted as the chief of the city police. He was a magistrate, a prefect of police and a municipal officer all rolled into one.

When the East India Company took over the reins of administration from the Mughals, the law and order situation was at a very low ebb. They evolved a concrete policy of gradual but piecemeal reforms in the organizaiton and the working of

police machine in India. Not withstanding the colonial exploitation and all that goes with it, they quite laboriously and ingeniously built over a period of time the superstructure of a modern police force, without much disturbing the indigenous police system. The British policy of gradual and piecemeal reforms was thus characterized by the processes of continuity and change in the evolution of police administration in the company territories.

The Mutiny of 1857 shook the very roots of the administration of law and order in India. The diversity, and inadequacy of the police machine to deal with the increasing problems of violence and disorder made the Imperial Government realize the urgency of a unified and re-organized police system for the entire country. The heavy expenditure involved in maintaining a military like police to prevent disorder and a civil police to detect it signs in advance during and after the 1857 upheaval compelled the government to appoint an All India Police Commission in 1960. The major recommendations of the Commission were incorporated into a Bill, which were more or less on the lines of Madras Act, of 1859. Later on it was passed into a law as Act V of 1961. The basic structure of police organization as provided in the Act has withstood the ravages of time and forms the corner stone of the police administration in India till today.

Another significant landmark in the history of the Indian Police during the British period is the appointment of the Second All India Police Commission 1902-1903. The purpose of appointing the Commission was to study the state of police organization in different provinces of the country and to submit recommendations for making the police force effective in the changed context of Indian politics. It was the first attempt of its kind to screen and revamp police administration in its entirety. A critical look at the police reforms of 1902 would indicate that they were purposefully planned to strengthen the district police and thereby make it serve as a powerful bulwark for the sustenance of the gigantic structure of the empire. Naturally, they ignored some of the very vital aspects of reforms like Indianization of the police force or

decentralization of the organization to enable the meritorious young Indians to occupy positions of authority and responsibility.

Thus, the history of Indian police from the Vedic times to the present day independent India is a story of keeping the machine going rather than getting it really lubricated and refixed, let alone replaced, it has withstood the ravages of the centuries from the ancient to the modern, which in turn, has made the police administration in India. What it is today. The result has been a queer amalgam of mediaeval endurance and British sophistry. The sub-inspector and superintendent of police who have emerged as two key officials in the police bureaucracy are the legacy of by the mediaeval and English periods of Indian history respectively. The police organization at and below the level of the district is essentially Akbar's creation. The Englishmen, for reasons, of their own, merely formalized it in the Police Act of 1861 and dared not disturb it in the interests of imperial expansion and consolidation. The organization and personnel at and above the level of the district was kept non Indian. Even the control mechanism was ungenerously kept in the English hands. Renovations suggested in this complex structure by the police commission of 1902-1903 were in consonance with the policy of keeping the leadership and decision making apparatus under the imperial command. The basic system has persisted through the ages.

During the last eighty years hardly anything concrete has been accomplished in terms of future professional growth. Until the Second World War, the pace of social change and advancement of knowledge, especially in a traditional society like India was so slow, that it could conveniently afford a status-quo oriented police system, geared just to the colonial needs of the eighteenth century. The technical developments in the post war era and independence of the country have, however, radically changed the context. This is why the founding Fathers of the Indian Constitution deemed it proper to leave the law and order machinery to the care of the state leaders to suit local requirements. With this given framework of autonomy, the Constitution has envisaged uniform senior personnel to man and evolve co-

ordinated policies of national importance. The central institutions of technical knowhow and the advisers in the Union Ministry of Home also assist and guide the state police administration. All the Enquiry Commissions appointed by the State Government from time to time would record with disgust the out datedness and the lack of purpose in the police administration in India. The compulsions of democratic system, enjoyment of fundamental rights by the citizens, mass education, spread of political consciousness in rural areas, undue political interference by amateur leaders, growing affluence of the middle class and intense feelings of communalism among urban minorities are some of the reasons that make the police job doubly difficult. In the absence of serious and sustained police research, sometimes rustic solutions are offered and even experimented upon to solve the complex problems of a growing society, which is constantly engaged in modernizing its traditional frame of reference. The sense of history can help to develop insight and future perspective. But this also has its in built limitations and so cannot be retread upon exclusively in the assessment of future needs and demands. In a developing society like that of India where continuity and change are the hallmarks of the evolutionary process, the future history of police administration should tend to shift more towards change than mere continuity, taking, of course, due note of the legacies of the past.

2.2.1. Responsibilities of the Police:

Besides the general responsibilities of maintaining peace and order, the police are entrusted with the task of implementing the Protection of Civil Right Act, the Suppression of Immoral Traffic Act and the Children's Act. Upholding the dignity of the individual citizens of India by implementing the general and special laws falls within the purview of the police. Gambling, excise offences and public nuisance are sought to be curbed by giving wide powers to the police for ensuring orderly and decent conduct on the part of the members of society. All this is because of the special social responsibilities that the police as a profession are expected to discharge, about which there is tacit recognition but no formal definition.

Besides these, the police have been given wide powers to check white collar crimes. The position of the police in this respect is unique. No other machinery at the disposal of the government has the potential, infrastructure and powers as the police have. The Indian Penal Code and the Prevention of Corruption Act make the police the watchdog for keeping the public life of public servants clean and above board. A heavy responsibility rests on the police on this score. The failure of the police to discharge this task is manifest in the stinking corruption to be met with in all walks of life. The police have not been able to prove equal to the job because of the absence of a reasonable functional autonomy for them, promoted by the distrust in them. As we have noticed, the spectrum of police activities is almost all pervading; but unfortunately the distrust in the police pervades even beyond that. The principle of the special and unique role of the police in the matter of probity in public life is undisputed and given vent to in the concerned legislation.

It is believed, on an average, religious susceptibilities in India are rather incredibly high. The vaguest sorts of rumours have the potential of stirring up not only religious passions but even intra-religious feuds. This makes a mockery of the freedom of religion and worship as enshrined in our Constitution. It is not an exaggeration when we see that the police have come to play the role of a great social force in this fast disintegrating Indian society, to bind a large variety of not exactly consistent cultures and is acting as a centripetal force in the face of co-religious, sectarian and quasi cultural centrifuges. With the advancement of science and technology and all round development, concentration of wealth in a few hands and an ever widening gap between the rich and the poor and having all the tendencies of widening further; spreading materialism and commercialization of the institution of marriage and family have all led to a sort of cult of violence and hatred marked by intolerance of behaviour and suspicion against almost everybody else holding a different belief or opinion. These trends are contrary to the Indian cultural heritage. In this period of transition and turbulence, we have nothing else to hold on to. This vacuum is filled by the police. It thus goes without saying that the success of police lies in proving themselves a deserving substitute for hitherto acting social forces in

this transitional period. For this, the people have to shed their inhibitions in recognizing the police as such; it is only then that the gap between the performance of the police and the expectations of the people will show signs of abridgement. The police themselves have been doing their utmost to adjust themselves to the changed circumstances. It will greatly facilitate their work if the change is recognized by and reflected in the statutes that bind the police.

The freedom of religion and belief can stand on the base of the right to live as also freedom to pursue any lawful occupation, the freedom of movement and the freedom of speech. But to what extent they can exist, in effect, in reality despite being guaranteed under the Constitution of India without a properly oriented police profession is a matter worth consideration. [2]

2.3. GUJARAT POLICE AT A GLANCE

2.3.1. Formation of Gujarat State Police Force:

Gujarat State Police Force is formatted according to Bombay Police Act of 1951 with the acceptance of Gujarat State Law of 1960. These laws are published in the Extra Ordinary Gujarat Class Gazette.

2.3.2. State Range and District:

The administration and regulation of Police Force in the entire state is controlled by the I.G.P., who is assisted by the Additional I.G. of Cadre of Police Superintendent. For better administration, the state is geographically divided in Ahmedabad, Rajkot, Vadodara, Gandhinagar, Junagarh, Surat and Border ranges. In each of these, the following districts are included:

1. In Ahmedabad Range: Ahmedabad City, Ahmedabad Rural, Kheda, Anand
2. In Gandhinagar Range: Sabarkantha, Mahesana, Gandhinagar
3. In Vadodara Range: Bharuch, Narmada, Dahod, Panchmahal, Vadodara City, Vadodara Rural

4. In Rajkot Range: Rajkot City, Rajkot Rural, Jamnagar, Surendranagar
5. In Junagarh Range: Junagarh, Amreli, Bhavnagar, Porbandar
6. In Surat Range: Surat City, Surat Rural, Valsad, Navsari, Ahva-Dang
7. In Border Range: Banaskantha, Patan, Kutchh-Bhuj

Table – 2.1: PATTERN OF POLICE ORGANIZATION IN A STATE

State Level

Director General of Police / Inspector General of Police
(D.G. / I.G.P)
↓
Range (4-6 Districts)
Deputy Inspector General of Police
(D.I.G.P)
↓
District Level
Superintendent of Police
(S.P)
↓
Sub-Division (Circles and Police Stations)
Deputy Superintendent of Police
(Dy. S.P)
↓
Police Station
Inspector / Sub Inspector
↓
Head Constable / Constable

2.3.3. Organizational Setup of Commissionerate Police Force:

1. In Commissionorte zone of Ahmedabad and in each zone, there is one Deputy Commissioner of Police of Police Superintendent Cadre.
2. There is one more division under the control of this Superintendent of the DYSP cadre. There are more than one police stations in each divisions. The Police Station Inspector is the in-charge of the police station. There are several

Sub inspectors along with armed Head Constables and constables, who perform administrative and constitutional duties.

3. There are functional Deputy Commissioners in Zonal deputy and at Head Quarters, i.e. Traffic, Special Branch, etc. and Superintendent, Inspector Police Head and constables helping them.

2.3.4: Organizational setup of District Police Force:

1. There is one Police Superintendent for each district. One Assistant Superintendent is appointed to help him. The district is divided in two or more sub divisions, for each division there is S.D.P.O. of Assistant or Deputy Superintendent Cadre. For important sub division, especially for compilation of crimes, one or more Circle Police Inspector is appointed. The district for police purpose is Revenue district.
2. There is one or more police station in each sub division. Officers of a general police station, include one inspector for a particular station. There are more than one police stations with the important police station. In each police station, there is a special fixed number of armed Head constables and constables.
3. With a view that the police can be easily accessible, several rural police stations are linked with one or more out posts. At the outpost, there is a Head Constable and constables in the required number. District Head Cities and Big Rural Police station areas are divided in sub areas known as Choky or Gate and there is one Head Constable and fixed constable for the duties like Patrolling, etc. The Choky and Outpost are formatted by local administration; therefore, within the police code, its officer cannot enjoy any other power other than his right of his own police station. In metro cities, there is a sub inspector at the choky.
4. The police stations get notification according to the definition of the government police code act-26. Chokys and Outposts are set up with the prior permission of IGP, but for more staff, the government provides the permission keeping eye on additional expenses likely to increase.

5. There are two divisions in each district, i.e. (1) Armed and (2) Unarmed. The main duties of an Armed police are Escort Guard and Reserve duty. While another branch, the Unarmed performs duties like prevention and investigation of crimes the armed division is used in times of emergency and at reserve time. They are provided with the effective training of arms, tear gas and other uses. The division in the form of two branches is not be fixed. Both the divisions perform the following duties:
    1. All types of Orderly duty
    2. Bells of Arms Tenders, Charge of Head Quarters and Office pocketers
    3. Supervisor in D.M.T. section

2.3.5: Police Head Quarters:

1. At the Head Quarter of each district, DYSP or Inspector is the In-charge of the police force. This force also performs duties of Armed, Reserved and other duties. Especially, they are used for:
    i. Local Duties
    ii. Duties at District level
    iii. As Emergency Reserve and during holidays and as reserve during training
2. For recruited constables, the training is provided at Vadodara to PTS at his Head quarters until his term gets over. The practical training is also provided to those who have completed such training. For this purpose, Head Constable is given enough staff.
3. In addition, at the Head Quarters, there is a Bells of Arms and Armor run by one more Head Constable and constable.
4. From the Head Quarter store which is in charge of Unarmed Officer, uniform and other necessary materials are provided. The administrative officer of the Head Constable has clerks in required number and armed Head Constable and Constable who perform the duty of maintaining the daily duty register of the police force along with the rider, constable, orderly, etc.

5. A Mess and a canteen is run under the administrator for the members.
6. There is an activity center established for the benefit of family members like a Medical centre, Choky, Kindergarten, Children's park. Stitching and Embroidery classes are conducted etc., at the Head Quarters.
7. At several places, a hospital or a medical center is also established for the sick members and their families.
8. The Head Quarters is the reserved centre for the district and from there an additional supply is provided on demand. Therefore, external and internal training is provided everyday even though the member is not on duty.

2.3.6: Emergency Company:

1. The force kept separately at each head quarters as the reserve force is known as an emergency company. Its members are equipped with 303 magazine rifles. The purpose behind this company is to prepare specially selected and faithful people or sharp-shooters for special harsh duties.
2. For this group, the Police Superintendent himself selects faithful, courageous, clever, wise, active and well-built members who are below 35 in age.
3. They are provided war training of Musketeer, Bayonet, Fighting, Assault, Force, equipments of robbers and city crowd, etc. In addition to this, they are also provided physical training and comprehensive training of using lathi and baton as well. Ground Training of judo will also be provided. The Police Superintendent will takes personal interest and also gets the training to face crowd.
4. This force should have the ability to gather in no time and immediate departure. They are provided the training for working with tear gas and their codes and the IG observes this activity during his visit.
5. If the members do not take training then they have to perform all general duties of armed police staying at the head quarter.
6. They are sent on escort duty keeping in mind that the number should not be reduced to half the total members, but it should be observed that they do not remain absent at the head quarter for more than a week for this special duty.

7. To maintain efficiency, the Police Superintendent should check the working regularly and make changes for those, who cannot maintain the prescribed standards.
8. This force should be considered equal to others for all matters except transfer from the head quarter and musketeer practice.

2.3.7: Emergency Reserve Forces for Wireless Grid:

1. More operators are required for 24 hours working of the Wireless stations during the time of emergency. Therefore, this force is formed after its proper training to constables and head constables of each district.
2. When there is a need to appoint regular wireless staff, higher employees also apply, but they do not have any special right of appointment.

2.3.8: MT Emergency Reserve Forces:

This force is formed of the constables who have driving license and who are keen to work for this division. They are provided training for this force and get heavy motor license. Their names are recorded in the list of emergency drivers. The candidates are called from the employment exchange list if the required numbers of people are not there. For the seniority order, candidates having heavy motor license are considered senior than members having license and than members without license. The senior most member is given a chance for the job when the vacancy is there.

2.3.9: Police Band:

At the time of occasional parade, the police band is maintained at the head quarter to convey the orders using proper music and tune of bugle.

1. There is one armed head constable as band master and 14 armed constables in the police band. The number is increased to 16 members if tenorkram is used.
2. In the Ahmedabad city zone, band master is of Inspector cadre and there are 3 head constables and 15 constables.

3. Comprehensive instructions for the maintenance of the band are given in Appendix-2.

2.3.10: Crime Branch of Commissionerate:

1. The Deputy Commissioner is the In-charge of this division and the Police Superintendent is appointed for assisting him. There are two divisions:
   (1) Detraction of Crime Branch
   (2) Prevention of Crime Branch which is under the control of Inspector and he is assisted by a Sub Inspector, Head Constable and constable.
2. There are sub divisions of Detraction division which are as follows:
   (1) Application branch
   (2) Modus operandi bureau
   (3) Vigilance branch
   (4) Anti-tehi and Gambling constable
   (5) Photograph bureau
   (6) Squad for black ticketing of movies and
   (7) Anti-violence squad, etc.
3. Vigilance branch works for juvenile aid pro unity with the help of lady head constable of required institutions along with assistance of the constable and a lady sub inspector. Prevention of Crime Branch performs the duties of reducing crime activities like deporting, arrest, etc.

2.3.11: Commissionerate CID Special Branch:

1. Commissionerate has the authority of all the branches of CID.
2. The primary duty of the special branch is to collect information about communal, related to state and labour activities and observe the conditions emerging from these activities. In case of such emergency, the sectional police inspector informs the special branch, which starts special investigation.

3. The special branch follows the role model of CID branch of the state and it receives the information related to law and order. It will take care of and record the matters related to communal, political parties, students, labourers, etc. Its duties consist of security of VIPs and supervision of important places. In addition to this, it also has the duty of taking care of movement of foreigners and betrayal activities.

2.3.12: Local Crime branch divided into Local Intelligence Branches:

1. The crime branch of each district along with Western Railway is under the direct control of Police Superintendent. In this branch, inspector or sub inspectors are present in required number and there are also armed head constables and constables. Their general duties are:
    (A) Constant watch and investigation of such cases which require more efforts to solve
    (B) To help and provide guidance to police station in case of difficult cases
    (C) Investigation involving more than one police station or in cases of involvement of gangs
    (D) To collect information regarding crime and criminals from surrounding districts using special type of investigation, to investigate and compile this information
2. Likewise, there is local intelligence branch in each district consisting of inspector or sub inspector along with required police force for faster work.

2.3.13: Lady Police:

In several district and Commissionerate there are lady police members to file complaints from female travelers; to search female accused; to keep watch; for inquiries; to help in implementation of insurrection law of Mumbai; to stop/prevent human trafficking and to keep watch at religious places. This force is utilized for any other purpose which they are willing to perform.

2.3.14: Prosecuting Staff:

1. In the authority of district and Commissionerate magistrate post, there are required number of public prosecutors for prosecuting purpose. They remain present in the court at the time of hearing for every case. They study the case papers and draw the attention of the investigation office towards any proofs that are left out. They also inform the proper official about non-collection of any proof.
2. The head constable is also appointed as prosecuting jamadar/officer for chapter cases under Act 100 of police.

2.3.15: CID Intelligence:

The State Deputy IG regulates his state and one or more assistants of police superintendent cadre are there to assist him. At the main office, there is a required number of DYSP, Inspector, Sub-Inspector in the staff. There are 4 such units at Bhuj, Rajkot, Ahmedabad and Vadodara with a DYSP and a required authorized staff. There is one district under the charge of Inspector or Sub inspector at the head quarter in each district. Such centers are also there at important places. The primary duties are in accordance with the ones shown in Act 113.

2.3.16: CID Crime:

1. CID crime of each state is under the control of Deputy IG and he has one or two assistants of police superintendent cadre. There is enough number of DYSP, Inspectors, Sub Inspectors, Head constables in the staff at the main office. This branch handles the investigation of interstate or inter-district cases and complicated and important cases allotted by Deputy IGP or IGP. There are two units of this branch at two districts, Ahmedabad and Vadodara, where DYSP is the In-charge with required staff members. There is one Research Centre at the main office under the authorization of the Head constable, Sub inspector, a necessary number of inspectors and DYSP, which works for investigation, analysis and study of crimes for specific area.

2. The Danger Bureau is one of its wings. Deputy IGP, CID (Crime) is the head of this wing. He is also its administrative head and there are 2 senior experts and two searcher directors.
3. There is a Handwriting and Photography Bureau working under the administrative control of Deputy IGP, CID (Crime). This works under the bureau of state examiner of questioned documents. It provides expert opinions for recognition of handwriting, finger prints, chance prints, unidentified dead bodies, house breaking, etc which are related to questioned documents of photography.
4. To help police investigation theoretically and with scientific standards, there are forensic laboratories working under the administrative regulation of the Home Ministry. The Director is the In-charge of this wing who has a required number of staff working under him.
5. There is a Railway Police Force having State Traffic Branch working at Vadodara, Western Railway under the Police Superintendent and at the head quarter under DYSP at Ahmedabad. Deputy IGP (CID-Crime) controls both of them.

2.3.17: Anti-corruption Bureau:

1. It works under the control of Director to destroy corruption. Special IGP is the In-charge of this bureau. He is the head of the department and works under direct control and guidance of Home Ministry. He has one or more Deputy Directors of the police superintendent cadre and special directors, inspector and sub inspector for the smooth working of the bureau.
2. There is at least one inspector in the bureau in each district and there may be more in several districts. These offices work under the control of Assist. Director at Rajkot and Ahmedabad who has the required staff.
3. There may be officers on deputation appointed in the bureau to provide help and assistance related to matters of respective departments from Revenue Department and the PWD.

2.3.18: SRP Force:

The SRP force is formed with purpose to provide required armed force at the time of emergency or strikes. They are trained with the military standards and formed under Bombay State Act of 1951. It is divided in groups and each group works under the control of Commandant of superintendent cadre with the staff of various cadres at various centers. The entire administration of these groups is under the control of Deputy IGP Armed Unit. Its constitution and other functions are given in the Stare Reserve Police Act.

2.3.19: Traffic Control:

1. There is one separate branch for this in Commissionerate under the control of Deputy Commissioner having inspector, sub inspector and other staff. The primary functions of this branch are to regulate the transportation on important roads, especially regulate motor vehicles to minimize accidents; to study the condition of roads for the formation of footpath, traffic islands, breadth of the roads etc.; to investigate accident cases caused by motor vehicles; to provide technical assistance; to provide suggestions to minimize accidents; to inculcate traffic sense among people by campaigning; to implement the laws of specified speed limits; etc.
2. The branch having DYSP, required staff and vehicles also to traffic division.

2.3.20: Office Staff:

1. Department contains constitutional staff and compound cadre.
2. There are one or more Deputy Assistant Officer, one or more Office Superintendent Office, required number of Head Clerk, Stenographer, Clerks and Typist in the office of IGP.
3. In the office of Police Commissioner, there are one or more Office Superintendent, Head clerk, Steno and Typist.

4. In the office of the Deputy IGP, there is one Police Superintendent and Head Clerk along with necessary clerks.
5. There is one PI known as Reader Inspector in the office of Range Deputy IGP to assist others in solving crimes that occur in the area under his charge.
6. (A) There is one head clerk and clerks in required number in the office/staff of Police Superintendent, Principals of PTS and in groups of SRPF.

   (B) The inspector is appointed to supervise the employees of the office of PI, District Police Superintendent and of Police Commissioners.

   (C) The Police Superintendent and SDPO has sub inspector known as Reader in their office for the investigation of crimes that occur in the area under his charge.

2.3.21: Dog Squad:

The dog squad consisting of specially trained dogs, is maintained at Ahmedabad and in several districts to find criminals and for investigation.

2.2.22: Sub Division Police Officer:

(1) The Sub divisional staff work under the control of Assistant or Deputy DYSP Superintendent and perform duties and powers mentioned in Book-3 of Bombay Police Act 1951.

2.3.23: Police Superintendent:

(1) The regulation and guidance for the entire district is kept in the charge of special Police superintendent with subject to District Magistrate and stations of IGP for respective fields of power.

(2) Additional Police Superintendent possesses the same status, duties and rights of the Police superintendent for that particular area or he performs as per the work allotted by the government.

2.3.24: District Magistrate:

(1) He has the full authority on the district police force and for that he is dependent on the laws and orders prepared by the state government.

(2) The District Magistrate informs about the law orders and prosecution through the Police Superintendent under the general order of IGP's additional order about the assistant public prosecutor with subject to Act-17 of Bombay Police Act 1951. However, he instructs about the duty performance or the distribution of such officers. However, the District Magistrate will not issue orders for such duty performance or distribution of such officers.

(3) The District Magistrate contacts the IGP in the case of not getting sufficient force for a particular occasion. The IGP will fulfill the demand. (However, district magistrate does not interfere with the matter of discipline and personal relationships of members of the force.)

(4) When the force from the adjacent district is sent on the demand of the District Magistrate or government, Police Superintendent informs the IGP about it.

(5) The District Magistrate will be informed by the Police Superintendent in general or on special occasion with the information about the respective occasions with the purpose of knowing the crime status.

(6) If the District Magistrate feels that a particular officer is not fit for the particular duty of area, then he can inform the police superintendent to change the officer. If the officer is of a higher cadre then the IGP is authorized to change, subject to the instruction of the District Magistrate.

(7) If the District Magistrate is not satisfied with any matter related to the district police administration, he will first inform the IGP. A copy will be sent to the government. If the directives of IGP are not enough or unsatisfactory then he will inform the government. To maintain order and peace is the prime duty of the District Magistrate. Administration of laws and all the matters related to it are subject to the decision of the District Magistrate and the police officer has to implement accordingly. In case of controversy, he will discuss with the IGP and act on it properly, meanwhile the order of the District Magistrate should

be carried out. The District Magistrate should not issue orders without discussing them with the superintendent.

(8) When the District Magistrate visits the head quarter for ordination meeting, he has to take the opportunity to discuss general matters related to law and order and crime with the Range DYSP and personally meet the Deputy IGP for important and immediate action.

2.3.25: Deputy IGP:

(1) As he has the power of delegation, the IGP will perform the duties allotted by the government and hold the acts

(2) The administration of the Superintendent comes under the jurisdiction of the IGP, the administration of DIG of the same range is under the control of IG.

(3) The Deputy IGP will draw the attention of the Police Superintendent for the concern of implementation of orders.

(4) The DIG will also meet the Magistrate during the inspection of district police force.

2.3.26: Commissioner of Police:

The Commissioner of Police will provide necessary regulation and guidance following the order of the IGP for all the matters related to performance of the police force in his field of power; all administrative matters; its working, orders, study of laws, distribution of rights, interpersonal relationships, exercise, marching, arms, etc.

2.3.27: IGP:

(1) He is the head of the entire state police force, head of the department and advisor to the government for all matters related to police administration. He is responsible for the maintenance of law and order; for competent organization of procedures to identify and stop the crimes; for general training and discipline of police force and for internal monetary status.

(2) He does not implement all the orders of the government related to the police force.

(3) Only he has the power to issue general orders under the Act-23 of Bombay Police Act 1951. He does not require the permission from the government. However, for important initiative orders, prior permission from the government is required.

(4) He has the power to regulate personal movement and duties of Police Superintendent depending on Act-17 of Bombay Police Act 1951.

CONCLUSION:

An attempt has been made to provide a sound literature on the police force at global, national and regional level. The conceptualization of police organization especially in Gujarat has given us an the overview of types of police force, sections, power and function, pattern of duties, range of police in Gujarat, criteria for the appointment at various levels etc., which gives us an in depth understanding about police in Gujarat and its scope of functioning. [3]

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CHAPTER: 3:
REVIEW OF RELATED LITERATURE

INTRODUCTION:

This Chapter mainly focuses on three things i.e., to review the latest related research articles and identify the author(s) and the year of publication, to see the methodology and parameter used in that research and finally the outcome of the research. In this chapter ample numbers of related research articles have been reviewed. This chapter contains only those literatures which are pertinent to the present study out of total reviewed articles.

Bano & Talib (2012)[1], in their study concluded that in spite of the much research conducted with respect to the police personality, it is hard to extract any consistency from this research. Despite some researchers having found the same attributes to characterize police officers, the literature easily appears quite chaotic. A number of different attributes have been mentioned and in the same vein, some researchers have failed to find evidence of a thing like police personality (Mahanta & Kathpalia, 1984; Murrell, Lester, & Arcuri, 1978). Also, much of the research conducted with respect to the police personality took place between the 60s and early 80s. More research that examines the police personality is thus needed. The question still remains unanswered. Do police officers have similar traits or different traits to other non-police population? Even, if there is anything like police personality, does it come from predispositional background or socialization process? In order to understand and define the concept of police personality traits further, there is a desperate need to examine the phenomenon more deeply and widely. *"There is no evidence for such a thing as a typical police personality showing a cluster of traits that is constant across time and space."* (Yarmey, 1990).

Leino T. *et al* (2011)[2], in their study found that stress may increase alcohol consumption among those who experienced a lack of personnel, insufficient personnel and lack of training to handle violent situations, this may mean that police officers who increase their alcohol consumption at the same time feel powerless

(Romelsjo et. al., 1992) as well as more stressed (Gershon et al., 2002). Furthermore, low resources may mean haste at work, which in turn may lead to increased exposure to critical incidents. These results also reflect the various long-term negative effects that violent experiences can cause. If negative effects become long-lasting they may make a police officer feel more powerless and uncertain on another occasion in a similar violent situation. It may also show that training does not adequately address the effects of constantly working in traumatic conditions, because it does not provide adequate training support to meet traumatic conditions. Thus physiological, social and psychological aspects need more attention while training the police force.

This study conducted in Finland, examined the association of work-related violence and increase of alcohol consumption. The strengths of the study were that the sample was large and representative of police officers in Finland. They were also able to include several work-related characteristics in their study. A limitation of the study was that it was a cross-sectional study. Thus they cannot draw firm conclusions concerning the causal direction of the results. Second, all their measures were based on self-reports, thus causing concern regarding common method bias.

Selokar D. *et al* (2011)[3], they had discussed in their study that most of the participants (82.4%) were working more than eight hours daily. Although they were working in periodic shifts, their working hours exceeded 12 hours daily. Long working hours appear to be an important factor leading to stress among police personnel. This is consistent with Vila's study from Washington that found that long working hours and shift work threatened police officers' health, safety, and performance. This situation is aggravated by understaffing associated with demographic shifts and new threats to homeland security.

In their study a total of 32 (31.4%) participants scored ≤15, indicating that stress in workplace presents no problem while 68 (66.7%) participants scored between 15-30 which suggest that stress in workplace was likely to cause a problem. Two personnel had a score of 31-45 where stress was clearly a problem, and the need for remedial

action was apparent. Important stressors among the police personnel they studied were criticism by superiors, working hours always exceeding the amount of time available, lack of rewards, the feeling of being inadequately valued for abilities and commitments, not feeling satisfied after finishing their work and not having enough time for themselves. Their results supported earlier research on police officers suffering from stress due to their occupation. Some studies also reported that police personnel are under continuous and constant stress due to similar stressors that lead to psychiatric morbidity. However some studies have confirmed that organizational culture and workload are the key issues in police officer's stress. In their study, a significant association of stress levels among police personnel was found with different factors ($p < 0.05$).

Hickman *et al* (2011)[4], in their article described police stress that developed out of several theoretical frameworks, but the knowledge base is limited by a common reliance on self-report stress measures. The research described an innovative approach to studying police stress that attempts to overcome some of these limitations by using direct, real-time, and spatially anchored measurement of an officer's stress response (via heart rate) during shift work. A pilot study was conducted using a single officer to determine whether this methodology is feasible for future studies. The pilot study demonstrated that continuous heart rate measurement over the course of the test officer's shift was possible and that these data could be placed in space-time context for purposes of exploring potential stress "hot spots."

The first goal is to improve the measurement of police stress by focusing on the real-time measurement of physiological response (via heart rates) as well as linkage to the dispatch system. This approach will allow an assessment of stimulus (call dispatch) and response (elevated heart rate). The judicious use of observational ride-alongs would enable assessment of the extent to which the dispatch database can effectively serve as a proxy for observational ride-alongs, which are often deemed too obtrusive to employ on a large scale.

The second goal is to provide basic descriptive information about the physiological stress associated with police patrol. For example, what is the average physiological response to calls in the study area? Can we chart a typical "day in the life" of an officer using heart rates? What proportion of a shift is spent at resting heart rate? What proportion of a shift is spent in activity with elevated heart rates?

The third goal is to enable formal testing of research hypotheses, several of which are consistent with extant criminological theories such as general strain theory (e.g., Swatt et al., 2007). The following are examples of possible hypotheses: (a) higher priority calls for service will be followed by higher average stress response; (b) officers on the late shift (3rd watch) will exhibit higher average stress levels than officers on day shifts; (c) officers with greater trait anxiety will have greater stress response; (d) officers in one-officer cars will have higher average stress response than those in two-officer cars; and (e) officers with greater years of service will have lower stress response.

A final goal is to place the measurement of police stress in a space-time context. As the recording units' simultaneously record heart rate as well as latitude and longitude, the point data can be mapped using common mapping software and aggregated to areal units as desired for tests of spatial clustering. With careful sampling, it would be possible to generate valid "hot-spot" style maps, although such maps would depict average officer heart rates (in density terms) instead of crimes.

Garbarino S. et. al's (2011)[5], study explored the relationship between the work context (routine work or special event) of special policemen force, psychological measures of job strain (demand–control) and effort–reward imbalance. To collect the data they had administered occupational stress questionnaire surveys to 292 policemen in the Italian special police unit, 'VI Reparto Mobile' of Genoa, during routine activities and shortly before the G8 summit meeting in L'Aquila. Individual demographic and organizational data were obtained from administrative records

and paired with questionnaire data. In demographic variables they included age, educational level, marital status, presence of children, housing, origin, years of service and rank. Occupational stress was measured using two standardized questionnaires, the demand–control–support (DCS) questionnaire and the effort–reward imbalance (ERI) questionnaire. To analyse and study the data they checked bivariate relationships between all variables with chi-squared test, t-test, Wilcoxon-signed rank test and Spearman's Rho. With the help PASW/SPSS (17.0) software Logistic, regression analysis was used to determine the association between demographic variables and changes in stress metrics.

They found that for each subscale in the DCS and ERI models, stress scores among special police force were significantly lower just before the L'Aquila G8 meeting than during routine activities. Occupational stress in this special police force was not associated with an event that incurred risk to personal safety, nor from socio-demographic factors but from other ill-defined factors such as management style, workload, perceived fairness at work and physical and psychological conditions specific to each worker. The reason found for this was that an elite group of policemen who volunteered for a special force, passed a selection test and received specific training to withstand severe and prolonged stress. Special force policemen are willing to accept intense workloads and prolonged working hours that would be unacceptable to most workers and probably to other policemen. The authors had claimed that to their knowledge this was the first published study in which a police force was studied using DCS and ERI models simultaneously. The comparison of two models for the study of work stress provided useful insights for measuring and monitoring stress in different work circumstances. This study suggested an important difference in the two stress models used. The Karasek model (DCS), developed in the 1960s, appeared to be more suitable for the physical aspects of occupational stress, while Siegrist's model (ERI), designed for the tertiary society of the 1980s, more sensitive to stress resulting work relations and organizational factors. The limitation of the study is the special characteristics of population, limit the extent to which their findings could be generalized to other geographical areas or police

forces. Even self-completed questionnaires are subject to recall and information bias, mainly if participants' knowledge of the purpose of the study influence their responses. Many studies of police forces included office staff, traffic police or detectives with different work tasks. This study focused on a homogeneous group of subjects engaged exclusively in law enforcement.

Bano Bushara (2011)[6], had carried out research to identify causes of stress and also empirically investigate the socio-demographic factors affecting stress level among police personnel. Data were collected from 65 police personnel including officers at all levels in the district of Aligarh, Uttar Pradesh. Multistage random sampling method was used to select police personnel at all level. A structured questionnaire containing relevant questions related to stress and socio-demographic factors was administered to selected police personnel. The study found that the main cause of stress were political pressure, lack of time for family, non cooperation from public and negative public image and low salary. Along with these, large number of respondents referred other causes like lack of govt. support, work overload, frequent transfers, lack of departmental support, torture by senior officers and so on. The author had also studied stress as a dependent variable and the socio-demographic factors independent variables using binary logistic regression. The study also indicated that stress is significantly more prominent in those police personnel who are younger, more educated, posted in rural areas and less experienced. Research had put forward the fact that the respondents living with families, post (designation) and marital status of police personnel have no significant impact on stress level of police personnel. The author suggested that police department should regularly organise training programmes, counselling and yoga classes for stress. These findings supplement the existing body of knowledge and contributed to the understanding of the causes of stress and the role of socio-demographic factors in affecting stress level among police personnel.

Morash M. *et al* (2011)[7], concluded that most of the diverse group of women they studied saw fundamental female-male differences, but they did not agree on what

those differences were and they often qualified their perception of difference, noting tendencies instead of absolutes. Women did not just reproduce old stereotypes of femininity (or masculinity) but mixed what appeared to be individually selected characteristics, only some of which conformed to old sex stereotypes for men or women, in descriptions of themselves. Moreover, participants in their study devalued some of the characteristics they identified as common to men and valued those common to women. To protect and defend their sense of self, women recognized, individually or collectively resisted negative stereotyping and the creation of a sex divide by mentors and co-workers. The vast majority of women therefore accepted that women had some qualities traditionally associated with femininity at the same time that they valued and added to those qualities. The vast majority also recognized that their police work in some cases had nothing to do with gender or sex categories. Women did not either accept traditional gender stereotypes or revise them or note their lack of relevance to policing. The selection of the approach to gender depended on the context and the moment.

Because race, ethnicity, rank, and tenure in a department may influence women's identities, they had considered these variations in the analysis and noted them in the findings. The few race and ethnic group differences that they found cannot be generalized beyond the group and the location studied; and the small sample size of each group provided reason for future research to shed additional light on their findings. They could not explain or further clarify the finding that unlike other racial and ethnic groups, African American women rarely described female-related characteristics that enhanced their job performance. Rank and years on the force did not explain this finding, and a careful review of the data did not suggest an alternative explanation. A tendency to emphasize traditional sex and gender differences could account for women's lower rank, if such tendencies lead others to view women as unable to handle higher rank assignments. Alternatively, women might not see their own capabilities to successfully accomplish higher ranking jobs or to manage such jobs with the demands of being a wife and mother in addition to being an officer. Another possibility was that once women moved up in the rank,

they become more aware of their multifaceted characteristics and capabilities. This may explain why higher ranking women more often described women's greater abilities as communicators with citizens and co-workers and their greater intelligence and compassion on the job.

Research on the gendered police organization, which might be experienced differently by varying subgroups of women, could point to changes needed so that women do not need to defend identities that include job performance-enhancing qualities, such as compassion, alternative standpoints, and communication skills.

Dick P. M. Gavin, (2011)[8]: The results of their study had shown that organizational commitment was significantly influenced by the way police force's employees were managed rather than by job demands, and that had ramifications for personnel and management systems. Clearly the importance of good management and a supportive organizational climate for organizational commitment was shown by the findings, and that indicated the importance of the current Police Leadership Development Board's agenda to improve workforce management skills to encourage transformational leadership styles.

They concluded their findings, strongly supporting the proposition that having the opportunity to participate in decisions, the feeling that you have the support of your superiors, good communication on job performance and the needs of the role, all have a strong impact on organizational commitment, and do so at all the levels of hierarchy. The results reveal that although there are a range of commitment levels, there are only a small proportion of officers who are highly committed. The analysis highlights the importance of re-evaluating and strengthening support for HRM systems in such a way that the signals sent by senior officers and their policies are legitimate and credible. Specifically it was suggested that management development is required to change management practices and behaviours so that they nurture organizational commitment behaviours.

Lino *et al* (2011)[9]: The findings of this study stated the association between violence and psychological distress and its potential pathway. Violence in the form of physically violent acts was mediated by concern about future violence. Strong independent association was found between threats by a deadly weapon and distress. The strengths of the present study were firstly that the study sample was randomized from a representative sample of police officers and from a randomized sample of the two largest security guard companies in Finland. Secondly, the cases of distress were based on a version of the most widely used instrument in the epidemiological studies, the General Health Questionnaire (GHQ) 12 scale. The third strength was that the method of first conducting the interviews and then formulating the questionnaire proved to be successful because the interviews provided important information regarding typical physically violent acts and threats or assaults with a deadly weapon that citizens in Finnish society direct towards police officers and security guards. However, the accuracy of questionnaires should be further developed and they should be studied more deeply, using in-depth interviews and case studies.

The study had some limitations. Firstly, because the study was cross-sectional, they were not able to interpret the temporal order between variables. Exposure to violence might lead to distress symptoms but likewise, the more distressed could also become exposed to violence; thus, the association between distress and violence may be bidirectional. Secondly, all their measures were based on self-reports, thus causing concern regarding common method bias. Thirdly, the security guards' response rate was quite low (52%) and thus, the results cannot be generalized for other security guards in Finland. Unfortunately, they were not able to do any attrition analysis because no information about non-respondents was available.

Physically violent acts, such as struggling to get free, wrestling or hitting and kicking, were related to distress only to the extent they were associated with personal worry about future violence, while threats or assaults with deadly weapon, such as a threat or real assault with a striking weapon, knife or firearm, had an independent

association with distress. The mediation in the study is complete because experiences of physically violent acts no longer affect distress after personal worry of future violence have been entered into the model. Thus, it seems that the personal worry about future violence is the mechanism that explains the earlier experienced physically violent acts and current distress association.

The result that threats or assaults with a deadly weapon were independently associated with distress and were not fully explained by personal worry of future violence may be explained by the fact that these encounters are much more severe and may have stronger and long-lasting stress and mental health effects.

Arial M. *et al*'s (2010)[10], objective of research was to identify work related stressors that are associated with psychiatric symptoms in a Swiss sample of policemen and to develop a model for identifying officers at risk for developing mental health problems. The research study design was cross sectional. A total of 354 male police officers answered a questionnaire assessing a wide spectrum of work related stressors. Psychiatric symptoms were assessed using the "TST questionnaire" (Langner in J Health Hum Behav 4, 269–276, 1962). Logistic regression with backward procedure was used to identify a set of variables collectively associated with high scores for psychiatric symptoms. The study showed that many operational and organizational stressors are associated with symptoms of mental health problems in police officers. Prevention should target tasks with high mental and intellectual demand, problems related to inadequate work schedule, lack of support from the supervisor or the organization, and self perception of bad quality work. These stressors are characterized by an important association with symptoms, and have a good potential for transformation. For example, measures to improve the quality of support from supervisors might include management and leadership courses. Organizational measures fostering appraisal and recognition of work well done could contribute to compensate for the self perception of doing bad quality work as expressed by some police officers. The implementation of flexible working schedules could also contribute to reduce stress due to constraining working time.

These measures appear promising in reducing symptoms of mental health problems in police officers. Complaints by police officers about stressors they face in their work should receive proper consideration by the management of public administration. Such complaints might be the expression of psychiatric caseness requiring medical assistance. Particular attention should be given to police officers complaining about many stressors identified in this study's multiple model. Prevention at an individual level should aim at identifying officers combining many of these stressors and clinical assistance should be offered to them.

Louw J. Gerrit & Viviers A. (2010)[11]: The results of this study are not unusual, when one looks at other studies (e.g. Milsap, 2002) – especially when considering the number of observed and latent variables involved. However, this study contributes to an understanding of the stress and coping process in the context of police force that is probably over-simplified in the Moos model. For example, this research revealed that social resources influence well-being independently, instead of collectively, with environmental stressors, as suggested in the Moos postulate. Similarly, personality influences the wellbeing independently, instead of a mediating variable, as suggested in the Moos model. When considering the practical implications unveiled in the study, some conclusions and recommendations can be made in support of the research. It can be concluded that police officers indeed experience negative effects from prolonged stressors relevant to the work environment. Such stressors consequently may inflict permanent negative health consequences. The re specified model confirms that some officers experience burnout, but, paradoxically, others continue unaffected as a result of some resilient factors not revealed in this study. Finally, it can be assumed that police officers do not operate in isolation and therefore require social support systems within organizations, as well as in a social context to reduce the effects of stress outcomes.

A few recommendations emanate from this study to improve police officers' health. Firstly, the embracing of support systems within a police context would create a healthier police corps to serve the community in a more, effective manner. Police

management should be aware of the negative health consequences of prolonged stressors and react proactively. Job redesign is one technique to reduce negative effects of burnouts. (Shirom, 2003b).

Secondly, transformational leaders should be identified to manage work teams or groups with high stress potential. Such a style embraces vigor indirectly by means of idealized influence, inspirational motivation, intellectual stimulation and individualized consideration (Avolio, 1999; Shirom, 2003a). For example, individualized consideration encourages employees into a higher level of perceived social support, while inspirational motivation is likely to enhance followers' self-efficacy and intellectual stimulation.

Thirdly, another possible option is to improve individuals' learned resourcefulness. According to Akgun (2004), learned resourcefulness is a cognitive skill that can be acquired; it increases one's perceived self-efficacy in control of emotional responses, the application of problem-solving strategies and the delay of immediate gratification. For future research, it is recommended that both path models be evaluated with different and larger samples. Even longitudinal designs should be considered in the investigation of causality.

In addition, a modification of some of the measures could be considered. For example, passive coping as a subscale can be included in the Brief COPE instrument to assess its prevalence in burnout samples. Such a limitation creates an opportunity for South African researchers to adapt the instruments, which were predominantly used internationally, to local conditions. Alternatively, the existing measures could be replaced with new ones.

The limitations experienced by the authors,' that the instruments were originally developed in the English language has proven to be a limitation of the study. The English literacy under local conditions is under suspicion and may have limited the value of the study. The cross-sectional nature of the design made it difficult to prove

causal relationships. Another limitation was the exclusive employment of self-report measures, a strategy often associated with method variance. The sample size further limited the research results in such a way that results could not be generally applied to all police officers in South Africa.

Mathew *et al* (2010)[12]: Their study applied the job demands resources and conservation of resources models to police work, with the specific aim to examine the possible interaction between objectively measured work demands (community socio-economic status (SES)) and personal resources (role identification) on stress-related outcomes. A total of 89 officers from 10 small, suburban police departments (five from high SES areas and five from low SES areas) completed the surveys that focused on community SES demands and role identification as factors that potentially influence positive and negative psychological outcomes. Results indicated that community (SES) demands and role identification interacted to predict a variety of outcomes. Role identification as a psychological resource served to reduce the effects of high community SES demands on emotional exhaustion. Implications of these results for future police research were also discussed.

The current article attempted to expand our conceptualization of the Job Description Resources (JD-R) model, by incorporating the role of objective demands and internal personal resources. The results identified in this study led to several conclusions.

First, officers with low community SES demands tended to report less emotional exhaustion than do officers with high community SES demands. Second, the results revealed that when community SES demands are high, emotional exhaustion is significantly greater when officers identify their work role as a job, rather than as a career or calling. Third, across all participants, role identification played an important role in predicting both positive and negative psychological outcomes. Overall, the current study has suggested a line of future research involving police officers by incorporating the role of COR theory. Though many questions remain unanswered, we expect that future research will provide more in-depth explorations

of how role identification plays a role in the way officers respond to job stressors.

Though this study provides preliminary support for the importance of role identification, future research should replicate these effects using larger samples across a wide variety of regions. We explored the potential of role identification in police research, but there are still many issues that need to be addressed. First, it is possible that role identification has reciprocal causation with the outcomes measured in the current study, that is, increasing involvement or commitment may help officers to identify more with their role. Additionally, incorporating measures of personality and individual differences that tend to affect stress resiliency may help to shed some light on how role identification relates to specific outcomes. More research is needed to fully understand the ways in which role identification influences and is influenced by personality, stress, involvement, commitment, and other variables. In addition, this study focused on small, suburban police departments. The sample size was relatively small, so that some of the effects that trended toward significance did not reach significance. The response rate was also relatively low because the study was not conducted as a part of a specific initiative within the departments.

Juniper B. et al (2010)[13], in their study identified nine dimensions of police well-being that extended beyond conventional stress measures currently available. For the first time, a sophisticated clinical framework used to evaluate the well-being of patients was applied to a police force that offered new practical insights on how working for the police may impair overall well-being. Uniquely, the status of civilian staff was also taken into consideration. A possible study limitation relates to how generalizable the findings are to other police force populations. At the time of the research, the participant force was undergoing significant organizational change; the uncertainty for respondents arising from this situation may have influenced unduly the make-up of the final items.

Unlike existing police stress scales, the variables were determined using both frequency and severity data drawn from a sizeable sample of 822 of which 45% held police officer positions. The data suggested that the majority of work related well being (WRWB) issues were experienced by all sections of the police that had practical implications for those tasked with shaping and delivering workplace interventions to improve health and performance across the whole force.

In terms of measurement properties, content validity was confirmed and internal reliability was satisfactory. Future research will test the reproducibility and construct validity of the instrument. How the findings link to performance measures such as sickness absence will also need to be verified. This study proffered a potentially new approach to evaluating the well-being of all those working in law enforcement. Its nine dimensions extend beyond conventional stress measures and may offer a practical alternative way of assessing the overall well-being status of an entire force, using a systematic framework that is comprehensive in its reach and closely aligned to the needs of the overall force.

Hall B. Garry et al (2010)[14], concluded that despite growing research on the important impacts of job demands in the work–family interface, there is a lack of coherent theory to explain the seemingly contradictory propositions that job demands lead to both WFC! Using conservation of resource theory and specifically personal resource theory (Hobfoll, 2001; 2002), JD–R theory (Bakker & Demerouti, 2007); effort–recovery theory (Meijman & Mulder, 1998), and loss spiral theory (Hobfoll, 2001) they proposed a comprehensive process whereby job demands simultaneously lead to WFC and emotional exhaustion in police officers (see also Demerouti et al., 2004). They utilised SEM to assess causal mediated, reverse causal mediated, and simultaneous reciprocal mediated pathways between job demands, WFC, and emotional exhaustion in a longitudinal study of Australian frontline police officers. Supporting Hypotheses 1 and 2, the results of this study confirm the literature that reports WFC as a mediator between job demands and other strain related factors (e.g. Edwards & Rothbard, 2000; Grant-Vallone & Donaldson, 2001; Greenhaus et al., 2001;

Peeters, Montgomery, Bakker, & Schaufeli, 2005). The results also support the alternative reports of previous studies that found reverse mediating effects of emotional exhaustion between job demands and WFC (e.g. Thompson et al., 2005; Westman, Etzion, & Gortlier, 2007).

Other literature has also stressed the importance of reciprocal effects, and this study has shown with the use of longitudinal data the power of reciprocal mediating effects between job demands, WFC, and emotional exhaustion (e.g. Demerouti, et al., 2004; Ford et al., 2007; Frese et al., 2007). In accordance with Demerouti et al. (2004) theoretically this means that WFC and emotional exhaustion are best explained by a complementary theory indicating reciprocal directions and cross-links between seemingly contradictory pathways, explained through a loss spiral. Rather than concluding one theory proposing stressor strain directions only, implications of this study suggest future research should address the importance of reciprocal mediated relationships extending the traditional stressor strain paradigm to include a stressor strain stressor paradigm in order to examine job demand spill over effects more comprehensively.

Some limitations of their study should be noted. The data were collected using self report questionnaires, which can lead to common-method effects (e.g. Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), although longitudinal assessments are expected to offset this limitation. They also used a more comprehensive measure of WFC at Time 2. Relationships with WFC within time may have increased in size due to the domain coverage of the measures. Also, it is likely that the stability of the measure was reduced. This would have the effect of enabling stronger relationships with WFC at Time 2 in the study model, because less variance is accounted for by WFC T1. However, we do not think this had an impact on the overall conclusion as the best fitting model was the simultaneous reciprocal effects model. Although the sample was not representative by rank of sergeant and senior constable, overall we do not believe this would effect the relational conclusions drawn in this study. Practical implications are that increased job demands not only spill over to WFC, preventing

recovery and influencing emotional exhaustion, but that the strain of emotional exhaustion can also build-up at work influencing a potential loss spiral of spill over to home life contributing to WFC. Specifically, for police, more work needs to be done to prevent spill over from job demands, emotional exhaustion and WFC within the work–family interface in order to stem the high rates of marital discord and divorce (Howard et al., 2004). JD–R theory proposes that adequate resources, job related support, and job control could reduce the experience of job demands in the first instance. The addition of resources in the comprehensive model as proposed would be a fruitful line of enquiry of significant practical importance.

Chopko A. Brian, (2010)[15]: The purpose of this study was to investigate the relationship between posttraumatic distress and posttraumatic growth in a sample of police officers. The research question posed was: To what extent is current amount of posttraumatic distress associated with perceived posttraumatic growth among law enforcement officers? All data collection was anonymous and no identifying information was requested to protect the confidentiality of respondents. Demographic questionnaire was used to gather information related to age, gender, race, years of education, years in law enforcement, current rank, job assignment, current relationship status, and month and year of the most recent work-related traumatic event. Posttraumatic Growth Inventory (PTGI), 21-item survey designed was used to assess positive outcomes in the aftermath of traumatic stress and the respondents were asked to response on a 6-point Likert-type scale. To measure subjective distress, Impact of Events Scale-Revised (IES-R), 22-item survey designed was used following a traumatic event and respondents were asked to Respondents. They were asked to rate each item on a scale of 0 (not at all), 1 (a little bit), 2 (moderately), 3 (quite a bit), and 4 (extremely) according to the level experienced in the past seven days. Sample size of this study was 183 police officers, drawn from city police departments across a Midwestern state, out of which 170 (92.9%) were male and 13 (7.1%) female. Their age ranged from 23 to 67. Self-identified race of participants were 153 (83.6%) European Americans, 24 (13.1%) African Americans, 2 (1.1%) Asian Americans, 2 (1.1%) Native Americans and 1 (.5%) identified as other.

Years of education ranged from 12 to 20 and current relationships, 127 (69.4%) were married, 11 (6.0%) were separated, 16 (8.7%) were divorced, 19 (10.4%) were single, and 10 (5.5%) were involved in a committed relationship. Law enforcement experience ranged from 1 year to 40 years and ranks were 147 (80.3%) patrol officers, 16 (8.7%) sergeants, 7 (3.8%) lieutenants, 3 (1.6%) captains, and 10 (5.5%) detectives. Of these 163 (89.1%) were on patrol duty and there were 4 (2.2%) homicide detectives, 2 (1.1%) vice detectives, 1 (0.5) SWAT officer, and 13 (7.1%) general detectives.

Initially descriptive statistics (means and standard deviations) were obtained for all variables and Pearson correlations were obtained for the dependent and independent variables. To assess the relationship between Posttraumatic growths (PTG) and type of trauma, a standard multiple regression analysis was conducted. Total amount of posttraumatic distress (IES-R total score) and amount of posttraumatic growth (the PTGI full-scale score) was examined where significant and positive relationship was found ($r = .267$, $p < .01$). As a result of this finding, the relation between the PTGI subscale scores and the IES-R full scale was studied. Pearson correlation matrix showed that the total posttraumatic distress rating was significantly related to all of the PTGI subscale scores. To determine how the type of traumatic event might be related to PTG, the relationship between the total distress score and all PTGI subscale scores warranted further examination and an exploratory multiple regression analysis was conducted. The author found that the beta weights in the regression model revealed only one predictor variable significantly contributed to the model that is the number of times one was involved in duty-related shooting.

The limitation of present research study were that it did not support the absence of consistent relations among PTG and posttraumatic distress, the correlational nature of the study lacks the ability to identify causal mechanisms, the use of a convenience sample and the author believed that differences might exist between the officers examined in this study and those in other areas of the country. The sample was delimited to active-duty "frontline" police officers and police supervisors because

they are more likely to have experienced work-related traumatic events than officers not working primarily in the field.

Gershon et al (2009)[16], in their study estimated the effects of perceived work stress in police officers and determines the impact of coping on both perceived work stress and health. Officers from a large, urban police department (N = 1,072) completed detailed questionnaires. Exposure to critical incidents, workplace discrimination, lack of cooperation among coworkers, and job dissatisfaction correlated significantly with perceived work stress. Work stress was significantly associated with adverse outcomes, including depression and intimate partner abuse. Officers who relied on negative or avoidant coping mechanisms reported both higher levels of perceived work stress and adverse health outcomes. The results have implications for improving stress-reducing efforts among police officers. The interventions that address modifiable stressors and promote effective coping and resiliency will probably be most beneficial in minimizing police stress and associated outcomes.

Employers in general are increasingly aware of the need quality for work-life for their workforce to stay competitive and productive and to retain workers in an increasingly restricted and aging labor market. Consequently, programs on conflict resolution and workplace wellness are more prevalent, especially in some of the high-risk industries and workforces (Stokols, 1991). Similarly, it may be advisable for police departments to continue to find opportunities to improve the work environment of officers and to find new and effective mechanisms for addressing stressors in policing. Progressive police departments favor this approach and actively implement innovative strategies (e.g., providing peer counselors, encouraging officers and couples to enter confidential counseling, making structural administrative changes, adding diversity programs, changing hiring and training practices, adding critical incident management programs, etc.) to help minimize the risk of work stress among police officers. The present study's results underscore the need to re-examine police training of recruits at the police academy, to ensure they get the training necessary to meet the daily challenges and demands of police work.

As with all cross-sectional studies, this study has potential limitations related to the design that preclude the determination of causality. This investigation, however, provides the basis for more definitive studies in the future. In addition, because law enforcement personnel from only one police department were sampled, these results may not be generalizable to all police forces, especially those in non-urban settings. Nevertheless, the problems that the officers faced in this department are unlikely to be particularly different from other large, urban departments, and strategies that address police stress may be helpful to other departments similar in size and report rates. Furthermore, this study expands previous work by generating information on urban-based law enforcement personnel in two important ways. First, data were collected from officers from all ranks so that comparison of job category and rank could be made. Second, analyses were directed at determinants using relative rather than absolute measures, thereby enhancing generalizations of observed associations. Another limitation is related to potential response bias. Fortunately, the present study had a strong response rate, and the demographics of the respondents were similar to the demographic profile of the department as a whole. There may also be biases resulting from self-reports. As officers were asked to respond to sensitive questions e.g., alcohol use, spousal abuse, etc., they might not be forthcoming or accurate in their responses. This is always a concern with sensitive items on non-normative behaviors, as respondents may give socially desirable responses. The anonymous nature of the study, the strong support of the police officers union, and the efforts that authors have made to introduce the study and build trust might have mitigated this problem to some extent. In addition, checks of the internal validity of responses showed that this problem was probably minimal. Recall bias should not be a serious problem because respondents were asked to recall events that occurred within the previous 6 months.

An additional potential limitation is the effect of survival bias on the results. Officers who resigned, retired, were out on sick leave, or were deceased because of their experiences with stress, were not represented in the sample. These results may under

represent these "exposed" workers and lead to inaccurate rates and underestimations of the strength of association between stress and stress outcomes. This problem is admittedly difficult to control in a study of this nature. This type of bias, however, might actually have resulted in underestimations of the true magnitude of the association; fortunately, the general response rate was extremely high. Finally, another potential limitation of the study was the length of the questionnaire. Although most officers completed the 132-item questionnaire in less than 30 minutes, admittedly this could have resulted in less than thoughtful responses and possible acquiescence. There is always a competing interest in survey research in including all the key variables yet not overburdening the respondent.

Belur J., (2009)[17], in his study concluded that the police use of deadly force in Mumbai has been widely accepted, without question, as the correct and effective response to controlling increased organized crime. However, encounters that were once prized and acknowledged as individual and organizational achievements (during the period under study, 1993–2003) are now, gradually, being questioned; are they employed as a last resort to control crime or are other motives, like corruption and self-interest/aggrandizement, dominating? Since this change of attitude towards police violence has occurred in the recent past, it is difficult to ascertain the precise reasons for the change, especially since no particular incident can be identified as having provoked it. Factors such as increasing public awareness of human rights issues as a result of greater activism on the part of Human Rights Commissions and the Courts, changing political equations, conclusion of trials in older cases of encounters that ended in conviction of a few police officers, more awareness on the part of the media and change in police leadership might have been responsible for the change.

The research suggests that, for a number of years, police encounters in Mumbai were unquestioned and the police operated in an atmosphere lacking rigorous accountability to either the rule of law or the public. The justifications put forward by police officers for the use of deadly force to control organized crime at a time when it

was rampant, might well be grounded in the perceived necessity provoked by the prevailing circumstances in the city. However, nowadays, the wider structural, organizational, socio-cultural and individual factors that facilitate the use of deadly force present real challenges for the Mumbai police and need to be addressed if there is to be effective control on encounters.

Penalba V *et al* (2010)[18]: The main results of their study stated that ten studies were included in the review but only five reported data was used. Three of the ten studies were related to exercise based psychological interventions. Seven were related to psychological interventions. No meta-analyses was possible due to diversity of participants, interventions and outcomes. Two studies compared a psychosocial intervention versus another intervention. Three studies compared a psychosocial intervention to a control group. Only one primary prevention trial reported data for the primary outcomes and, although this study found a significant difference in depression in favour of the intervention at endpoint, this difference was no longer evident at 18 months. No studies of primary prevention comparing different interventions and reporting primary outcomes of interest were identified. The methodological quality of the included studies was summarised. No study met our full quality criteria and one was regarded as low-quality. The remainder could not be rated because of incomplete data in the published reports and inadequate responses from the respondents.

They had concluded that there was evidence only from individual small and low quality trials with minimal data suggesting that police officers benefit from psychosocial interventions, in terms of physical symptoms and psychological symptoms such as anxiety, depression, sleep problems, cynicism, anger, PTSD, marital problems and distress. No data on adverse effects were available. Meta-analyses of the available data was not possible. Further, well-designed trials of psychosocial interventions are required. Research is needed on organization-based interventions to enhance psychological health among police officers.

Atkinson P. Michael *et al* (2009)[19], provided an integrative modelling approach that links rates of PTSD to troop deployment patterns and combat exposure during deployments. The incorporation of a time delay into the model revealed that raw survey data of active service members during OIF was likely to significantly underestimate the number of PTSD cases ultimately generated. The model and analysis provided a starting point for further refinement of both the model and the parameter values as new data become available. Although it was tempting to employ the model to predict PTSD rates for various types of deployment schedules (e.g., frequent 6-month deployments versus infrequent 12-month deployments), they believed that it was premature.

Their model had focused on the impact of two interrelated factors: combat exposure and deployment schedule. The deployment cycle had impacted PTSD prevalence in their model in two ways, by allowing for combat exposure during deployment and partial recuperation in between deployments. Their analysis had not provided a reliable estimate for the recuperation rate because values at the two extremes of 0 and 1 are obtained, depending on the choice of the dose-response function and the value of the median time lag until symptom onset. Even their analysis was unable to shed any light on the nature of the dose-response relationship.

Hassell D. Kimberly et al's (2009)[20], study showed that they had asked three research questions. First, they asked whether different groups of officers (considering race, sex, and sexual orientation) have similar workplace experiences. The study clearly showed that different subgroups of officers had different experiences within the police department. Generally, those officers who had the greatest representation in the organization (White, male, heterosexual) had the most favorable workplace experiences; while those individuals who had the least representation (minority, female, gay/bisexual) had the least favorable workplace experiences. The study also showed that most subgroups of officers shared many of the same concerns/problems (i.e., lack of support/influence/feedback); although, the problems experienced by members are group specific.

More specifically, their analyses indicated that with regard to workplace experiences, being female and being a racial/ethnic minority brings with it substantially (but not uniformly) different experiences the job compared to male and White officers. Black females experience a greater number of workplace problems compared to all other race/sex combinations. Black males and Latino females also experience more workplace problems than White males, Latino males, and White females. The most common workplace problem experienced by officers was lack of support/ influence. The least common workplace problem was sexually offensive behavior; this pattern holds for both male and female officers. This finding is interesting as most research on workplace experiences of female officers suggests that sexual harassment and/or sexually offensive behavior on the job are widespread problems.

Second, they asked whether officers differ in terms of their reported workplace stress. Again, their data indicated that both race and sex, separately and in interaction, are important considerations in understanding these relationships. In particular, Black female officers experience the greatest amount of stress but all race/sex combinations experience greater levels of stress than White male and female officers, and Latino male officers.

Finally, they asked whether officers' characteristics and/or workplace experiences influence officer stress. Officers of varying races/ethnicities, sexes, and sexual orientations do not have greater levels of stress based solely on their ascribed characteristics. On the other hand, their findings confirmed previous research that workplace climate has an effect on workplace stress (Morash & Haarr, 1995).

In other words, although race, sex, and sexual orientation do not directly influence stress, they do so indirectly. Nearly all the dimensions of workplace climate considered here were related to workplace stress, which clearly highlight the importance of the immediate working environment in dealing with stress. Police managers can change the workplace climate through management, supervision,

training, and mentoring. Clear policy statements, proper supervision, well controlled investigations, and a just use of sanctions will assist in this regard. Through training and reinforcement, police managers must communicate to officers that negative workplace experiences are not necessarily the equivalent of hurt feelings. In the written comments provided on the questionnaire, several officers made reference to hurt feelings being part of the job.

Agolla E. J. (2009)[21]: The purpose of this study was to find out the general level of stress symptoms among the police officers, reaction to stressors and sources of police stress in the work place. This study was conducted at Botswana police service with the station commanders of the 10 police stations around Gaborone, the capital city of Botswana during April-to-June, 2008. The study adopted stratified random sampling techniques to carry out this survey. The samples were taken from the station commanders, sub inspectors, sergeants and general staff (constables). The study covered different units of the police departments such as Special Support Group (SSG), Criminal Investigation Department (CID) and Traffic. For the study author initially targeted a sample of 500 police officers, but the duly completed and returned questionnaires numbered 229 (response rate of 46%) out of the total respondents who participated in this study. Sample size of study was n = 229, of these male (N = 163) and female officers (N = 66). The questionnaire was developed from the one earlier used by McCarty et at. (2007). It was divided into 5 parts; demographic (age, rank, length of service, gender and department), external work environment consisted of 15 items measured on 5 point Likert scale ranging from 5 (highly agreed) to 1 (highly disagreed), internal work environment consisted of 20 items, coping mechanism consisted of 6 items all measured on 5 point Likert scale and symptoms consisted of 14 items, scored as (Often, Sometimes and Never). The questionnaires were left with the officers so that they could complete them at an appropriate time.

The data was analysed using Statistical Package for Social Science (SPSS) version 15.0. The total 32 variables were loaded into SPSS for the analysis using descriptive statistics and frequency tables. The finding showed that the job of policing was

highly stressful and level of police stress was high. The highest rated symptoms were: feeling lack of energy (M = 4.66; SD = 4.05); loss of personal enjoyment (M = 3.88; SD = 4.02); increase in appetite (M = 3.77; SD = 4.00); feeling depressed (M = 3.74; SD = 4.74); trouble in concentrating (M = 3.71; SD = 4.74); feeling restlessness (M = 3.65; SD = 4.75); people at home make feel anxious (M = 3.33; SD = 3.05); feeling tense, experience pain at neck or back (M = 3.26; SD = 3.07); feeling tension, anxiety, nervous and indigestion (M = 2.82; SD = 3.07). The study also reported that not only the individual officers deny their risk factors, but departments also ignore the problem. On the question regarding worries, the officers' concerns at night was rated high (M = 2.78; SD =3.07). The officers disagreed with the statements like taking over the counter medication, experience high blood pressure, feeling lack of confidence and eat, drink alcohol and/or smoke. Though the officers indicated that they had never experienced high blood pressure, still this could not be proved easily because it required taking of blood pressure test before one came to any authoritative conclusion. The symptoms had indicated clearly that the officers were experiencing high stressful work environments which required urgent response and counter measures from the management. The collated responses of the participants indicated that lack of superior interest on subordinate job was rated 61 % of the officers, unfair treatment by superiors was rated 67%, irregular work hours was rated 68% of the respondents who agreed with the statement that irregular work hours is a stressor. With regard to problem at home 60% of the officers agreed that it is stress, 70% of the agreed that negative public opinion of the police service is stress, 83% of the officers agreed with statement that, work overload is highly stressful. Officers had also rated inadequate resources as stressful, indicated by 83% of the officers who supported this statement. Low salary was rated 80 by the respondents, who agreed with the statement that it causes stress. The officers had rated highly that getting injured while on duty as their source stress, it was rated 90% by the officers and insufficient personnel was rated 65% by the officers. Officers had rated rigid authoritarian system at 51% and excessive supervision and criticisms by their supervisor 56%. The result of reaction to stress by the officers clearly showed that officers were following the right coping strategies to reduce the negative effects of work stressors. The

coping strategies adopted by the police officers were found to be consistent with the coping mechanisms in general stress. Author in study 35 stressors were explored and the result of the findings revealed high rating, out of that 35 stressors, for 32 stressors by the participants.

The limitations of the study were that the study on stress among police officers was done in a developing country, it was a survey type and the sample size was only confined to Gaborone and its surrounding areas. The geographical coverage was limited therefore its application to other parts of the world may not be possible without conducting a similar study to validate these findings.

Nickels L. Ernest and Verma A., (2008)[22]: Their findings suggest several points of convergence on the structural dimensions of attitudinal thought in the samples examined here. Exploratory factor analysis can only transform data, not test hypotheses. Where the identified constructs may withstand confirmatory analysis is an open question. However, as an instrument of discovery (Baird, 1987), such techniques can provide inductive direction in developing these hypotheses – and are all the more valuable precisely when theoretical direction is lacking. Of the 23 initial factors included in this analysis, 14 could be replicated and sufficiently validated in all three nations. This suggests fertile grounds for the development of constructs neutral to national setting, which may then provide an empirical basis for crafting attitudinal scales intended for use in comparative research. Equally important is the fact that the remaining nine of these initial factors could not be replicated. This suggests research does need to take care in considering the contextual relevance of concepts they bring to bear on the interpretation of attitudinal measures, as they may not meaningfully correspond to the empirical reality of a given locality.

With respect to attitudinal valence, analysis of variance on factor scores failed to uncover significant effects for the nation in half of the constructs that were universal to the three samples. On the nine factors that were dropped from consideration in the

three-nation analyses, six were found to be congruent between at least two nations; of these, two (in the Canada/Japan comparisons) likewise demonstrated no significant national differences in attitude. Even where nation was found to significantly matter, it was not always the most important source of variation; tighter control of differences in the demographic and occupational characteristics of the samples (either statistically or in sampling protocols) might tend to undercut the effects of context further.

In examining where national differences tend to manifest in attitudinal construct and valence, a pattern seems to emerge. In terms of the four groupings of inventories outlined above, it appears that agreement tends to be found across national samples in the second and third sets – that is, in how officers regard their organizational and social environment. Where consensus breaks down, it would appear to be on the "big questions" of the appropriate means and ends of a police in society and the highly personal questions of accounting for one's private motivations and aspirations. If these groups are thought of as hierarchical arrangement, it is perhaps in the realms of the greatest abstraction and the most immediate awareness that variability in the broader societal context gains the maximum salience.

Bridger S. R. *et al* (2008)[23], had taken a sample size of 4949 NS personnel, 407 of whom could not be contacted, resulting in a total of 4542 questionnaires which were sent to the personnel. The response rate was 57% (2596 returns). Exposure to stressors was measured using a five-point Likert scale—a score of 5 indicated a negative affective response to the item and a score of 1 the opposite. A score of 3 indicated neutral. They found that the strain rate in females was significantly higher than the strain rate in males. The mood of naval personnel was positive, with commitment to service, support from leaders and peers and a degree of autonomy and control in their work. Work–family conflict and lack of resources were rated negatively, as was the balance between effort and reward. There was a high level of over commitment to task or role. The main predictors of psychological strain were over commitment to work role and under-commitment to the naval service (NS).

The strength of the study was the sample size which was large and the previous surveys with high response rates had enabled norms to be established for many of the variables. The main weakness of the study was the response rate of 57% and the particularly low response rate of younger males. Comparing the present data with that of previous surveys with much higher response rates, they appeared to be no systematic bias due to low response. A probable explanation for the declining response rate was increased operational tempo. It means the rapid rotation of personnel through different deployments was rendered as contact addresses obsolete.

The study found that naval population were overcommitted people, had difficulty disengaging from work. They found that the DCS model offered an incomplete description of stress in the NS. Stress would be managed more effectively by focusing on commitment and intrinsic effort. Those most susceptible to strain would be relatively uncommitted to the NS as an organization while having a high level of commitment to their work and low mood. The ERI model provided a better description of acute strain in naval personnel than the DCS model. Generic models of job strain had limited applicability to specialized occupations, which might require their own explanatory models if psychological strain at work is to be managed effectively. The research provided evidence for both the demand control and ERI models—components of these models contributed independently to strain. High levels of commitment to the organization were associated with lower strain and exposure to SLEs to higher strain.

Pienaar J. et al (2007)[24], concluded that the South African Police Services (SAPS) had a high level of suicides. Suicide ideation was known to be an important precursor of attempted suicides. The present study set out to determine whether suicide ideation in the SAPS was related to occupational stress, coping strategies, and personality traits. The results showed that police officers at risk for developing suicide ideation had lower levels of approach coping, turning to religion, emotional stability, and

conscientiousness and higher levels of avoidance coping. Job demands were higher in the high suicide ideation group than in the low suicide ideation group (the effect size was –.28). However, when job demands were included with personality traits and coping strategies in the logistic regression analysis, these did not predict suicide ideation. So it appears that the differences in experienced job demands of the high and low suicide ideation groups can be accounted for by personality traits and coping strategies. It is possible that the other job stress sources (lack of resources and crime-related stressors) did not vary enough in the current sample to really matter. In a cross-cultural study in which job stress sources show much variation, they would have more impact. On the other hand, it is also possible that personality and coping mediate the influence of job features on suicide ideation.

Suicide ideation was negatively related to approach coping strategies and turning to religion. Police officers who actively engage and confront the stresses they experience and find meaning for events within a religious framework thus actively combat the effects of negative work experiences and their "translation" into suicide ideation. The positive relation between suicide ideation and avoidance coping indicates that disengaging from negative work events by cognitively or behaviourally avoiding the events, coupled with the sources of stress presented in the policing context, predisposes the officer to suicide ideation. Previous research (Horesh et al., 1996) has demonstrated that suicide risk could be predicted by coping strategies. Denying problems, while becoming exhausted and constantly being confronted with organizational stress, may deplete individual resources. The results of the logistic regression analysis indicate that suicide ideation is best predicted by three coping strategies (i.e., low approach coping, high avoidance coping, and low turning to religion) and two personality dimensions (i.e., low emotional stability and low conscientiousness). These findings suggest that police officers who did not use approach coping strategies and religion and who tended to avoid stressful situations were more inclined to think about suicide, especially if their levels of conscientiousness and emotional stability were also low. Coupled with a breakdown in approach coping strategies and lack of turning to religion, as well as low emotional

stability and low conscientiousness (which indicate a breakdown in control), they tend to think about suicide. Stokols (2003) points out that confinement to degraded and impoverished environments for extended periods may foster helplessness and despair. Many police officers were affected by the degraded environment created by Apartheid in South Africa.

Furthermore, considering challenges (e.g., a high crime rate and the need to transform the SAPS from a "force" to a "service"), which the organization has to manage with limited resources, the environment in which many police officers live and work might contribute to helplessness and despair. Police officers with low ranks and poor qualifications are especially likely to be confined to an impoverished environment and lack alternative employment and advancement opportunities (Pienaar & Rothmann, 2003b). Pienaar and Rothmann (2005) found that police officers with lower ranks and qualifications (compared with those who have higher ranks and qualifications) were more inclined to suicide ideation. These officers are often burdened with the operational level of policing, where they are exposed to scenes of violence and crime.

Furthermore, the SAPS is conflict prone not only because of organizational transformation but also because of the inherent nature of the tasks of police officers in a high-crime environment. To the extent that employees lack alternative employment opportunities and must remain in a conflict-prone organization for an extended period, the impact on their well-being is likely to be severe and manifests itself in negative mood states at work as well as anxiety and depression.

The present study has certain limitations. The research design was a cross-sectional survey design, which makes it difficult to document causal relationships. The use of other designs, such as longitudinal designs, can aid in establishing causality. A further limitation was the exclusive reliance on self-reports.

McCarty P. William *et al* (2007)[25]: The purpose of their study was twofold. First, they intended to compare the overall levels of work-related stress and burnout reported by male and female officers. Although slight differences were found in the measures of work-related stress and burnout across gender, they failed to achieve statistical significance. This indicates that in this sample, the levels of work-related stress and burnout reported by female officers were not significantly different than those reported by male officers.

Although these findings may seem surprising, given that female officers may face a more stressful organizational environment. Prior research has indicated that the levels of stress and burnout reported by male and female officers have often times been similar (see Davis, 1984; Frye and Greenfield, 1980; Hawkins, 2001; Koenig, 1978; Kop et al., 1999; Morash and Haarr, 1995). Second, they ran separate multivariate analyses for male and female officers on both the work-related stress and burnout dependent variables. They wanted to determine if there were any gender differences in the predictors of work-related stress and burnout among law enforcement officers.

Additionally, work-related stress was the most important predictor of burnout for both male and female officers. In addition to the previously mentioned findings, we would like to focus on two additional points of discussion. First, we would like to stress the importance of the finding that the ethnicity variable was a significant predictor of burnout only among female officers. Morash and Haarr (1995) did find that black female officers had significantly higher levels of stress than black male officers. At this point, however, they were not aware of another study, other than the current research, that has found a similar pattern for burnout. Holder et al. (2000) argued that minority female officers may be subjected to "triple jeopardy" on the job. In other words, they may experience elements of racism similar to minority male officers, elements of sexism similar to white female officers, but they also experience unique problems as both female and minority officers.

This current finding that the ethnicity variable was a significant predictor of burnout only among female officers may be a manifestation of this idea of "triple jeopardy". While prior research has certainly explored the independent effects of gender and race (e.g. Dowler, 2005), future research should perhaps be more focused on how gender and race intersect to affect stress and burnout among police officers.

The findings also have implications for possible program and policy developments seeking to prevent stress and burnout among minority female police officers. Exploring the original data set, of all the gender and ethnicity dyads possible (African American men, White men, African American women, White women), African American women have the lowest overall average rating on the camaraderie variable. Perhaps this is evidence that mentoring programs, focused on minority female officers, would be a viable way to help bolster camaraderie in the short-term in addition to help decrease burnout in the long-term.

A mentoring relationship is advantageous in that the mentor has a great deal of knowledge about the job and the working conditions associated with a profession in addition to understanding the "politics" of an organization (Gibb, 1999). In this sense, a mentoring program could help young minority female officers develop relationships within the police organization, thereby facilitating some level of camaraderie and providing the officer with someone to talk to about the rigors of the job. This finding may also be further evidence that a one program fits all approach to prevent stress and burnout among police officers may not be the best policy. Certain groups of officers may need different services and programs that are conscious of the fact that the law enforcement profession may affect males and females of different races and ethnicities in different ways.

Our second point of discussion extends upon the prior research of Herzberg (1968). Based on his findings, Herzberg (1968) concluded that job satisfaction is associated with the factors intrinsic to the characteristics of one's job. The experience an employee has at the workplace determines his/her level of job satisfaction, not the

demographic characteristics such as age, educational attainment, etc. We view the current study as an extension of Herzberg's argument about the relationship between employees' experiences at workplace and their psychological well-beings by examining the other side of the coin – the impact of work environment on occupational stress among a particular group: police officers. The findings show that inherent work-related factors are much more important predictors of work-related stress and burnout than the demographic variables included in the analysis.

The findings were applied to both male and female officer samples. With the exception of the ethnicity variable in the female burnout model, none of the demographic variables were significant predictors of work-related stress or burnout. This finding supports Herzberg's (1968) theory concerning the importance of the work environment. More specifically, the hazardous work environment in policing, the overly-rigid rules, and strained relationships with co-workers can create high levels of job dissatisfaction among employees. It is certainly plausible that these similar conditions could also heighten feelings of work-related stress and burnout among both male and female officers. Even though male and female officers may share similar areas of experience with the work environment in terms of perceptions of danger, unfairness, and low levels of camaraderie, gender still has the potential to affect how those perceptions are ultimately dealt with as they pertain to feelings of work-related stress and burnout (see Morash and Haarr, 1995).

In closing, they had mentioned the three major limitations for this research. First, the analyses were conducted on a sample of one large police department located on the east coast. Although the enormity of the Baltimore Police Department and its similarity to other large departments make this an interesting site in which to analyze occupational stress and burnout, it is difficult to generalize the results to all departments, particularly small ones in the United States. Additional research attempting to understand the predictors of male and female officer stress in other departments would be beneficial. Second, the fact that Gershon (1999) used a convenience sampling approach must be considered a limitation. Although a high

percentage of officers completed the survey, the lack of a rigorous sampling strategy may have resulted in a group of respondents not wholly representative of female officers in Baltimore or of the entire department in general. Third, although a sizable number of male (n ¼ 943) and female (n ¼ 157) officers were included in the sample, it would be advantageous to have greater numbers from more diverse locations in future research concerning the relationship between gender and police officer stress and burnout.

Paton Douglas (2006)[26], had used a risk management framework to conceptualize critical incident stress in a way that accommodates both positive (e.g., posttraumatic growth) and negative outcomes (e.g., learned avoidance of threat situations). It had identified resilience and vulnerability factors (at personal, team, and environmental levels) and discussed how they interacted with incident demands to affect stress risk during the response and reintegration phases of incident response. Strategies to influence resilience and vulnerability factors were discussed. The risk management model proposed here, whether the new equilibrium state that results following the experience is characterized by growth or loss, was a function of how the hazard experience interacts with vulnerability and resilience factors. When officers responded to events, they bring their personal characteristics to bear on the problems encountered. The factors that influenced stress risk would arise from personal, operational, and organizational sources.

The author concluded that the risk management paradigm afforded an opportunity for officers and police organizations to make choices about traumatic stress outcomes associated with the experience of critical incidents. The application of the risk management model would involve action at all levels to ensure that risk management was as inclusive as possible. The above discussion encompasses only a sample of factors that influenced risk, and additional work was required to develop a comprehensive inventory. This model had provided a basis for auditing existing cultures, practices, and competencies. But the degree to which it was applied would be qualified by several organizational characteristics. The study with the help of that

process identified issues that are significant predictors of risk but that could not be managed within the risk management process. The author had suggested that it could be used to guide the development of collaborative training and simulation exercises with other organizations in a similar position to themselves. Further, it could also furnish information that could be used to advise officers about the sources of risk so they were better informed of the causes of their own reactions. Because critical incidents represented catalyst for change and were viewed as an iterative process. When this could happen, the estimates of staff capability to deal with job demands would increase substantially.

Morash Merry *et al's* (2006)[27], research examined the workplace problems that were hypothesized to predict stress and they also determined whether community conditions, token status, and lack of social support explained additional variance in officers' stress levels. For the study, authors had used data from research that was conducted for prior research in 1990. The 2,051 individuals were asked to take part in the survey, and 947 (46.2%) returned a survey, where males made up slightly more than 72% of the sample, whereas females represent 27% of the sample. For the purpose of analysis, Ordinary least squares (OLS) regression analysis was used. Their findings were consistent with Schaubroeck's (1999) argument that organizational psychologists should pay attention to objective workplace conditions that need to be changed in order to reduce employee stress. They had also pointed to the inattention to the construct of job control, which has a demonstrated effect on stress. In their view, explanations that do not highlight workplace conditions but that gave prominence to attributions of the cause of stressors and resulting emotions suggested strategies that would try to change police officers who were stressed rather than behaviors of their peers, their superiors, or other workplace problems that caused stress. Although job control was a different construct from what had been measured, it is quite similar in meaning to their measure of influence over how the job of policing was accomplished. The primary implication from their research was that root causes of stress might be most fruitfully addressed by attacking problems such as bias and lack of job control or influence over one's work. In

interpreting findings about community conditions and organizational features, such as whether the department serves a county or a city, it was crucial to keep in mind that because of multicollinearity in their sample of the research study, the high crime rates and municipal type of agency stand as reflections of urban (high poverty, high density, and high minority concentration areas). It was somewhat heartening that relatively intractable features of the community, like crime rates and poverty, had not appeared to have strong predictive value in explaining stress. This was not to say that reducing bias and increasing influence on the job were easy to achieve. Full implementation of community policing might be a way to allow officers greater discretion and control of their work and many departments had been able to implement this approach to policing either for some or, in a few cases, all types of officers. The move to community policing, other approaches to giving police more influence over their work, and reductions of bias among officers were not easily changed and would require considerable attention before they could be reduced to the point that stress would decrease.

In their analysis of token status as the only or one of a small proportion of a gender, race or ethnic group, only token status as a female had a significant effect on stress, and neither the correlation nor the beta coefficient suggested that this connection was particularly strong. However, even if officers use the most effective strategies for coping with workplace problems, police departments bare the burden of reducing or eliminating the workplace conditions that contribute to stress. The study also reported that a high property crime rate would be related to low levels of stress and the violent crime rate was unrelated to stress levels.

An important limitation of this research should be noted. The departments are not representative, and the samples within those departments were not random. Research to replicate the research in a wide variety of police organizations would be very useful. However, the samples are relatively large and a diversity of officers is included. Also, the departments were quite diverse from each other, including some

in large urban centers, some in smaller cities, and some in counties that included substantial rural areas.

Berg Marie Anne *et al* (2006)[28]: The aim of their study was to explore physical and mental health among Norwegian police and its association to job stress. Comparisons were made with a nationwide sample of Norwegian physicians and the general Norwegian population. Comprehensive nationwide questionnaire surveyed 3,272 Norwegian police at all hierarchical levels, including the Norwegian Police Stress Survey with two factors (serious operational tasks and work injuries), the Job Stress Survey with two factors (job pressure and lack of support), the Basic Character Inventory, the Subjective Health Complaint questionnaire, the Hospital Anxiety and Depression Scale, the Maslach Burnout Inventory, and Paykel's Suicidal Feelings in the General Population. The frequency of job pressure and lack of support was mainly associated to physical and mental health problems. Females showed higher means on anxiety symptoms than males (4.2, SD 2.9 and 3.7, SD 2.9, respectively; $p < 0.01$), while males showed higher means on depressive symptoms (3.1, SD 2.9 and 2.4, SD 2.5, respectively; $p < 0.001$). The police reported more subjective health complaints, depersonalization and higher scores on three of four personality traits than physicians, but lower scores on anxiety and depressive symptoms than the general population. They had concluded that the prevalence of subjective health complaints was relatively high and was mainly associated to job pressure and lack of support. Males showed more depressive symptoms than females. Compared with the general population, though, police showed lower mean scores on both anxiety and depressive symptoms. All stress factors on frequency were positively associated to the burnout dimensions depersonalization and emotional exhaustion, except work injuries. The comparisons with physicians showed that they have markedly different emotional reactions to work stress. The police reported more musculoskeletal pain and scored more highly on depersonalization and all personality dimensions except neuroticism.

The limitation of their study was the cross-sectional design, which prevents them from obtaining direct evidence of causality. Report bias may be a problem, as for example anxiety and depressive symptoms are socially undesirable topics, particularly in a masculine milieu. Comparisons with the general population may be partly misleading because of the healthy worker effect, which reflects that an individual must be relatively healthy in order to be employable in a workforce, and both morbidity and mortality rates within the workforce are usually lower than in the general population.

Pienaar J., Rothmann S., (2006)[29]: The objectives of their study were to develop and validate a measure that could be used by the South African Police Service (SAPS) to identify the frequency and intensity of occupational stressors and to assess the differences between the stressors for race, rank and gender groups. Three occupational stress factors were extracted, namely job demands, lack of support, and crime related stressors. Race, gender and rank were found to be related to occupational stress. The factors that were extracted show some similarity to factors previously extracted in other studies on police stress. However, the factor structure obtained in this study supports the STP model of stress (Spielberger et al., 2003) and not a 5-factor model (Gulle et al., 1998). The factors that were extracted showed internal consistency, which point to the utility of the instrument developed in the current research.

The first factor emphasized the demands placed on the individual in the fulfilment of his/her tasks as police officer, and thus the factor was labelled Job demands. The items loading on this factor refer to demands associated with police jobs. Specific stressors experienced as severe in this sample of police members, include excessive paperwork.

The second factor was a partial replication of the one earlier identified. These items had to do with events that would only take place in the performance of a job as a police officer and was accordingly labelled Crime-related stressors. Although these

seemed to be a source of acute stress, the relative infrequency with which they are experienced probably reduced their effect in the total sample. The reason for this was that stressors such as a fellow officer killed in the line of duty, or killing someone in the line of duty tended to happen infrequently, or they happened to a relatively small percentage of SAPS members. One stressor which formed part of this factor was quite severe, and that was seeing criminals go free. Probably police members perceived that they invested much effort to find criminals, but that they went free, either because of poor work by the police and/or by the legislative system.

The third factor seemingly related to the role that organisation, supervisors and colleagues had in reducing the effects of job demands; the functional support and achievement of work goals and the stimulation of personal growth, learning and development. Accordingly, this factor was labelled Lack of support. Severe stressors in this regard included insufficient staff to handle assignments, lack of recognition for good work, fellow workers not doing their jobs, and poor remuneration. Police members' jobs will be extremely stressful if they are faced by high job demands, but they lack the resources to do their jobs properly. Race impacted significantly on the experience of occupational stress in the SAPS. Although all the race groups experienced more stress because of a lack of support, the results showed that whites and Indians experienced it more intensely and frequently. Support includes salary, promotion and recognition. The availability of these resources is, to an extent, affected by the implementation of employment equity in the police. It is therefore understandable that blacks would experience less stress about a lack of support than other groups. On the other hand, Coloureds did not experience more stress about a lack of support than blacks. However, it should be kept in mind that the Coloured police officers who were included in the sample were predominantly employed in the Western Cape and Northern Cape, where they were not threatened by employment equity to the same extent those Whites and Indians in other provinces were. Rank also impacted significantly on the experience of occupational stress in the police. Constables experienced lower intensity of stress regarding job demands and a lack of support. Constables also less frequently experienced stress because of job

demands, crime-related stressors and lack of support. Constables are not exposed to the demands and lack of support to the same extent and for such a lengthy period as other police officers. However, it should be kept in mind that constables represented only about 7% of the total sample.

Therefore, these results might be influenced by sampling error. Furthermore, the fact that members with the rank of superintendent or higher, less frequently experienced crime-related stress than sergeants, inspectors and captains can be explained by the fact that they are less involved with operational work. The fact that females are less operationally involved also explains why they experienced crime-related stressors less intensely and frequently. In the total sample, stressors related to a lack of support could be regarded as severe. These include other officers' not doing their job, inadequate or poor quality equipment, inadequate salary and lack of advancement opportunities, and lack of recognition.

The SAPS was also plagued by a lack of funds to fight crime in a transforming society, which was characterized by a high level of crime. This may explain the stress caused by inadequate or poor quality equipment. A lack of equipment has been shown to give rise to feelings of uncertainty and frustration. In a situation already fraught with stress because of poor motivation, low pay and a legal system perceived as inadequate, feelings of ineffectiveness are exacerbated by poor quality equipment.

Manzoni Patrik *et al* (2006)[30], study examined whether higher levels of work-related stress contribute to a more frequent use of force among a sample of Swiss frontline police officers. They assumed that perceived stress could either have a direct effect on the use of force or that its effect could be mediated by job dissatisfaction and noncommitment, as well as burnout. Furthermore, they controlled two situational factors, namely the officer's job profile, reflecting the occasions to use force, and officers' victimization experiences. The results of the empirical analyses did not support their hypotheses.

Although initial bivariate results showed significant and positive relations between stress-related constructs and use of force, multivariate analysis, including the officer's job profile (i.e., police activities likely to set off conflict), turned these relations insignificant. In other words, the influence of stress on the use of force was no longer significant when we simultaneously controlled influences of other variables, most important the job profile.

Overall, they found no significant direct effect of either job-related or organizational stress on police use of force. They also failed to find any of the stipulated indirect effects of perceived stress, that is, those mediated by job satisfaction/commitment and burnout, on use of force. Although both job-related and organizational stress could be shown to reduce job satisfaction/commitment and to increase two burnout dimensions (i.e., emotional exhaustion and reduced personal accomplishment), neither job dissatisfaction /noncommitment nor any burnout dimension resulted in more frequent use of force. In contrast, they found that the officer's job profile leads to both higher rates of use of force and increased rates of victimization.

At the same time, use of force and victimization were strongly correlated. These factors, conceived as situational controls, turned out to be the only significant predictor and covariate of police use of force. In their sample, the frequency of force used, depended primarily on the frequency at which activities holding a potential for conflictive escalation were performed.

Thus, job profile was a much more powerful predictor of use of force than stress, burnout, or job dissatisfaction and commitment. The evidence suggests strong support for a situational explanation rather than for the hypothesis that perceived stress and related consequences lead to more frequent use of force by police officers.

Morash Merry *et al* (2006)[31]: Their study, consistent with prior research, confirmed that workplace problems account for a substantial amount of police officer's stress regardless of social support from family and work group, community/organizational

conditions, racial and Hispanic group token status in the department, and demographic factors. Except for a small (though statistically significant) effect of racial token status for men, the workplace problems that were measured accounted for hardly any effects of gender, race, and Hispanic group token status. These findings suggest that interventions – including strategies of management, supervision, and training – to reduce workplace problems, particularly a bias among co-workers could have a substantial effect on police officer stress.

It was notable that for women and men, profanity and sexual jokes were related to stress. It was important to recognize that not just women felt uncomfortable in environments that were marked by profanity and sexual jokes but some men found what others classify as language harassment. Increasingly women and men in USA are moving away from extreme gender segregation and patterns of denigrating women. Police departments might find increased negative fallout for a variety of employee demographic groups when such practices were tolerated. The lesser amount of explained stress for women suggested the need for a search of other influences on their stress. Hochschild (1983, p. 7) recognized that some jobs require emotional labour, inducing or suppressing "feelings in order to sustain the outward countenance that produces the proper state of mind in others." The management of one's emotions in order to accomplish one's work seemed to fall more heavily to women regardless of whether women or men dominate as employees in an occupation (Steinberg and Figart, 1999, p. 177). It was possible that within some police departments, the management of others' emotions disproportionately fell to women. Women police were often heavily involved in working with sexual assault victims. It was not clear that such emotional labour would translate into higher stress, since emotional labour could be a rewarding, rather than a stressful aspect of work (Wharton, 1993; Wharton and Erickson, 1995). So, the authors said that it was useful to document the gender and minority status distributions of emotional labour in police departments, and also the effect on stress.

Another place to look for explanations of women's stress that were not included in the workplace problems that were studied was their heavier load in nurturing and monitoring children and as caretakers of the household. It was very well documented that working-women carry a heavier load than working men in these areas (Deutsch et al., 1993, US Department of Labor, 2005). Research was needed to determine whether such pressures from outside of the workplace were keys to explaining women's stress. If they were important for women or for men, interventions should include support and resources to reduce the pressures.

Male officers sensed that they lacked influence over practices and a procedure at work, which was "the way police work gets done," an important predictor of their stress. It was not clear why this was the case just for males. The study showed that had their sample size been greater, it might have demonstrated a significant difference for women. They reported higher levels of workplace problem than that of men. It was also possible that women were just stressed by other concerns, including those in and outside of the police organization. None of indicators of the intertwined community and department characteristics appeared to have strong predictive value in explaining stress for female officers. This might be because of lack of variation on these variables, since most women worked in large departments that serve urban areas. For male officers, consistent with the previous research, social support from the family decreased the level of stress. Surprisingly high property crime rates were related to low levels of stress. One possible explanation was that a community with a high property crime rate has more to steal because there is a relatively high level of resources. Thus, the generally higher resources in a community might offset any stress related to property crime rates. Inconsistent with their assumption that high violent crime rate would be related to stress (Crank and Caldero, 1991), the violent crime rate was unrelated to stress levels. It may be that even in a high crime jurisdiction, many police officers were not directly dealing with violence much of the time. Violent crime tends to be concentrated in specific areas (i.e. hot spots) within most cities. Alternatively, police might self-select their occupation because they had the capacity to cope with violence and disorder without enduring high levels of

stress. It should be noted that the measures for Hispanic and race group token status were limited. Racial groups and ethnic groups were somewhat confounded, Asian and Native American racial groupings might be seen as reflecting ethnicity as much as the Hispanic-non Hispanic distinction. There were a multitude of ethnic groups across the USA, and groups differ by location in the degree to which they were in minority, so it was very difficult to determine which people were at risk for negative reactions on the basis of their perceived or self-identified ethnic and racial group membership. Future research might reconceptualise the categories used to identify those who might be seen as tokens, and therefore treated more negatively than others in police organizations.

In addition, the authors suggested that future research might be able to untangle the community conditions from large urban departments and provide a more detailed examination of these factors as predictors of stress. The high correlations between the measures of community and organization characteristics occurred in their sample, but they would not necessarily be replicated in other samples of departments. Another limitation of the present research is that the departments are not representative, and the samples within those departments were not random. As noted earlier, the samples were relatively large and a range of officers was included. The departments were quite different from each other and included some in large urban centers, some in smaller cities, and some in counties with substantial rural areas. In a sense, the finding that workplace problems were the strongest predictors of stress was not altogether discouraging. Workplace problems were potentially amenable to interventions through supervision, training, and the development of organizational norms and standards. Unfortunately, there was very little research on what specific strategies and approaches would provide organizational changes in the degree of bias in police departments. Possible strategies, which could be implemented and evaluated, would include cautious hiring and retention approaches, identification of employee concerns, restructuring jobs, and intervening in employee relations. Additional modes of intervention were providing emotional support, expression of respect and encouragement, and advice and referrals for

employees. Their findings did not show positive results from support at work or from the family; however, perhaps their measure did not tap the type of support that was most helpful.

Given the destructive nature of stress that people experience due to their work, a research priority should be the evaluation of interventions that reduced the racial and ethnic bias that police feel from their co-workers, that reduced language harassment in the workplace and that provided the police increased control over their work. Community oriented policing might be viewed as one way which provided opportunities for police to control their work. Alternative organizational interventions for bias and harassment had not been compared and evaluated in research pertaining to the police, though for both women and men, this would be an important direction for study.

Berg Marie Anne et al's (2005)[32], objectives of the study were to develop a new instrument to measure job stress in the police, to assess the most severe and frequent police stressors, to compare levels of stress according to the demographic and organizational factors, and to study stress in relation to personality traits, work locus of control and coping strategies. For the purpose of research and testing of hypothesis, a questionnaire was developed. In it 396 questions were asked on background information, physical and mental health, working conditions, job satisfaction, burnout, coping, personality and suicidal ideation. The respondents were anonymous and the sample size was 3272 police (response rate of 51%). To determine which conditions in the workplace caused stress the Job Stress Survey (JSS) was designed. The JSS consisted of 30 items that described work-related events & situations encountered; these 30 stressors were assessed on a 9-point perceived severity rating scale from 0 to 9+ and frequency during the last 6 months. Norwegian Police Stress Survey (NPSS) was developed for the present study using the 60-item Police Stress Survey as a starting point. To identify a factor structure in these items, they had conducted principal component analyses with promax rotation. To measure personality traits, personality inventory was used in this study. This instrument

contained 36 items and was based on the 'big three' personality dimensions: neuroticism, extroversion and control/compulsiveness, with an additional fourth dimension, reality weakness. Each dimension was based on nine questions and respondents were asked to respond to it on a Likert scale between 0 (low) and 9 (high). Coping was measured using the Coping Strategies Scale of the Pressure Management Indicator, consisting of six items measuring control coping, and four items measuring support coping. Work Locus of Control Scale (WLCS) measured generalized control beliefs in work settings that consisted of the two separate dimensions: internal versus external locus of control. Peer support was measured by one question where respondents were asked to responded on a 4-point scale.

The Study reported that work injuries were viewed as the most severe (6.3) and the least frequent (0.3) stressor. 'Fellow police hurt on duty' was the most severe stressor (6.8). A series of paired sampled t-tests were used, which showed that all stress indexes were significantly different from each other at the $P< 0.001$ level. There were significant differences across gender and age with respect to both the severity and frequency of several factors. Female police had given higher scores than their male colleagues on all severity factors, but lower scores on all frequency factors; age was positively associated with the severity of job pressure, and negatively with that of work injuries. The correlations between personality, work locus of control and coping were moderate ($r \leq 0.21$). Neuroticism was associated with higher ratings for severity and lower levels of frequency of these three variables. Extroversion showed the opposite results. There were negative correlations between the personality dimensions of control and neuroticism, and the stress frequency dimension.

The study demonstrated that the instrument showed that there were significant stress differences with respect to gender, age and rank. The impact of personality and coping were moderate; the reason could be the strict recruitment process of the police service. The respondents regarded work injuries and serious operational tasks as the most severe stressors in the study. Job pressure included routine occupational stress, mostly inherent systemic factors with low severity and high frequency.

Female police perceived and experienced all factors on the stress measure as more severe than their male colleagues. The results suggest that females were more worried about various work situations than their male counterparts. Urban district police experienced significantly more stress because of working in large communities. Rural district police experienced more job pressure and serious operational tasks than those in the urban. Police with high scores on neurotic personality traits appraised work situations as being significantly more stressful than police with extrovert personality traits. Police with an external locus of control perceived the lack of support more severely than those with an internal locus of control. The study suggested those who were internally motivated for a task relied more on their own abilities to fulfil it and they were not dependent on support from others. The limitations of the study were the cross-sectional design, which prevented obtaining direct evidence on causality, the limited response rate, internal and external validity and policing in Norway as different from that of many other jurisdictions.

Otis and Pelletier's (2005)[33], objective of the study was to propose and test a model that integrated both individual and organizational factors in the prediction of daily perceived hassles, reported physical symptoms, and future work intentions among police officers based on the tenets of self-determination theory (SDT). For the purpose of the study, the sample size was 140 (response rate was 35%) of French-speaking police officers (1 17 male, 23 female) police officers. Respondents, Participants were from all the police stations in the Outaouais region of Quebec, Canada. In the study the authors proposed that self-determined work motivation would be associated positively with future intentions to remain in a job and negatively with perceived daily hassles. In their research model, two dimensions of supervisors' interpersonal styles were considered: autonomy support and competence support. The second dimension of supervisors' interpersonal style, under the study, was competence support. Out of total sample 68.9% of the participants were constables, 19.2% were sergeants, 7.4% were lieutenants and 4.5 %

were captains, there ages ranged between 21 and 56 years and they had between 0.5 and 36 years of work experience.

To measure Supervisors' interpersonal behaviours (autonomy support and competence support) they developed three items and respondents were asked to respond on a 7-point Likert-type scale ranging from 1 (never) to 7 (always). To measure motivation toward work they used the Blais Work Motivation Scale containing 20 items, with 4 items per subscale and participants were asked to rate on a 7-point scale ranging from 1 (not at all) to 7 (exactly). 30-item scale of the Daily Hassles Inventory was used to measure the perception of daily hassles and participants were asked to report the responses on a 7-point scale ranging from 1 (not at all) to 7 (enormously). To measure perception of physical symptoms the French version of Pennebaker's (1982) scale was used to assess perception of physical symptoms and respondents were asked to respond to the frequency with which they experienced each symptom during the past 3 weeks on a 5-point rating scale ranging from 1 (not at all) to 5 (very often). The participant's future work intentions were measured and assessed with the five items adapted from Pelletier, Fortier, Vallerand, and Brikre (2001), on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Research study findings suggested that Participants' mean rating of their supervisor's autonomy support was above the midpoint of the 7-point scale (M= 4.22, SD = 0.97) and participants' mean rating of their supervisor's competence support was higher and well above the midpoint of the 7-point scale (M= 5.65, SD = 1.22). For self-determination index, participants' scores ranged from -8.00 to 15.50, with a mean indicating that participants were moderately self-determined (M = 6.96, SD =4.65). Participants' perceived daily hassles score ranged from 1.27 to 6.40, with a mean score falling below the midpoint of the 7-point scale (M= 3.13, SD = 1.00). Participants' mean score on physical symptoms fell below the midpoint of the 5-point scale and Participants' mean scores on future work intentions were above the midpoint of the 7-point scale (M= 4.81, SD =1.38). Correlation among the variables

suggested that perception of autonomy support and competence support were both associated positively with self-determined motivation ($r = .38$, $p < .01$; and $r = .28$, $p < .01$, for autonomy support and competence support, respectively) and support of autonomy and competence also were correlated positively with each other ($r = .43$, $p < .01$). Dimensions of interpersonal behaviours were expected to be unrelated to daily hassles and physical symptoms.

To test the hypothesized model depicted in Figure 1, a path analysis was conducted using the EQS/Windows program, Version 5.7b (Bentler & Wu, 1993). The covariance matrix was used as input data for the analyses. The maximum likelihood (ML) estimation method was chosen to generate standardized parameter estimates for each hypothesized relationship. Non-significant chi-square value indicated a good model fit, while a significant chi-square value suggested lack of satisfactory model fit and the path analysis revealed that the proposed model provided an acceptable, but not an ideal fit for the data. One parameter had a distinctively higher LM chi-square value compared to the others and revealed a direct effect of competence support on daily hassles. The authors also tested three alternative models. The model hypothesised that both perceived autonomy support and competence support from one's supervisor would be associated positively with police self-determined motivation toward work. Self-determined motivation was hypothesized to be associated positively with future work intentions and negatively with perceived daily hassles. Perception of daily hassles was proposed to be related positively to the reported physical symptoms. Results from path analysis provide general support for the proposed model and showed consistency with the authors' hypotheses, self-determined motivation toward work was found to be associated with higher future intentions to stay in the police force and fewer perceived daily hassles. They had tested three alternative models, but none were offered a better fit to the data than did the proposed model. The authors concluded that self-determined motivation could reduce police officers' physical symptoms through their perception of stress and increase their future work intentions. Further, they added that police officers' self-determined motivation could be maintained or increased if their

immediate supervisor supported their autonomy and competence. These findings indicated that the use of choice and constructive feedback as alternatives to rewards, threats, and punishment should be favoured in police organizations.

The limitations of the study were that the model was tested with mainly French Canadian male officers, so cautious generalization was advised and the response rate was just 35%, the statistical technique used for testing the model assumed that the variables are measured without error, the study was correlational cross-sectional study and any causal relationships between variables should be interpreted with caution. The present study relied on self-reported measures.

Johnson S. et al's (2005)[34], aim of the study was to compare the experience of occupational stress across a large and diverse set of occupations. Three stress related variables (psychological well-being, physical health and job satisfaction) were discussed and comparisons were made between 26 different occupations on each of these measures. The relationship between physical and psychological stress and job satisfaction at an occupational level was also explored. The measurement tool used in the research was a short stress evaluation tool (ASSET) (Robertson Cooper, 2002a) which was devised as a short stress evaluation tool and could be completed quickly and easily by all employees in an organisation. ASSET, 12 factors measured by the questionnaire, had been used as a stress measurement tool in over 26 organisations on a large dataset of over 25,000 individuals covering many different occupation types. Twenty-six different occupations were selected for research purpose and each of these was ranked on their physical health, psychological well-being and job satisfaction scores. This enabled the occupations to be compared, providing information on which occupations reported the highest levels of stress and the lowest levels of job satisfaction.

Research suggested that physical health factor included questions about the physical symptoms often associated with stress and higher scores on this scale indicated worsening physical health. Psychological well-being factor included questions

relating to the clinical symptoms indicative of stress induced mental ill-health and higher scores indicated worsening psychological well-being. Job satisfaction factor included questions related to sources of stress regarding the fundamental nature of the job itself. The study showed that higher scores indicated lower job satisfaction. These three factors were correlated to see to what degree physical health, psychological well-being and job satisfaction were related to each other at an occupational level and the result showed significant correlations between all the factors. The rank order of these occupations provided information on the relative stress and job satisfaction scores between occupations. As per the research result, the least stressed and most satisfied occupations were analysts, school lunchtime supervisors and directors/MDs within the private sector. Surprisingly, directors in the public sector scored higher on all three factors than directors/MDs in the private sector. The study finally concluded that out of the 26 occupations selected for the research, six (ambulance, teachers, social services, customer services – call centres, prison officers and police) were identified as having worse than average scores on each of the three factors. These were the occupations that were reported as the most stressful regarding physical and psychological well-being, as it had the lowest levels of job satisfaction. Another interesting result that the study found was the difference within different levels of the police and police officers, where one of the top six occupations experiencing the most stress and least job satisfaction. The study proved that there was a link between physical health, psychological well-being and job satisfaction. The limitation of the study was that a full analysis of the relevant stressors for any particular occupation was not attempted.

Burke J. Ronald, & Mikkelsen Aslaug, (2004)[35]: This research focused on the relationship between burnout and police officers' attitudes towards the use of force and attitudes towards the use of social skills to solve problems. For the purpose of research, data were collected from 766 police officers in Norway using anonymously completed questionnaires, and measured under the headings of Personal and work situation characteristics.

A number of personal demographic and work situation characteristics were measured by single items.

Job demands: Nine job demands were measured using the Copenhagen psychosocial questionnaires (COPSOQ) developed by Kristensen and Borg (2001). Respondents indicated their agreement with each item on a five-point scale and Burnout: Three burnout components were measured by the Maslach Burnout Inventory – General Survey (MBI – GS) developed by Schaufeli et al. (1996).

Their findings are somewhat consistent with those of Kop and Euwema (2001) on several fronts. First, police officers indicating higher levels of job demands also held more positive attitudes towards the use of force in the Norwegian sample. Second, police officers indicating higher levels of cynicism also held more favourable attitudes towards the use of force in the Norwegian sample. Third, police officers reporting higher levels of personal efficacy also gave higher priority to the use of social skills to solve policing-related problems in the Norwegian sample. The research study showed no relationship of job stressors and police attitudes towards the use of force or the use of social skills. They made the assumption that greater use of social skill and less use of force were desired responses by police officers. Because of this assumption, police forces management should reinforce this message while orienting newly hired officers. Research showed that less experienced officers have more positive views on the use of force. More extensive training in the use of social skills would also be helpful in this regard. Burnout has been shown to impact individual and organizational performance. Research has also clarified that burnout is more than an individual problem; it has its roots in work and organizational experiences. Dealing with burnout using an organizational approach improves the organization. Such approaches focus on the conditions in the workplace rather than on the person. Senior police management must take responsibility for initiating organizational-level inquiries, in concert with force members at various levels, with a long-term view to building a better work environment.

It also seems a cynical attitude on the part of police officers may be associated with excessive and inappropriate use of force. Although job stressors were found to have no effect on attitudes towards either the use of force or social skills, work stressors play a critical role in the development and levels of burnout. There is a convincing suggestion and evidence that the nature of policing varies from country to country. One might expect that the relationship between burnout components and attitudes towards the use of force, and the actual use of force, would be even stronger in those countries where violence is more common.

This study has few limitations which should be noted to help with interpretation of the results. First, all data were collected using self-report questionnaires raising the possibility of response set consistencies. Second, data were collected at one point in time limiting our understanding of causality. Third, some of the measures had low internal consistency reliabilities. Fourth, it is not clear the extent to which our findings generalize police officers in other countries. Their results were somewhat consistent with the Danish study (Kop and Euwema, 2001) but approaches to policing vary across countries.

M. C. Euwema *et al* (2004)[36], in the article, *The Behaviour of Police Officers in Conflict situations: How burnout and reduced dominance contribute to better outcomes?,* tried to explain that dominance played an important part in police-civilian interactions. The authors also focused on how burnout is associated with a reduction in dominance, and this might, paradoxically, lead to more effective outcomes in conflict situations. They were of the opinion that there is lack of knowledge about the effects of burnout in professional practice. The study was conducted for a better understanding of these dynamics. It is unique in that it combined self-reported burnout with observed behaviour in interactions with civilians. The study also focused on and examined the relationships between the imbalance between demands and rewards, occupational burnout and police officers' behaviour in conflict situations (in terms of dominance and effectiveness). A questionnaire was used to assess job demands, rewards and burnout among 358 Dutch police officers. Along with this, police officers'

interactions with civilians were observed over 122 days. The results of structural equation modelling analyses showed that the imbalance between job demands and rewards was predictive of burnout (emotional exhaustion and depersonalization). Burnout, in its turn, predicted a decrease in dominant behaviour in conflict situations and as a result, more effective conflict outcomes. These findings showed that reduced dominance associated with burnout had positive consequences for professional behaviour in conflict situations.

The major research finding was regarding the relationship between burnout and professional conflict behaviour. The study had once again proved that the imbalance between job demands and rewards is important for the experience of burnout. This implies that as long as employees experience a positive balance, the risks of burnout are reduced. Human resources management should aim at achieving this positive balance, rather than at reducing job demands. Burnout, the combination of emotional exhaustion and cynicism, was found to be related to less dominant behaviour by police officers in conflict with civilians. Less dominant behaviour led to more effective conflict outcomes. These results challenged the assumption that occupational stress necessarily results in impaired professional performance. The detrimental effect of burnout only becomes visible in professional behaviour, when high 'clinical' levels of burnout are achieved. Research showed that professionals are more effective when they restrict dominant behaviour in conflict with clients. This finding was the key element in the training of professionals in dealing with conflict situations, achieving de-escalation and healthy working relations between professionals and clients.

The study was limited to the context, it was very specific, reporting observations of conflict behaviour of Dutch police officers. Further research in other occupations, as well as other cultural contexts is required. Even the relations between burnout measures and actual behaviour were rather weak. The method used was the combination of surveys with field observations. Surveys offer only limited measure of stress, and are sensitive to social desirable answers. The measurement of the

imbalance between job demands and rewards was not sensitive to qualitative differences between the issues mentioned.

Scott M. Yolanda (2004)[37]: In this study, the author focused on the gap which was identified by considering that previous studies on police stress have focused mainly on urban officers, and the attention afforded to rural and small-town police is virtually nonexistent. To address this gap in the literature, five distinct stress scales were constructed to examine 135 rural and small-town patrol officers' experiences. The ordinary least squares (OLS) regression results suggest that perceived disruptive administrative changes significantly increased officers' stress experiences on a number of different dimensions, ranging from perceived maltreatment within the department to inherent aspects of the job. This study was based on a larger set of data in which officers were asked a variety of questions about their work; officers' stress experiences and perceptions of administrative changes and media criticism were among the topics covered. Changes to the department's top management positions were most strongly predictive of stress stemming from the organization. The study also proved that perceived media criticism was positive, and had a significant effect on two of the five stress scales, general aspects of police work, and danger or violence. The department size was also linked to organizational stress.

The research findings were supportive of previous work conducted on officers employed in large urban agencies and suburban departments in two major ways. First, the mean rankings of various situations revealed that stress stemming from the organization was among the most problematic for officers. Second, perceptions of the organizational setting, mainly administrative changes, were significantly predictive of all forms of officer stress. The author found that the changes in the department's top administration were found to have a "ripple effect" on stress. Officers perceived that changes in the department's top administrative positions will interrupt every part of their life and work like their treatment within the department, situations of danger or violence, to the impact of the job on their family. The study showed that the type of stress most pronounced under administrative changes had to do with the

organization. Media criticism was also positively linked to officer stress stemming from general aspects of the work and perceived or actual dangerous features of job. This study was cross-sectional in design, preventing the ability to effectively assess the duration that perceived disruption had on patrol officers' stress experiences. The department size was found to have a positive and significant effect only on the organizational stress scale. The findings from this study suggested that rural and small-town police officers would benefit from and likely respond to stress intervention programs such as peer support and mental health counseling (Finn&Tomz, 1997; International Association of Chiefs of Police, 2002; Janik, 1999; "On-the-Job Stress," 2000; Sewell, 2002).

Jaramillo Fernando et al's (2004)[38], study adopted an interdisciplinary research orientation in an attempt to comprehensively investigate the effects of police stress internal to the organization (i.e. role ambiguity, role conflict, supervisor support, group cohesiveness, and promotion opportunities) on organizational commitment, after controlling the effects of job satisfaction. To test the research hypothesis, they distributed a total of 300 surveys, resulting in 160 completed and 150 usable surveys. Police officers were sampled across various job types, including patrol officer, detectives, sergeants, lieutenants, chiefs, and captains. Responses were obtained from six police agencies. The study had included ten female participants and their average work experience was of 14.5 years. To test hypothesizes they used a regression analysis with organizational commitment as a dependent variable. And five stressors (i.e. role conflict, role ambiguity, supervisor support, group cohesiveness, promotion opportunity) and job satisfaction were included as independent variables. The results indicated that two stressors, role conflict and role ambiguity were non-significant predictors of organizational commitment. Even, the partial correlations between role conflict and role ambiguity with organizational commitment were non-significant. The results of the research study were consistent with the findings of the 2000 local police department survey that had indicated that the majority of local police departments had adopted written policies in important issues such as maximum number of hours that police officers could work, community policing plans, use of

lethal and non-lethal weapons and force, and pursuit driving policies (Bureau of Justice, 2004). They found that role conflict and role ambiguity were not significant in explaining the variance in police officers' organizational commitment.

The study found that three stressors (i.e. supervisor support, group cohesiveness, and promotional opportunities) are important antecedents of organizational commitment. These results had important implications for senior police officers in charge of managing the police force. They also found that two of the most important stressors in explaining organizational commitment are promotion opportunities and supervisor support. These findings support the previous research which indicated that promotion opportunities and supervisor support are two important antecedents of police officers job attitudes (e.g. Brough and Frame, 2004; Toch, 2002). As indicated by Toch (2002) police officers often believe that political connections and ethnicity play an important role in promotion decisions. The authors had recommended that designing of strategies should aim at increasing the commitment of police officers to the organization because of the negative relationship between organizational commitment and intention to leave. Further research confirmed the evidence of Narayanan et al.'s (1999) claim that stressors differ across occupations by showing that role conflict and role ambiguity are not significantly related to organizational commitment. They concluded that rather than role conflict and role ambiguity, stressors such as lack of promotion opportunities, supervisor support, and group cohesiveness are better predictors of organizational commitment in law enforcement settings. The study had limitations that police officers' rank (i.e. chief, captain, officers, sergeants, troop), and police unit (i.e. K-9 Unit, Traffic Unit, DUI Unit, Marine Patrol, etc.) could define the specific job tasks required by police officers, and could moderate the stressors-strain relationship.

Collins & Gibbs (2003)[39], were of the opinion that police work tends to be regarded as inherently stressful because of the personal risk of exposure to confrontation and violence and the day-to-day involvement in a variety of traumatic incidents and hence it is a need to identify key work-related stressors. Their study's main objective

was to examine the sources of stress-related symptoms within police officers and measure the prevalence of significant associated mental ill-health. For the purpose of the study, cross-sectional questionnaire survey of a population of 1206 police officers was carried out to assess levels of strain associated with a series of potential home and work related stressors. The ratios of police constables to sergeants in the population and of male to female officers were both in the region of 5:1. Participants were then split into low and high scoring groups on the basis of a General Health Questionnaire (GHQ) threshold score in order to identify those stressors most associated with mental ill-health effects. In the study, ranks were selected for the survey on the basis both of their predominance within the organization and indications from previous studies of increased liability to strain.

The survey included all officers within the force holding these ranks, spread across the geographical sectors of the county, each of which constitutes a separate managerial division of the workforce. To collect the data, a questionnaire was designed to assess all aspects of the stress–strain cycle and demographic information. The detailed data was collected on: grading of the severity of perceived occupational stress from equal numbers of organizational (relating to workload and work climate) and operational aspects of front-line duty issues. A five-point grading scale was used to link participants' verbal descriptions of perceived stress to a numerical scoring system with responses of 'not at all', 'slightly', 'fairly', 'considerably', or 'extremely' stressful being given scores of 1–5, respectively.

In the study, they found Constables less likely to take part in the survey than sergeants in the response group. Female officers had a higher response rate as compared to males. They used the Mann–Whitney non-parametric test to establish the degree of difference between the two groups in their responses to the graded answers given to enquire about stressors and moderators and for answers of an ordinal nature in the questionnaire. They found that organizational stressors were perceived as more stressful than operational issues by the population as a whole. No difference was found between the two groups in relation to parenthood, either in

number or age of children. There was no evidence of association between either rank or length of service and caseness. The authors found that all organizational stressors were significantly more stressful than non-cases and all operational stressors were also perceived as more stressful by cases than non-cases. The majority of life stressors were perceived as significantly more stressful by cases than non-cases. Job perception was significantly more negative for cases with a clear association wishing to leave policing altogether was the high scoring group. Though the societal and organizational changes were observed, levels of stress-related mental ill-health in police officers do not appear to have improved over the past 10 years. In the study it appears that proportions of officers with measurable ill-health have doubled compared to earlier times. The study found some interesting but inconclusive findings: first, it is interesting to note the absence of any simple association of increased likelihood of mental ill-health with increasing age or length of service might had been predicted simply by increased exposure. Secondly, there were indications of significant inter-divisional differences, which were not explained by non-response bias. This study confirms previous findings of organizational culture and workload as the key issues in officer stress. Given that the degree of symptomatology appears to be worsening, management action is required.

The limitation of study was the fact that the population size was large and the response rate was high, the study was performed in a relatively small county constabulary. The study had also shown inability specifically to identify non-responders in order to allow both a second mailing and a more in-depth analysis of responder bias.

Engel Robin Shepard and Worden Robert E., (2003)[40]: Their analysis of the time that patrol officers spend conducting problem solving activities is consistent with the findings of most previous research that officers' behaviour is only weakly related, if at all, to their occupational attitudes. Previous research examined police dispositions of disputes and traffic stops, and officers' responses to domestic violence. Research had also examined the frequency with which police made traffic stops and suspicion

stops, and officers' arrests for driving under the influence. All of these are well-established domains of police work, in which most analyses have been found weak or null attitude-behaviour relationships. One exception is the analysis by Brehm and Gates (1993), which found that officers who dislike features of their job and are satisfied with their supervisors tend to "goof off" more, while officers who like their colleagues tend to "goof off" less. Hence, it appears that variation in how officers do their jobs is not congruent with their occupational attitudes, while variation in how much officers do their jobs is related to their attitudes.

The findings of previous research notwithstanding, one might expect that the officers whose occupational attitudes are the most compatible with problem solving and community policing would be more likely to embrace the practice of problem solving, which represents a substantial departure from widely accepted police practices. Yet for the most part, these expected relationships do not hold. Officers who adopt goals of community policing and problem solving as their most important goals tend to perceive these as their supervisors' goals also, and they tend to spend more time engaged in problem-solving activities. Otherwise, however, the time that officers devote to problem solving is unrelated to their attitudes, and it is also unrelated to their training in community policing, assignment as a community policing officer, self-assessed knowledge of community policing, and perceptions of the levels of cooperation from the residents of their beats. These mostly null attitude behavior relationships could be due to situational pressures that originate in the police organization. In both the departments, survey respondents indicated that the organization had only partially succeeded in providing time, information, and rewards for problem solving (see Paoline et al., 2000:587-588), and in both departments, observed officers typically devoted a small fraction of their time to problem solving. The limited organizational support can and should be understood as situational pressures that attenuate attitude-behavior relationships. Even officers who are enthusiastic adherents to a philosophy of community policing will seldom practice it if they do not have the organizational support they need, or if they face organizational impediments. It is also possible that attitude-behavior congruence in

this domain of police work is undermined by uncertainty and ambiguity about the nature of problem solving. Even officers who are favourably disposed toward community policing and problem solving may be unsure how to proceed, and even those with training in concepts and principles may be ill-prepared to practice problem solving. It is, we believe, quite telling that the officers for whom problem solving is a high priority spend more time on problem solving to the extent that they perceive-in many instances erroneously-it is a priority for their supervisors.

This analysis also shows that the time officers spend on problem-solving activities is subject to modest, but negative, supervisory influence. In particular, officers whose supervisors are strongly oriented toward aggressive patrol spend less time on problem solving. It appears that supervisors who espouse an aggressive patrol style discourage problem solving, either overtly or implicitly. By encouraging their subordinates to make arrests and issue citations, or seize drugs, guns, or other contraband, so that less time is available for problem solving, as they work to meet a different set of supervisory expectations. Officers' and supervisors' gender affects the time that officers spent conducting problem-solving activities. Specifically, the percentage of a shift devoted to problem solving was 1.6 times greater in female officers, and 1.4 times greater in officers with a female supervisor. Although some researchers have speculated that male officers behave differently than female officers due to cultural influences, most studies have reported that female officers behave similarly to males (for review, see Riksheiin and Chermak, 1993), and that female officers' attitudes do not differ significantly from males (Worden. 1993). In IPD and SPPD, female officers were significantly less likely than male officers to report that problem solving was a priority (12.1% compared to 27.8%. respectively), but female supervisors did not differ from male supervisors in their priorities for problem solving or their abilities to communicate their priorities. However, further analyses revealed that female officers were better at accurately interpreting their supervisors' priorities for problem solving: the correlation between officers' perceptions of their supervisors' priorities for problem solving and their supervisors' actual priorities for problem solving was 0.24 for female officers but -0.01 for male officers. These

findings are consistent with other analyses of POPN data that found that female supervisors had different supervisory styles compared to male supervisors (Engel. 2001). Otherwise and perhaps more remarkably, supervisory influence is negligible in those officers whose supervisors espouse community policing and problem-solving goals and engage in no more problem solving than other officers.

Wiese L., Rothmann S. And Storm K., (2003)[41]: The results of their study showed that stress associated with a lack of resources is relatively more severe than other stressors in the SAPS in Kwazulu-Natal. In this regard, inadequate salary, staff shortages and other officers not doing their job caused stress. Stressful job demands included having to deal with crisis situations, excessive paperwork, having to perform tasks not in the job description and having to do someone else's work. Also, seeing criminals go free was a relatively severe stressor for police members.

It was clear from the results of this study that stress because of job demands and lack of resources were strongly related. This implies that stress because of a lack of resources probably increased because of job demands. Not having resources probably made it more difficult to deal with crisis situations, paperwork and performing tasks not in the job description. A positive correlation between burnout and stress was found, as was expected from a previous research by Burke (1994). High levels of stress because of job demands and a lack of job resources were related to high levels of exhaustion. It seems that stress because of job demands and a lack of job resources require greater effort from the police officer, resulting in more exhaustion. Job demands were also correlated with cynicism. High levels of stress are also related to poor coping strategies, as found in previous research.

High job demands and a lack of job resources were associated with passive coping. It could therefore be said that not addressing a problem in full, leads to stress in the individual. With reference to coping and burnout, passive coping was related to exhaustion and cynicism. Canonical correlations showed high levels of passive coping to bearer associated with high levels of exhaustion and cynicism and low

levels of professional efficacy. These results confirm findings from previous research, where high levels of burnout were associated with ineffective or withdrawal coping strategies. One possibility for this could be that the stress that occurs from addressing the problem only in part, when passive coping strategies are adopted, accumulates until burnout occurs. The structural equation analysis showed that occupational stress is associated with exhaustion. Although stress because of a lack of resources did not contribute directly to exhaustion, it was clear that job demands mediated the relationship between stress because of a lack of resources and exhaustion. Thus, officers experiencing high job demands experience higher exhaustion.

Furthermore, when police officers used passive coping strategies, they showed an increase in exhaustion, but when they utilised their emotional support their level of exhaustion decreased. However, using an active coping strategy (such as concentrate their efforts on doing something about the problem) did not save them from feelings of exhaustion. Passive coping was related to cynicism. Two interpretations of this finding are possible. Firstly, a passive coping strategy might have a direct effect on cynicism. Also, the structural equation modelling showed that exhaustion moderates the effect of passive coping on cynicism. Secondly, it is possible that cynicism contributes to a passive coping strategy. No relationship was found between cynicism and occupational stress. A possible explanation could be that stress because of job demands and a lack of resources influenced cynicism through exhaustion. In the SEM model, it is clear that feelings of exhaustion led to cynicism. Therefore they argued that stress because of job demands and a lack of resources lead to higher feelings of exhaustion, which, in turn, leads to higher levels of cynicism. The use of passive coping strategies lead to lower feelings of accomplishment, while active coping strategies lead to higher feelings of professional efficacy in police officers' work. A lack of resources leads to lower feelings of professional efficacy. A limitation of the research was that the research design did not allow one to determine the direction of the relationship between the variables.

Kohan Andrea *et al's*, (2003)[42] study addressed three questions: (a) Do police officers view organizational aspects of their work more negatively than operational aspects, as previous research as suggested, and do positive work appraisals follow a similar pattern? (b) What is the relationship of officers 'perceptions of their work experiences to burnout and pro-organizational behavior (OCB)? and (c) Are these relationships operated on (mediated or moderated) by dispositional affect and coping efforts? The data addressing the first question showed that police officers appraised operational hassles more negatively than organizational ones, thereby differentiating the officers in this study from those in previous studies where the reverse was true.

However, subgroup analyses revealed that officers' appraisals of work hassles depended on the type of work routinely performed. Patrol officers, involved in daily patrol and investigation, identified operational aspects as being more bothersome, whereas supervisors and administrators, whose duties primarily involve implementing policy, viewed organizational aspects more negatively. Uplifting organizational experiences were appraised as being more uplifting than operational ones, regardless of the type of work officers performed, suggesting a greater relative importance of organizational experiences to officers' positive evaluations of their jobs. The difference in hassle-type appraisals between patrol and supervising officers could not be attributed to other differences between the two groups (i.e., age and years of experience). However, the manner in which appraisals were assessed may have interfered with accurate reporting. The PDHS asked respondents to indicate the degree to which each hassle "applied to them in the last month as a result of doing police work." One interpretation of the instructions might have led officers to report the extent to which an item was bothersome, whereas another might have led them to report that the item did not apply to them simply because they did not regularly perform that aspect of work. Thus, the PDHS seems to confound appraisals of work with performance frequency. A simple rewording of the instructions might allow the assessment of appraisals separate from performance frequency.

The data pertaining to the question of relationships between variables supported the expectation that work hassles would be positively related to burnout. Officers who reported more work hassles described themselves as feeling more emotionally exhausted and subject to feelings of depersonalization. More importantly, in accordance with evidence of the more distressing nature of organizational elements of policing, organizational hassles had a stronger relationship with distress measures than operational ones. Interestingly, officers who reported more of both types of work uplifts, described themselves as having greater feelings of personal accomplishment, but they reported neither a diminished sense of emotional exhaustion nor depersonalization. This different pattern of associations involving hassles and uplifts with burnout dimensions supports the hypotheses of the independence of stressor-distress associations from uplift–well-being relationships. The relationship between work experiences and OCB appears to be more complex. Overall, the main and subgroup analyses showed that OCB was more often associated with organizational experiences than operational ones, which coincided with the previous findings of associations between perceptions of organizational procedures and OCB. The inverse relationship between OCB and burnout lends further credence to the contention that burnout can have a detrimental effect on organizational well-being. That is, burned-out employees may not only be more inclined to leave a job and to take more time off, but also their contributions at work may be minimal when they do show up.

The third question addressed the importance of the individual characteristics to perception-outcome relationships. Research has shown that associations between perceptions and psychological outcome are mediated by disposition or moderated by it. The lack of effects for dispositional variables in this study contradicts both positions. However, the data were consistent with Hart et al.'s (1995) findings that work hassles and uplifts made significant contributions to psychological distress and well-being, respectively, independent of dispositional influences. The data also suggested that chronic exposure to particular work environments may be associated with psychological states and behavior beyond one's tendency to be upbeat or

negatively predisposed, which coincides with the arguments for an organizational basis of burnout and the primary importance of situational factors to OCB (Organ, 1994). Future police stress analyses might clarify the importance of disposition by using alternative measures of disposition. Both coping styles buffered burnout in the face of increasing work hassles. These findings are consistent with the view that both coping styles can be beneficial depending on the context rather than the view that strategies are either adaptive or maladaptive. Also noteworthy was the finding that burnout in relation to organizational hassles, and not operational hassles, was buffered by both coping styles. An inherent drawback of policing may be that, despite coping efforts, burnout is associated with mandatory operational duties. However, this and other studies have shown stronger links between distress and organizational hassles compared to operational ones. Coping efforts may be an effective way to help officers deal with a significant portion of their work-related distress.

He Ni *et al*, (2002)[43]: The study aimed to explore the impact of work environment, work-family conflict, and coping mechanisms on physical and psychological stresses of police officers. For research purpose, the study utilized data that was originally used in Gershon's (1999) study titled "Police stress and domestic violence in police families in Baltimore, Maryland, 1997-1999", located in the New England area. The authors used the instrument which was developed earlier to measure police stress in Gershon's (1999) survey with minor modifications from the brief symptom inventory (BSI), which included three of the nine dimensions of stress symptoms and used a four-point scale of distress ranging from never (1) to always (4). The findings of their study indicated that female officers do have statistically significant higher levels of somatisation and depression compared to their male counterparts, respectively. These findings were generally consistent with relevant previous research findings in the area of psychology and mental health (e.g. Derogatis and Savitz, 1999). Nevertheless, we find no evidence to suggest that male and female police officers differ statistically in the clinically developed measure of anxiety. To answer their second research question, a multivariate analysis examines the sources of stress and

coping strategies used by male and female officers. It found both convergent and divergent effects of work environment, work family conflict, and coping strategies on the physical and psychological stress of police officers. In both male and female officer samples, there appears to be convergent impact of spill over and destructive coping on all three measures of stress (somatisation, anxiety, and depression). Judging from the signs and values of the standardized regression coefficients (beta), the impact of spill over and destructive coping are consistently the largest, which suggests that both are among the most important job stressors in police work. There are unmistakable signs of divergent effects of some work environment, coping, and demographic variables on stress that appear to be gender specific. For example, in the analysis using the female officer sample, neither the work environment variables nor the demographic variables are statistically significant predictors of any measures of stress. Yet, unlike the corresponding finding from male officer sample, constructive coping has been found to reduce depression among female officers.

They compared the percentage of male and female police officers that agreed to specific individual items. The results of comparison between the two groups revealed that constructive coping was found to be a statistically significant stress-reducing factor for one type of female police officer stress - depression. About half of all the female officers in the sample indicated that they have frequently or always used the following coping strategies:

- rely on your faith in God to see you through this rough time (female 61.9 percent; male - 35.3 percent);
- pray for guidance and strength (female - 59.1 percent; male - 28.5 percent);
- talk with your spouse, relative or friend about the problem (female - 52.3 percent; male - 37.1 percent); and
- make a plan of action and follow it (female - 48.0 percent; male - 44.2 percent).

Apparently, there are differences between male and female officers in using constructive coping strategies. Male police officers appear to rely far less on spiritual

guidance and on consulting spouse, other family members and friends when dealing with stress.

Kohan Andrea *et al*, (2002)[44]: The authors' objectives of the study was to examine job satisfaction, job stress, and thoughts of quitting in relation to positive and negative effect, life satisfaction, self-esteem, and alcohol consumption among police officers. For research purpose, 122 officers (101 men and 21 women) returned fully completed questionnaires (return rate was 31 %). The mean age of the participants was 36.1 years (SD = 8.13), the average level of education was 2.5 years of postsecondary education and the mean time on the job was 11.8 years (SD = 8.76). The findings of their study indicated that simplicity and order can be found in the complex pattern of associations between job experiences and well-being variables. The terminology and measures used in this field have been varied, and a focus on bivariate relationships can make it difficult to see the forest from the trees. The present factor analyses revealed two simple clusters or sets of common roots among variables in this complex web. The dimensions of Positive Effect and Negative Effect emerged clearly when job-related variables and well-being variables were placed in the same factor space. Previous job investigations, including those involving police officers, have focused primarily on Negative Effect. This led them to expect Negative Effect to be the more important dimension among our variables. However, Positive Effect proved to be the stronger dimension by a wide margin. Job satisfaction and intention to leave were more strongly defined by Positive Effect than by Negative Effect, as were life satisfaction and self-esteem. The primary correlates of Negative Effect were job stress and alcohol consumption. These factor analytic results do not imply that the variables associated with one dimension are unrelated to variables from the other dimension. Indeed, the bivariate correlations revealed a tangle of mild to moderate associations between most of the variables. Instead, the factor analytic results can be viewed as providing a kind of family tree for the variables, revealing their shared and non shared roots. The results may serve as a useful road map for attempts to interpret the literature on job experiences and wellbeing.

The results may also serve as a guide for selecting variables and measures for inclusion in further data collection. Without such a guide, the selection of predictor and outcome variables may be too haphazard, especially when variables with different family roots are naively selected and expected to correlate strongly. A one-dimensional view of job experiences and well-being variables may seem reasonable on the basis of the variable names, but at least two orthogonal dimensions can be found in the variable family trees. In fact, the haphazard nature of the variable and measure selection used in previous work may be responsible for the impression that associations between job experiences and well-being are sometimes weak.

The results produced by factor analytic procedures are skewed by the variables that were included in the analyses. The present, somewhat surprising finding, that job satisfaction had stronger family roots on the Positive Effect dimension requires replication using other measures. The fear is that some other measures of job satisfaction may have stronger elements of Negative Effect, in which case job satisfaction would appear less strongly aligned with Positive Effect. Their finding was nevertheless significant in that it testifies to the importance of dimensional analyses of the variables of interest. Joint factor analyses of Positive Effect, Negative Effect, and a variety of measures of job satisfaction are also required to reveal the family similarities and differences between job measures. Researchers presently hold conflicting views on whether Positive Effect or Negative Effect was more important to job satisfaction. The empirical answers to this question will probably vary, depending on the measures that are used.

The findings may also vary by sample, although there is presently no basis for expecting fundamental differences between police officer samples and other samples. Hart (1999, p. 568) claimed that police samples may be particularly good ones for research on job experiences and well-being because police work is not just a job but a way of life for many officers. This factor may result in stronger effect sizes for police samples, but there is no reason to suspect qualitative differences in the findings for this kind of sample.

The variables that clustered together on each factor in the present study are related, but they are also discriminable. They are analogous to human siblings, who are genetically related (common variance components) but who nevertheless retain their individual identities (unique variance components). Further discrimination between the variables could be achieved by placing them in broader factor spaces, such as those defined by more fine-grained breakdowns of the Positive Effect and Negative Effect dimensions (Burke et al., 1989) or by the dimensions of the five-factor model. Finally, the findings confirmed previous observations that alcohol consumption is associated with Negative Effect.

Anderson George S., et al (2002)[45]: The purpose of this study was to identify common stressors and the magnitude of stress reactivity in police officers during the course of general duty police work. The study involved a systematic random sample of 287 officers (96 percent), general duty police officers drawn from all 12 municipal police departments in British Columbia. The officers were surveyed (using two separate questionnaires) about the physical aspects of their job and about the most demanding critical incident of their prior 12 months of work. The results of their study demonstrated the increased physiological stress one would expect during physical activities of increased intensity, particularly the stress which occurs during the escalating use of force activities. Further, the results clearly demonstrated the psycho-social stress of police work with increased physiological reactions in situations where there is a potential threat, and during periods of anticipation. The stress reactivity during periods of increased threat was evident in the increased heart rates during different posturing activities and during periods of communication with suspects. Anticipatory stress is evident in the high above-resting heart rates at the beginning of the shift, and the high above resting heart rates of officers called in back-up roles to critical incidents. This data is consistent with that of Anshel et al. (1997) who rated facing unpredictable situations as the most stressful acute stressor.

Their study found the highest physical stress occurring during pushing and pulling and fighting sequences when the largest proportion of the musculature was active.

However, police officers responding to critical incidents also demonstrated marked psycho-social stress and stress reactivity, being most notable during the interaction with a suspect both during the critical incident, and then during each subsequent interaction with suspects for the remainder of the shift. These results are consistent with those of Anshel et al. (1997) and Peters et al. (1998) who both report high levels of acute stress in situations with high demand and low control (such as dealing with a domestic dispute or arresting a violent suspect). However, the findings of the present study also found that police officers involved in observed critical incidents did not recover. The mean above-resting heart rate of those involved in a critical incident remained elevated for the remainder of the shift for all tasks, including a significantly elevated heart rate during report writing, in the last hour of the shift. Research assistants observed a number of incidents of high stress that were not considered critical. Some of these only lasted a minute or two: ten (13 percent) of the 76 officers reached 75 percent of their heart rate reserve at some point during their shift, indicating a significant level of stress; seven of these ten officers did so during or after a critical incident, but three were spontaneous events. For example, during a traffic violation stop, an officer radioed a fellow police officer after talking to a suspect, returned to his vehicle to use the mobile data terminal, and immediately attained 88 percent of his heart rate reserve. This is an example of psycho-social stress, and may well be explained by a reassessment of the situation from a challenge or benign appraisal to threat appraisal. In another incident, an officer responded to a suspicious package thought to be a bomb. In this case the officer suffered an acute stress response each time he retold the story: an increase of 36 beats a minute above rest when informing his supervisor of the situation, after his initial appraisal of the situation and almost as high when re-telling the story at the end of the shift.

While their results showed a clear indication of the initiation of the fight or flight response, Simeons (1951) suggested that the fight-or-flight response is not compatible

with our industrialized world; it is not appropriate to run from an antagonistic suspect, or fight a superior for asking you to do something you are not fond of. While the fight-or-flight response may be essential to survival in a predatory situation, the survival value for humans has diminished in the civilized world, and may be counter-productive. When the fight-or-flight response is initiated, but not acted upon, there is a psychology-physiology mismatch - our bodies are ready for action, but the action is inappropriate. The stress products released are then left to break down the body, and may be one link between stress and disease.

The sustained heart rate of 22 beats per minute above rest throughout the shift demonstrates the chronic stress placed upon police officers. Further, many of the abrupt increases in heart rates are not associated with physical effort, which may be more harmful to one's health. While the relationship between stress and disease has been postulated for centuries, dating back to the early Greek philosophers, scientific evidence supporting the relationship has not been available until recently. The early body of literature examining stress and disease made wide sweeping statements supporting the notion that stress has a cumulative effect, somewhat independent of the stressor, with the frequency, duration and intensity of stressful events correlated to ill health. More recent evidence is more specific, and suggests that effort without distress may be related to catecholamine secretion, while increased cortisol secretion was related to negative effect, emotion. While subtle increases in cortisol may potentiate the immune response, short term surges or chronic over-production of cortisol are likely to cause immune suppression, leaving one prone to illness and disease. This mechanism may describe the relationship between police work and common health problems, as the chronic anticipatory stress at the beginning of a shift and the psycho-social stress encountered throughout a shift may impact cortisol secretion. Programs directed toward officers' perceptions of control, helping them move from a threat or harm/loss appraisal to a challenge appraisal during periods of acute stress could have a potential health effect by reducing negative effect and distress, reducing cortisol secretion.

Their results also support the practice of debriefing at the end of shifts or immediately after critical incidents. Participants involved in critical incidents do not appear to handle the stress of critical incidents well, having elevated heart rates 45-60 minutes after a critical; further, these elevated rates stay with them till the end of their shift. Significantly, this pattern of elevated heart rates was observed regardless of the activity considered, while at the same time it was not observed in those officers who did not experience a critical over the course of their shift. The heart rate response pattern found clearly highlights the need to assist police officers in developing mechanisms to cope with the stress of critical incidents. Police training programs may be well advised to include discussion of stress and stress-related illness, a self evaluation of personal attributes that may predispose an officer to stress, and discuss cognitive appraisal and coping strategies to help officers reduce acute and chronic stress. Training programs may also want to look towards the officer's social support network and offer seminars on how to best offer a supportive environment at home and recognize the signs of stress.

Unfortunately, it was beyond the scope of the present study to examine just how long after an officer leaves shift their heart rate remains elevated. More importantly, what the present research was not able to do is provide data which could shed light on what difference, if any, the slow recovery from critical incidents makes in terms of each officer's short- and long-term health. However, job-related stress found in police work may be theoretically related to ill-health in several ways, with a direct link being supported by the results of several recent investigations. While the present study demonstrated several abrupt increases in heart rate, surges in catecholamine associated with acute stress have recently been related to increased incidence of cardiovascular disease with high-demand and low control situations. The surge in catecholamine during acute stress also slows the digestive tract and may be related to cancers of the colon and digestive organs. Further, the nature of police work dictates that police are constantly being observed and evaluated by the public; and this increases the stress appraisals and cardiac reactivity which may well lead to increased incidence of coronary heart disease and hypertension. Chronic stress and

the over-production of cortisol have been linked to the reduction of lymphocytes and immune suppression and other illness. Immune system dysfunction may partially explain the high rate of hospital admissions found in the police population.

Patterson George T. (2002)[46]: His study examined the effects of prior military experience on exposure to organizational and field work events, and perceptions of stress among these events in police officers. Little empirical evidence examines the effects of such experience, despite the fact that police officers with military experience benefit from it within most US law enforcement agencies. It was hypothesized that police officers with more military experience would report fewer organizational work events and lower perceptions of stress in response to these events than officers with less military experience. This was based on the assumption that officers with more military experience have acquired familiarity with military work organizations through prior socialization. If so, empirical evidence is needed, given that previous studies have suggested that police officers report greater perceptions of stress in response to the organizational work events and situations experienced in law enforcement. Contrary to expectations, police officers with more military experience did not report organizational work events or lower perceptions of stress among these events.

It was also hypothesized that police officers with more military experience would report more field work events and greater perceptions of stress among these events, since the field work events experienced in law enforcement are different from combat activities experienced in the military. Again, contrary to expectations, more military experience did not predict more field work events or greater perceptions of stress.

Findings suggested that controlling education, police rank, section assignment and years of police experience, more military experience has no significant effect on exposure to organizational and field work events, or perceptions of stress. While more military experience was associated with less education, it may be that officers with more military experience had less time to pursue a college education due to

military obligations. Also, these findings question Dunlap's (1999) assertion that it is difficult for military personnel trained in combat to abandon these skills and function as police officers. Based on the present results, police officers with more military experience are not significantly different from officers with less or no military experience at least in terms of exposure to organizational or field work events and stress reactions. Thus, more military experience explains little of the variance among work events or perceptions of stress. Considering the power analyses results, which show that the sample size was sufficiently large to predict these effects, it may be that other factors influence exposure to work events experienced in law enforcement as well as perceptions of stress. Violanti (1992) suggests that prior learning, life experiences and personality type may influence coping responses following exposure to stress. Consequently these factors may mediate perceptions of exposure to law enforcement work events and stress reactions. It may also be that shift assignments affect exposure to law enforcement work events and stress reactions. Future research should examine the influence of these factors.

Overall, no significant relationships were found between police officers with more years of military experience and officers who did not have such experience. Officers with more years of military experience are not exposed to organizational or field work events at different rates nor are they more likely to report different stress reactions. Further research investigating the effects of functioning within a paramilitary law enforcement work environment is needed to support the assertion that the military model is an inappropriate management model for law enforcement agencies. As Evans and Coman (1988) suggest, organizational factors, such as better job outlines and improved lines of communication that result in police officers reporting dissatisfaction with the paramilitary organization, should also be examined.

Liberman Akiva M., *et al* (2002)[47]: The aim of the study was to find out the relationship between routine work stress and psychological distress and the sample size was 733 police officers in three US cities, during 1998-1999. The Work

Environment Inventory (WEI) was developed to assess exposure to routine work stressors. Their main findings were that exposure to routine occupational stressors predicted psychological distress among urban police officers. Moreover, exposure to routine occupational stressors was a stronger predictor than cumulative exposure to critical incidents. The WEI's unique predictive contribution persisted after statistically controlling social desirability, social support, and the time since the officer's most traumatic critical incident (when relevant). Their findings were consistent with a variety of prior reports that routine occupational stressors are more stressful to police officers than exposure to danger and critical incidents. Their study replicates the general finding with a large urban sample, while extending it in two important ways.

First, their study showed that the effect of routine occupational stress exposure is not attributable to traumatic aspects of police work. Their new measures of routine occupational stress exposure intentionally excludes critical incidents, broadly defined to include those that officers experience, witness, or are otherwise confronted with (e.g. notifying a victim's family). Moreover, they statistically control the effects of cumulative critical incident exposure. Nonetheless, over and above any effect of cumulative critical incident exposure, the WEI continued to predict psychological distress, and was more predictive of distress than cumulative critical incident exposure.

Second, their study extended prior findings concerning the importance of routine stressor exposure for police by virtue of their outcome measures (e.g. Crank and Caldero, 1991; Kroes et al., 1974; Violanti and Aron; 1993). Their finding that routine stressor exposure predicts general psychological distress generally replicates these prior findings. They also extend those findings to measures of PTSD symptoms. Officers reporting exposure to more routine work stressors also reported experiencing more stress symptoms in response to their most traumatic critical incident. This suggests that, beyond general psychological distress, exposure to routine occupational stress may be a risk factor for traumatic stress symptoms (see

also Carlier et al., 1997). It is particularly striking that this effect on traumatic stress symptoms is based on a routine stressor measure excluding traumatic events, and is larger than the effect of cumulative critical incident exposure, and persists when cumulative critical incident exposure is statistically controlled.

A secondary finding in their study was that while women and minorities reported a more discriminatory work environment, they did not otherwise report more exposure to routine occupational stressors. The finding that women and minorities reported a more discriminatory environment is consistent with earlier reports (e.g. Kroes 1982; Wexler and Logan, 1983). The absence of broader gender effects on exposure to routine occupational stressors is generally consistent with earlier reports as well (e.g. Violanti and Aron, 1995). For example, Brown and Fielding (1993) asked British constables about exposure to 54 different stressors. Many women reported exposure to sex discrimination or prejudice than did men (43 percent vs 3 percent). Few other sex differences were found, however, although some particular stressors were associated with more health symptoms for women (greater supervisory responsibilities, and not working in an insular location) and others for men (more conflict between work and home values, and more frequent arrests of violent persons). Women also reported less exposure to operational stressors involving potential for violence, but, if exposed, women reported more adverse reactions than their male counterparts. (Because we excluded critical incidents, our WEI results do not contain comparable data (Refer Pole et al, 2001; Weiss et al, 2001).

They have reported on the development of our new measure, the WEI, given its importance for our substantive findings. Generally, the measure demonstrated high internal consistency, although items were not highly inter correlated. Because the scale is more a checklist about features of the occupational context than a psychological scale, there is no a priori assumption of either high inter correlations or that an obvious structure would emerge. An exploratory, principal component analysis seemed primarily to distinguish items with a strong social component, as a second factor, from a more general factor. A three-factor solution further

decomposed the social factor, and separated unequal treatment into a third factor. But, in total, these factors only accounted for about one quarter of the measure's variance. Their purposeful exclusion of critical incidents explains why we did not find a factor of "psychological/physical threat," as did Spielberger et al. (1981), while our inclusion of discrimination items explains why we find a third factor stressing unequal treatment. Otherwise, that additional clear structure did not emerge, seems consistent with Spielberger et al.'s (1981) findings.

One additional feature of their measure was that 53 of the 68 items were worded in generic language that could apply to other occupations. The "generic" scale excluding the police-specific items was highly correlated with the police specific items, and thus with the score for the entire scale (as a result, our findings for psychological distress are essentially unchanged when police specific items are excluded from the WEI, although we have not specifically reported these reanalyses). Substantively, this high inter correlation suggests that the occupational stressors specific to police work (e.g. concerning safety and courts) are themselves associated with other occupational stressors, less specific to police work, such as the perceived public esteem of one's profession, one's relationship with supervisors and management, workplace discrimination and the adequacy of one's training and personal equipment. Because their sample is restricted to large urban police departments, our results may not generalize smaller departments, if larger and more bureaucratic departments produce more routine stress (e.g. Crank and Caldero, 1991; Gaines et al., 1991; Mastrofski 1981; Mastrofski et al., 1987; Spielberger et al., 1981). Recent research, however, suggests that department size accounts for little of the variance in routine stress (Brooks and Piquero, 1998).

Their findings raise several additional questions. Is the relationship between routine occupational stress exposures and psychological distress causal, so that routine work stress makes one more vulnerable to psychological distress? Or might these findings reflect underlying personality variables that affect both self-reports of routine stressors as well as self-reports of symptoms? Two such possibilities, for example, are

both suggested and ruled out by our findings. First, fairly strong social desirability effects were found on both the WEI and on symptom measures. Perhaps, then, bivariate results largely reflect individual differences in willingness to report both routine work stressors and psychological distress. However, the multivariate results show that social desirability does not account for the relationship. Similarly, social support is correlated both with the WEI and symptom measures. Perhaps individual differences in social skills affect both officers' abilities to use social support to buffer psychological distress as well as abilities to negotiate and manage routine work stressors. Here, too, the multivariate results rule out social support as a primary mediator of their findings.

Other unmeasured personality variables may possibly underlie both WEI and symptom scores. The correlational nature of the current study restricts our ability to disentangle the causal role of routine work stress. Nonetheless, the predictive utility of the WEI for stress symptoms among police officers is surprisingly strong, implying that routine work stress among police officers either plays a causal role or serves as a strong marker for psychological distress, including stress symptoms following critical incidents.

Abdollahi M. Kathrine (2002)[48]: The purpose of the study was to provide the reader with a comprehensive, cross-disciplinary overview of the police stress literature by framing it within the confines of the four categories. These categories were (1) intra-interpersonal (i.e., personality-related stressors), (2) occupational (i.e., job-related stressors), (3) organizational (i.e., organizationally related stressors), and (4) health consequences of police stress. The study concluded that Police stress has been a well-researched topic for several decades. Researchers have identified stressors relating to intra-interpersonal, occupational, and organizational issues. Furthermore, physical and psychological health consequences of police stress have also been explored. The vast amount of police stress research available is somewhat overwhelming. The purpose of this review was to present the information in a simple, precise, and comprehensible manner, mindful of the limitation that exists in this area.

Upon closer examination of this literature, several limitations have revealed. For example, stressors of law enforcement are not clearly defined. Although studies have continuously examined the different "types" of police stressors, most have relied on expert opinion to draw conclusions and/or contain methodological errors within their research, thereby failing to accurately define stressors. Another limitation is that although organizational stressors have been shown to have greater negative health consequences for officers, occupational hazards continue to be the focus of most police stress research. Finally, since its initiation over thirty years ago, police stress research has been conducted in the same manner. It has been exploratory, discipline specific, investigative in nature, and lacking a theoretical foundation.

Police stress research has been unpersuasive as to the existence of the unique and adverse police personality characteristics. Likewise, the notion that the nature of police work is inherently stressful and causes psychological and/or physiological damage to police officers is unsettled. Most importantly, investigations regarding organizational factors as contributory elements of police stress have remained non-progressive. As a result of insufficient clarification, research has been limited in this area.

Roberts Nicole A., *et al* (2001)[49]: These authors examined the impact of job stress and physical exhaustion on the physiological and subjective components of emotional responding during marital interactions between 19 male police officers and their spouses. For research purpose couples were asked to complete 30-day stress diaries and to participate in 4 weekly laboratory interaction sessions. Their results were supported previous findings, that residual job stress had potentially negative consequences on marriages. Specifically, they used an observational approach to analyze emotion (indicated by autonomic and somatic physiology and by self reported affect) during actual marital interaction, a paradigm that they had used previously to identify physiological and affective variables, predictive of marital distress and dissolution. Their study used a sample of police couples; a group whose

job stress can reach considerable heights and show considerable variability, and which was thought to be at elevated risk for a wide range of negative outcomes. In addition to evaluating the impact of job stress, they also examined how physical exhaustion impacts marital interaction and learned that the physical drain of work (i.e., physical exhaustion) is not necessarily tied to the emotional drain of work (i.e., job stress).

Furthermore, their results suggested that the effects of job stress were more costly and more widespread than those of physical exhaustion. Their findings suggested that couples need to be attuned to the days when working spouses have experienced high levels of job stress so that they can find ways to manage this stress constructively. This may include employing stress management techniques, making an effort to infuse positive emotions into marital conversations, and finding ways to talk about job stress rather than avoiding it. Employers should be made aware that job-related stress could have serious consequences, not only for employees, but also for their families. In the contemporary culture, experiencing high levels of workplace stress may be inescapable. Given this, it is important to devote resources to finding ways of dealing more effectively with job stress in the context of marriage and other intimate relationships. Raising the awareness of the emotional impact of job stress and exhaustion on interpersonal relationships was a critical step toward more successfully negotiating the competing demands of work and family.

Stephens Christine, *et al* (2000)[50], studied 527 (response rate was 52%) police officers who worked in one geographical region of the New Zealand Police, using a by questionnaire. Their findings predicted, a positive relationship between traumatic experiences and psychological or physical symptoms. Communication, in particular, about the ease to talk about the traumatic experiences, were related to psychological and physical symptoms. The prediction that higher social support, measured as communications, would buffer the relationship between traumatic stressors and physical or psychological health outcomes was supported only for some types of communication perceptions of the ease of talking about traumatic experiences at

work, communication about disturbing experiences, and positive and negative communication about work with peers. Communication about non-work matters with peers was found to interact with traumatic experiences, in that their relationship with PTSD or physical symptoms was stronger if there were more of these communication; a "reverse buffering" effect (Kaufmann and Beehr, 1989).

Negative communication with a supervisor about work was also found to weaken the trauma strain relationship at both high and low levels of communication. To explore the inter-relationships between these variables and to clarify these findings, they had begun with a discussion of the two main stages of the analysis. The regression equation demonstrated that the various types of communication at work taken together, and taking the effects of traumatic experiences into account, explained a significant amount of the variance in PTSD and physical symptoms. These results support the findings of Beehr and colleagues (1990) and Fenlason and Beehr (1994) regarding the importance of measuring the contents of communication with supervisors and peers. The present study extended these findings through the inclusion of an additional content of communication variable for this context: disturbing experiences'. When the relationships among all the communication variables were taken into account, the ease of talking about trauma at work, communication with peers about disturbing events, positive communication with peers about work, non-work and negative communication with the supervisor were important aspects of communication in direct relation to PTSD symptoms. Non-work related communication with the supervisor and the ease of talking about trauma were significant variables in relation to the reported number of physical symptoms. These results were congruent with the simple correlations, with one exception. Communication with peers about disturbing experiences showed a significant contribution to the equation, although there was no simple bivariate relationship. This was due to the officers perceptions of the ease of talk about trauma. On its own, the reported level of talk about disturbing experiences was not related to PTSD symptoms.

However, when the positive impact on psychological symptoms, attributable to how easy it is to talk about these things, was accounted for, then the perceived level of such talk was shown to be negatively affecting PTSD symptoms (as was negative communication with the supervisor). The direction of the main effect of these two variables on PTSD symptoms was not the expected effect and possibly related to having something distressing to discuss or complain about.

They concluded that the findings support previous work that emphasized the importance of social support as a variable intervening between the experience of trauma and psychological and physical outcomes. There is also encouragement for consideration of the content of communication and opportunities to talk about trauma, as important aspects of social support in preventing harmful outcomes. It is important to note that the moderating effects of such support occur only with

specific types of communication and when the support comes from particular sources. In every context, it is important to continue to work towards an identification of the precise nature of the support required, and in the present context, the actual matter of the communication. As in other studies (e.g. McIntosh, 1991), communication with others have been demonstrated as not straightforwardly supportive; they have the potential to be harmful too. In exploring the differential effects of such aspects of support on the effects of work-related trauma, future work will need to take into account some of the questions that have been raised by this study. For example, what is the qualitative nature of the relationship between talking about distressing experiences and negative talk about work? Similarly, what are the aspects of talk about disturbing experiences that seem positive to police officers? Are there work place attitudes that function to negate some of the beneficial aspects of communication, and in particular of disclosure?

There are also immediate implications for work-place interventions following traumatic stress. The demonstrated importance of communication with peers and the provision of a balance between the beneficial effects of talk about distressing

experiences and the harmful effects that these communication may support the development of interventions such as peer-support programmes (Paton, 1990). Such programmes include the provision of trained individuals who are able to meet the need for communication, without breaking down work-place `mores' of non-disclosure, that work to protect the larger group from the damaging effects of too much disclosure.

N. Kop. *et al's* (1999)[51], purpose of the study was to study and examine stressors in police work, focusing specifically on the lack of reciprocity that officers experience in relation with civilians, colleagues and the police service. The authors also tried to investigate the relationship between burnout and the attitudes of officers towards violence, as well as to their own use of violence. The study was conducted on Dutch police officers of two ranks: starting officers having less than 5 years of experience and experienced (senior) officers having more than 5 years of work experience. The sample size was n = 358(response rate 76%) and the tool used for collection of data was a self-report questionnaire. Confidentiality and anonymity were guaranteed to all officers. Out of the total respondents, 83% were male and less than 20% were females. For the purpose of study biographic variables such as age, gender, rank and work experience, both positive aspects (rewards) and negative aspects (stressors) of the job were measured by means of two questions and respondents were asked to list up to three most stressful and the three most rewarding aspects. A post-hoc categorization was made using content analysis. In the study burnout was measured with the Dutch version of the Maslach Burnout Inventory (MBI), containing 20 questions regarding the three areas that typify burnout (Schaufeli, and Van Dierendonck, 1993, 1994). Lack of reciprocity in relation with civilians, colleagues and the police organization was measured with one item for each relationship, concerning the balance between investments and outcomes. Attitude towards the use of violence during the interaction with civilians and violent behaviour were evaluated following Uildriks (1996) with six items and these items were scored by respondents on a 5-point rating scale.

The authors used a categorization of stressful and rewarding aspects of work made through qualitative content analysis and to assess inter-rater reliability, two independent judges were asked to classify the answers of the police officers into 20 categories of stressors and 14 categories of rewarding aspects. The findings of the study suggested that twenty categories of stressors were identified and these were divided into three main clusters: organizational stressors; emotionally demanding situations; and non-effectiveness of policing. Organizational stressors were mentioned more often than stressors related to job content, the second category of stressor was the content of police work which included emotionally demanding situations, such as informing relatives of a sudden death, dealing with suicide, fatal accidents, criminal or sexual offences with children and the last category concerned the poor effectiveness of police actions, reflected in feelings; this category included lack of structural solutions, and treatment of symptoms rather than causes. The study also explained that the officers mostly mentioned organizational aspects as stressors, particularly, they cited poor management, in terms of incapable or uninterested supervisors, bad mutual relationships, and a lack of internal communication. The positive aspects of police work were mentioned 963 times and contact with civilians or working with people was rated as the most rewarding part of their work (61%). For the level of burnout among police officers, research showed remarkable picture, the level of emotional exhaustion was considerably lower than for the reference group and no differences were found between female and male police officers emotional exhaustion. The study suggested that police officers experienced relatively less reciprocity from the organization (mean =2.43) compared to the public. Co-operation with colleagues was seen as an important positive aspect of police work as one-third of the officers mentioned it. A new feature of this study was the balanced approach to stressors in relation to positive aspects of police work. The study showed that, the picture of police work as a highly stressful occupation, clearly needs some critical re-evaluation, given the many positive aspects mentioned in this study. For police officers, there was a clear and positive balance between stressful and rewarding aspects of their work. Other important stressors were related to organizational factors like, police officers often mentioned, poor management,

reorganization, bureaucratic interference, administration, shift work, bureaucracy, and macho or unmotivated colleagues.

With regard to the level of burnout among the sample of Dutch police officers, they concluded that the level of emotional exhaustion was relatively low and three reasons were put forward by authors: (1) police work might not be so emotionally demanding as is often assumed in public opinion, (2) there might be a selection effect and (3) the police culture. The study found that there was a relationship between lack of reciprocity at the interpersonal and organizational levels and higher levels of burnout. For burnout and violence, the study found that male officers used more violence than females respondents of the study; further they reported that police officers who were less emotionally exhausted used more violence and the emotionally exhausted officers were less active. Finally, the authors recommended that police personnel management should pay serious attention to burnout in general and depersonalization among police officers in particular, in order to prevent escalating and violent behaviour.

GEETHA R. P. et al (1998)[52], in their study to find out the relationship and spill over effect on other dimensions of life with the help of subjective well being inventory (SWBI) (Sell and Nagpal, 1985). For data collection, General Health Questionnaire (GHQ) was administered among 201 policemen selected randomly from the city of Bangalore, India. The sample consisted of constables, head constables, assistant sub-inspectors and inspectors of police. They used Stratified Random Technique to get a proportionate sub sample from each group, after they obtained the list of police personnel of different ranks from the commissioner's office. The group was further stratified according to the nature of the work like traffic, crime, law and order with proportionate representation from all the three groups. They used Students t-test to understand the relationship of SWBI between the police and urban middle class men working in factories and to know the change between the police who are psychiatrically ill and are normal according to GHQ. They also performed stepwise multiple regression analysis to correlate some socio demographic and clinical factors

with a few dimensions of SWBI. Job stress, as measured by interview, did influence confidence in coping and family group support, perceived ill health and overall SWB score.

Research found that GHQ score had significant correlations with expectation-achievement congruence, confidence in coping and overall scoring. Over all SWB was influenced by GHQ score, it was job stress and type of service. They found that people who were posted in traffic, had more stress compared to the people who were posted in law and order, crime. This might be because traffic police had to stand for nearly 12 hours a day, working in sun and rain, needed to be alert throughout the working hours. More over, traffic police were exposed to a lot of smoke and dust emitted by vehicles and often had to deal with non cooperative public. People posted in traffic were found more of physical ill health. Further, they found that job stress was interfering with confidence in coping, family group life and perceived health.

They finally concluded that these could be a vicious circle, like job stress negatively influencing major spheres of life, which might further exacerbate the job stress. So, they suggested that there was a need for intervention either by the administrators or by mental health professionals to deal with such situation. The limitation of the study was that the results of the study could not be generalised to the police working in other states of the country. During the interviews, it was learnt that police working in Karnataka state were happier than the people working in other states as they were paid better salary, majority of them were staying with their families and the public were more cooperative and law abiding.

Brooks & Piquero (1998)[53], observed that in the past several decades, police departments, researchers and policy makers had been interested in identifying what was all about police work and why people believed that this occupation produced high rates of stress among officers. Extensive research was conducted to identify and rank order police stressors. After reviewing ample literature, they found the gap between research into the stressors of police work and the variables relating to the

organisational characteristics of the police department, especially the size of the department. The purpose of research was to examine whether differences in police stressors exist with regard to department size. It was expected that organizational or administrative stressors would remain the most stressful for all officers even when the size of the department varies.

They hypothesized that it was expected that in large police agencies, officers' stress scores would be significantly higher for administrative items than the scores obtained from officers in smaller police departments. Police stress was also expected to vary with demographic and police career variables, regardless of department size. For the research purpose, they selected ten police departments in the Maryland and Virginia areas. Deliberately, different size police departments were selected. The method of survey administration was varied by department preferences and constraints. All sworn police officers, regardless of rank or assignment were asked to complete those surveys. The size of sample was 2,316 officers and the response was in the accepted range. The tool utilised for collection of data was the Spielberger et al. (1981) stress survey and officers were given a list of 64 items dealing with stress and asked to rate it on a scale of 0-100 (with 0 indicating "no stress" and 100 indicating the most stress). Further, they also asked officers to estimate the frequency of occurrence for each of these items during the past year. They created nine Scales by summing each officer's answers and Cronbach's alpha, to check scale reliability, for each scale ranged from 0.68 to 0.92, which was within an acceptable range.

The authors found that each of the scales had a significant, positive correlation with the others, indicating that officers who experienced stress on one scale also experienced it on the others. Correlations range indicated moderate to strong, but not perfect correlations between scales. Given the strength of the correlations, it was evident that these scales appeared to tap different types of stress. Research indicated that administrative stressors appeared to be the most problematic for police officers and the other most stressful areas were stress relating to the public and the criminal justice system. The stress related to the possibility of danger in policing came after

both departmental type stress and outside stress. At the bottom, they found stress which was derived from personal challenges faced by the officer. Majority of the respondents had ranked administrative stress at number one, across all three sizes of police agencies, as it indicated that this was the most stressful category for all officers. Chi-square test also confirmed the same result.

Kirkcaldy Bruce *et al* (1998)[54]: Some interesting findings with regard to the demographics of occupational stress among senior police officers have emerged from this study. First, being married, and particularly having children, tends to inoculate senior officers from the pressures of the job. Married officers are less likely to be classed as having Type A behaviour patterns and are more likely to use a range of different coping strategies in dealing with stress. More importantly, if they have children, they are more likely to be job satisfied and are better able to manage the interface between home and work than non-parents. Given that this was a cross-sectional study, even though the sample size was large, there are several possible explanations for these results. Alternatively, marriage and children may help to put the job of policing into some kind of perspective, providing the social support to cope with the job demands. There was some suggestive evidence supporting the latter explanation and it was striking that among the least likely sources of reported stress among senior officers was having to compete with a working spouse/partner. Also these senior officers were much less likely divorced than was the case in the general population. There was some work, e.g. by Young (1984) who proposed that police officers' wives offset the occupational stress experienced by their partners. There was little evidence available that the reverse was true for senior women officers. It was also interesting to note that there were few differences between male and female superintendents on the stress or strain variables, but there were differences in coping strategies. Women senior police officers tended to use a greater number, and the more adaptive, coping strategies than their male counterparts. The sample of senior female officers was very small and further work should be undertaken when there are more women at these ranks. It is very likely that as a greater number of women enter the more senior ranks of the police service, as in the private sector (Davidson

and Cooper, 1992), the differences will become more apparent, as women feel more able to exercise their own management style, as opposed to one imposed on them by a male-dominated senior hierarchy. As Brown and Campbell (1994) point out, senior women officers experience career blocking, lack of organisational support and, like their patrol counterparts, suffer a degree of sexism inherent in the police occupational culture. Thus, their second finding is suggestive of qualitative rather than quantitative differences with respect to men and women senior officers' coping adaptations. Third, age seemed to be a factor in the stress-strain relationship, with older senior police showing less signs of job stress, particularly with the "home-work" interface issues prevalent in police officer lifestyles. This finding is in contrast to the work carried out among the Berlin police (Kirkcaldy and Cooper, 1992a), where there was a positive relationship between age and job-related stressors such as career factors, the home-work interface and relationships at work. It could be that age becomes a problem for more junior police officers, such as the German sample, but less of a problem as the officer approaches the higher reaches of the service, as in the case of the superintendents. Alternatively, by the time an individual achieves the rank of a superintendent, the problems of the home-work interface are less severe, and the stresses of the job are put into context as retirement approaches, especially with the opportunities of reasonable early retirement terms. At the time of data collection, there was a wide-ranging enquiry into the structure, pay and conditions of the British police service (Sheehy, 1993).

Managerial competency and performance were significant aspects of police reform. It may be that officers at this rank positively welcomed retirement, given the organisational upheavals likely in the aftermath of the proposed changes. Finally, it was also interesting to note that the higher the status of the branch of the service, the less the stress indicators. For the detective branch, CID, results indicated higher job satisfaction, although higher Type A as well; whereas for "traffic" or HQ support departments, poorer mental health and job dissatisfaction were found. This is consistent with other similar research in the private sector (Cooper and Payne, 1991). The practical applications of the research can be found in helping to target remedial

interventions. Women officers may benefit from mentoring or more explicit organisational support which informally their male colleagues are more likely to enjoy. Senior managers in the police, especially men, could benefit from task-orientated coping strategies such as delegation, planning ahead and better timetabling of work.

It was evident that best mental and physical health and organisational adaptation was reported by officers having a mixture of previous job assignments, rather than being employed in one major area of policing. The movement between general uniform duties and specialist functions such as investigation or traffic is relatively static. Her Majesty's Inspectorate of Constabulary (HMIC) proposed a tenure policy, the aim of which was to increase such movements (HMIC, 1993). This policy may have an additional effect of stress reduction. In the absence of such a policy, a more fluid approach to cross-service experience might usefully be considered. Their study has highlighted the role of demographics in the stress-strain relationships, variables which are often forgotten or minimised in this field (Cooper and Payne, 1988). It appears qualitative as well as quantitative aspects of stress exposure and coping adaptations can be modified by job and demographic characteristics. Taking parenthood, age, type of job experiences into account can heighten understanding of the stress process, and how stress affects individuals differentially.

Stephens Christine and Miller Ian (1998)[55]: Their study was exploratory and had two broad objectives: first to determine the prevalence of PTSD symptoms in New Zealand police officers and second, to examine the relationship between traumatic events and PTSD incidence in the New Zealand Police. One thousand police officers who worked in one geographical region of the New Zealand Police were distributed questionnaire through the internal mail of the organization and returned anonymously to the researcher by prepaid post. The total return rate was 52 percent (sample size of study 527 officers). The study found that the mean score and variance on the measure of PTSD symptoms in the present study matched those found for a group of civilians who had experienced a natural disaster in New Zealand (M =

78.24; SD = 16.12; Eustace, 1994). Comparisons of the percentages of those classified as PTSD cases with other surveyed groups, revealed similar results; the New Zealand sample showed the same percentage of cases at two different cut-off points as did civilians who had experienced violence and crimes in the USA (Norris, 1992). However, a New Zealand community sample of war veterans (Long et al., 1992), whose PTSD symptoms were assessed using the Military Mississippi, showed a greater percentage of cases. These figures suggest that police officers are at a similar risk of developing PTSD symptoms as other members of the community who have experienced at least one traumatic stressor, although military combat is probably a more severe stressor. The finding that officers with no educational qualifications had higher PTSD scores is consistent with previous findings (e.g. Norris, 1992; Vincent et al., 1991). Members of the CIB and the traffic safety branch showed higher mean PTSD scores and CIB members also reported higher trauma scores as predicted. In particular, members of the CIB were more likely to have been assaulted or attended horrific homicides. Although, those in traffic safety reported lower numbers of trauma, a higher percentage reported military combat which is a possible explanation of their higher levels of PTSD.

The prevalence of PTSD symptoms in these working police officers is similar to that in other civilian populations who have experienced a traumatic event. As in these populations, most individuals recover from trauma and do not develop disorder. However, for the percentage who do have difficulties, an increase in the number of work related traumatic experiences is associated with higher PTSD symptoms and the particular traumatic experiences that are related to PTSD are more likely to be part of police work. A closer examination of the nature of traumatic experiences in police work is warranted, as part of the approach to the prevention of adverse psychological outcomes in working police officers. The findings provide additional support for the notion of cumulative effects on symptomatology of increasing number of traumatic experiences and have important implications for organizations in which employees are likely to suffer periodic or chronic exposure to traumatic events.

Beehr Terry A. *et al* (1995)[56] studied 177 police officers and their spouses from, the Eastern U.S. and a suburban county department, two metropolitan areas and completed separate questionnaires regarding stress and coping. The research focused on a unique subset of married officers and their spouses only. In order to assure security of the officers' identities, all questionnaires were anonymous. The authors used multiple regressions analysis and separate principle components analyses with oblique rotations computed for police and their spouses on the coping items in order to determine the structure of coping activities used. The study found that four coping activities in which at least some police and their spouses report engaging when they experience stress were problem-focused coping, emotion-focused coping, rugged individualism, and religiosity. While two obviously fit the familiar problem- and emotion-focused dichotomy, the other two seem less clear. Religiosity, because of its potential calming effect, might be a more likely emotion- than problem-focused, although the correlations only suggested this for spouses and not police. Rugged individualism did not seem to be categorized as easily conceptually, and the correlations only add to this confusion. It was equally strongly correlated with problem- and emotion-focused coping among police, and not related to either of them among spouses. Latack and Havlovic's (1992) review and integration of potential occupational stress coping measures provided further insight into the nature of these four coping activities. They interpreted previous literature as suggesting four primary categories, determined by two dichotomies. The first was the emotion-focused versus problem-focused dichotomy. In addition to it, each of these can be divided into cognitive versus behavioural coping activities. In this scheme, the police officers using religiosity and emotion-focused coping activities might be using cognitive approaches to coping, while they were using behavioural coping when they engaged in problem focused coping or acted as rugged individuals. Thus, the officers were reporting some varieties of coping on these dimensions. In addition, the positive correlation among many of the coping indices implies that police and their spouses may use more than one of these techniques. The preference for problem-focused strategies that sometimes seems advocated in the

literature was not entirely supported by the data. While one's problem-focused coping activities tended to be negatively related to one's own strains (indicating potentially successful coping), emotion focused activities showed this relationship even more consistently. One recent study (Parkes, 1990) of student teachers had found a similar result, but the history of written work on coping has advocated problem-focused over emotion-focused coping. This emphasizes the point that future research should not confuse coping effectiveness with coping techniques in written measures (Latack and Havlovic, 1992). Religiosity seemed to have no effect, one way or the other, on the police officers' strains, although it might be useful for spouses. Thus, while turning to religion was clearly a coping technique reported by some officers, it appears unlikely to be either particularly helpful or harmful in coping with police stress. Folkman, Lazarus, Gruen and DeLongis (1986) had reported no relationship between religiosity and strains in a life stress study, but they measured religiosity as a stable personality dimension rather than as a response to specific stressful situations, as in the present study. The present results are nevertheless consistent with the previous study. For rugged individualism, a potential coping activity fitting the stereotypical image of a police officer, there was no evidence that this could be helpful in coping with police stress.

The regressions actually show how it relates positively to the strains, suggesting this is a harmful rather than a helpful coping style. Because police officers do report using this technique, however, further research on it is warranted. In fact, if it were a harmful coping mechanism, it is just as important to learn more about it as if it were an effective coping technique. Future research might be aimed at discovering its source. For example, if its source is in stable personal inclinations of police officers, this suggests that selection could be improved. If its source is post-hiring socialization, then training might be advocated. The spouses' coping activities do not appear to have the same effects on their strains as the officers' coping techniques have on their own strains. For them, the data are consistent with the idea that all of the coping activities except rugged individualism potentially have an effect on at least one strain. In spite of this, the structure of coping activities of spouses was very

similar to that of the police officers. The same four coping activities were identifiable for each. There was some tendency towards the birds-of-a-feather or selection process regarding couples' coping. That is, likes may attract, and people tend to marry those who have similar coping preferences. This was true for two of the four coping styles: religiosity and problem focused.

A second coping measurement issue regarding the use of stimuli for respondents, to consider while reporting their coping activities is whether the stimulus should be provided directly by the researcher or directly by the respondent. The respondent provides the stimulus if he or she is asked to think of a recent stressful situation and to report his or her potential coping behaviors in response to it. This should have the advantage of obtaining information about actual situations. It also has disadvantages, however, (1) of letting respondents, with their own biases and attributions, decide what stress is, (2) of potentially choosing an unrepresentative set of stressor situations (e.g. ones the respondents thought they coped with successfully or ones that are socially acceptable in some way), and (3) of potentially not being a middle-range approach (if this is desirable), because the range of situations chosen as stimuli is uncontrolled and unknown. The alternative used in the present study was to control the stimulus situation by using a set of vignettes. Although this provides the advantages of control, it loses the potential advantage of examining actual events. The superiority of one of these approaches vis-a-vis the other can be debated, but comparative research is called for in order to know which, if either, might lead to more interpretable and valuable information about coping with job stress. One interesting issue would be to discover the nature of the actual situations chosen when respondents provide their own stimulus situations and how these compare to the stressor situations from which a stress researcher would choose because they have been identified by previous research.

Hurrel Jr. Joseph J's., (1995)[57], article clearly provided a great impetus for a renewed research interest in occupational stress coping strategies in possibly high stress occupations such as policing. The study also tried to provide the new ground by

systematically considering the effects of both employee and spouse coping and by broadening the focus of interest in occupational stress coping including largely overlooked stress coping strategies. The results of the study indicated that both the police officer respondents and their spouses reported that they utilized problem-focused coping behaviors more frequently than the other three types of coping behaviors studied (emotion-focused, religious, and rugged individualism). However, emotion-focused coping behaviors and not problem-focused behaviors were found to be more consistently associated with strain reduction. This is clearly not an uncommon finding. Some studies (e.g. Howard, Rechnitzer and Cunningham, 1975) suggest that problem-focused coping could actually increase strain. Such seemingly unexpected findings have led many to conclude that the effectiveness of problem-focused versus emotion-focused coping for reducing the effect stressors on strain is a function of controllability of the stressor, coping of any type being ineffective in situation beyond the any individual's control.

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CHAPTER – 4
THEORETICAL FRAMEWORK:

INTRODUCTION:

This chapter provides the conceptual frame work based on literature review. It will explain the key factors, variables and the relationships among theories or models and will provide a theoretical overview. The conceptualization will help in identifying and answering the research questions and will also guide the data collection process for this study.

With the recent attention on police suicide, a number of cases have been reported in the media and studies have been undertaken to review these cases and studies indicate that one of the reasons of police suicide is the high level of stress. Between 1934 and 1960 police suicide rates were half that of the general population. Between 1980 to the present, suicide rates in some departments almost approach double. Reviews and research findings showed that the main reason behind police suicide was the high level of stress. In recent times, the stress level on police seems to increase with a high speed, so there is a need to check the reasons behind the growing stress level among police personnel in Gujarat.

The Gujarat police have been quite satisfactory in keeping their objectives aimed at total peace for the state. The role and need of the police at the time of any types of emergency is remarkable at national level in general. But in particular they are the messengers of God during natural disasters for Gujarat people. Even in handling criminal cases they are amazing at pointing and striking out the problems.

There has been a lot of research on the negative effects of stress on people in general. It is a proven fact that police work is one of the top rated professions for job stress next to air traffic controllers and dentists.

The main purpose of this study is to find out the various symptoms and sources of stress among police personnel in the selected cities of Gujarat. The study also focuses on the idea of what stress is scientifically, how it relates to the police job and can give us an idea of what cops may need to do to help them with stress.

4.1. THEORETICAL FRAMEWORK:

Based on the literature review, it is expected that the results of the survey will confirm that police officials are indeed stressed and cope with it ineffectively; that there is a positive correlation between stress and work; stress and alcohol/ substance/cigarette use or abuse and stress and personal and interpersonal relationships.

TABLE 4.1: Occupational Stress Evaluation Grid (OSEG)

Levels	**Stressors**	**Interventions**	
		Formal	**Informal**
Socio cultural	Racism; Sexism Ecological shifts Economic downturns Political changes Military crises	Elections Lobbying/political action Public education Trade associations	Grass roots organizing Petitions Demonstration Migration Spouse employment
Organisational	Hiring policies Plant closings Layoffs, Relocation, Automation, Market shifts, Retraining Organisational priorities	Corporate decision Reorganization New Management Model Management consultant in-service / retraining	Social activities Contests; Incentives Manager involvement & ties with workers Continuing education Moonlighting
Levels	**Stressors**	**Interventions**	

		Formal	Informal
Work Setting	Task (time, speed, autonomy, creativity) Supervision Co-workers Ergonomics Participation in decision making	Supervisor meetings Health/safety meetings Union grievance Employee involvement Quality circles Job redesign In-service training	Slow down/speed up Redefine tasks Support of other workers Sabotage, Theft, Quit, Change jobs
Interpersonal	Divorce, Separation Marital discord, Conflict, family/friend, Death, illness in family Intergenerational conflict Legal/financial difficulties Early parenthood	Legal/financial services Leave of absence Counseling, Psychotherapy Insurance Plans Family therapy Loans/credit unions Day care	Seek social support/advice Seek legal/financial assistance Self-help groups Vacation/sick days Child care
Psychological	Neurosis, Mental illness, Disturbance of Affect, Cognition or Behavior Ineffective coping skills Poor self-image Poor communication Addictive behavior	Employee assistance (referral/in house) Counseling, Psychotherapy Medication Supervisory training Stress Management Workshop	Seek support from friends, family, church Self-help groups/books Self-medication Recreation, leisure Sexual activity "Mental health" days
Levels	**Stressors**	**Interventions**	

		Formal	Informal
Biological	Disease, Disability Sleep, Appetite disturbance, Chemical dependency Biochemical imbalance Pregnancy	Pre placement screening Counseling Medical treatment Health education Employee assistance Maternity leave	Change in sleep patterns? Waking habits Bag lunch Self-medication Cosmetics Diets, exercise Consult physician
Physical / Environmental	Poor air, climate Noise exposure Toxic substance exposure Poor lighting Radiation exposure Poor equipment design Bad architecture	Protective clothing/ equipment Climate control Health/safety committee Interior decoration Muzak Union grievance	Own equipment, decoration Walkman, radio Consult personal physician Letters of complaint

Source: The Nuts and Bolts of Assessing Occupational Stress: A Collaborative Effort with Labour – Jefferson A Singer et al. published by NIOSH in May 1987.

TABLE 4.2: THE PERSONAL AND ORGANISATIONAL EFFECTS OF OCCUPATIONAL STRESS

The Personal and Organisational Effects of Occupational Stress :			
Personal		**Organizational**	
	Alcohol abuse		Accidents
	Drug abuse		Thefts
	Emotional Instability		Reduced productivity
	Lack of self-control		High turnover
	Fatigue		Increased errors
	Marital problems		Absenteeism
	Depression		Disability payments
	Insomnia		Sabotage
	Insecurity		Damage and waste
	Frustration		Replacement costs
	Anxiety		Inflated health-care costs
	Psychosomatic diseases		Unpreparedness
	Eating disorders		Lack of creativity
	Boredom		Increased sick leave
	Mental illness		Premature retirement
	Suicide		Organizational breakdown
	Health breakdowns		Disloyalty
	Irresponsibility		Job dissatisfaction
	Violence		Poor decisions
			Antagonistic group action

Source: A Review of Organizational Stress Assessment Instruments by John W et al published by NIOH in May 1987.

Indicators of stress may include psychological symptoms such as job dissatisfaction and anxiety, physiological strains such as high blood pressure and behavioural symptoms such as excessive consumption of alcohol or excessive smoking. Many physiological, behavioural and psychological strain factors have been identified in the available literature (Blau, 1981; Kroes, 1976; Larocco and Jones, 1978; and Schuler, 1980). It is well established that employee reports of stressful job conditions (stressors) correlate with employee affective and health outcomes or strains (Chen and Spector, 1991).

There are indications (Adams, 1978; French and Caplan, 1964) that the effects of chronic everyday stress are more pervasive, adversely affect productivity and satisfaction as well as health.

4.1.1. Age Difference and Stress:

Employees may enter occupations with different levels of emotional and physiological resistance and resilience to the demands of work. As employees age or are exposed over time to more emotional and physiological trauma, consequences for mental and physical health may increase. (Caplan, 1985). Schwartz and Schwartz (1975) noted that among older police officers, suicide is more common and may be related to alcoholism, physical illness or impending retirement. Though it has so far been ignored in India, the problem of suicide among police officers is both formidable and important.

In a study on policemen opting for suicide, Friedman (1968) offered a sampling of the characteristics of 93 New York policemen who had committed suicide, between January, 1934 and January, 1940. The officers ranged in age from 24 – 50 years with about 10 per cent in their 20s, 45 per cent from 30 – 39 years, 30 per cent in their 40s and 15 per cent in their 50s. The peaks of suicide occurred from 30 to 35 and from 39 to 45 years of age. The British psychoanalyst, Elliott Jacques (1965) contends that a peak in the death rate between 3.5 and 4.0 is attributable to the shock which follows the realization that one is inevitably on a descending path.

Writing about stress and the middle aged manager, Harry Levinson (1981) described the shift into disillusionment: "This period is essentially a mourning experience like regret, sorrow, anger, and disappointment for something which has been lost – one's precious youth and with it the illusion of omnipotence and immortality. It is necessary to be free to talk about the loss, the pain, and the regret, and even to shed a tear, literally or figuratively. We do indeed die a bit each day, we have a right to be shaken by the realization when we can no longer deny it."

Behind the flowering of middle age, a critical physical and psychological turnaround process occurs that is reflected in the indexes of health. Statistics from Life Extension Examiners indicate that specific symptoms such as extreme fatigue, indigestion and chest pains rise sharply among young executives just moving into top management (1965). Only one – third of the symptoms found in the 31 to 40 year old management group can be traced to an organic cause (The Examiners report P. 56). They suggest that these problems come about because of the manner in which men live and the state of mind in which they work. While some explanations for this increase in symptoms are no doubt a product of the ageing process itself, there are more pressing psychological forces (Levinson, 1981). Age differences have been reported to exist in context of stress vulnerability to disease and burnout by several researchers in the study of Indian police too (Bhasker, 1986; Dangwal et. al., 1982; Pillai, 1987; Suresh, 1992).

4.1.2. Level of Education and Stress:

It would be appropriate to suggest that the educational level of an individual would influence his / her expectations, level of awareness, performance and perceptions. So far, there is scant available information regarding the role of one's educational background in relation to job stress. The crucial role of perceptual and cognitive characteristics in determining perceptual differences cannot be undermined. The investigator's interest in any difference due to educational level is born out of the notion of appraisal as expounded by Lazarus, 1966, 76.

The role of learning and experience in assessing / evaluating the various elements of the person's situation has been discussed (Lazarus, 1976). Taking a cue, the hypothesis that there will be differences in the stress index scores of postgraduates, graduates and undergraduates and that perception of the stressfulness of stressors will differ among these groups has been formulated. Dangwal et. al., (1982) have observed that higher the educational qualification, higher is the stress. Bhasker (1986) found education correlated negatively and significantly with ego ideal. The hypotheses regarding educational difference formulated in this study are really a leap in the dark.

4.1.3. Rank Differences and Stress:

Groups of workers may share a common perception: e.g., they may perceive the other group as being given less workload, Social comparisons and the nature of interpersonal relations may promote feelings of fairness or inequity determining perceptions of stressfulness at work (Caplan, 1985). There have been indications that psychological, emotional or physical stress experienced by police officers may vary by career stage and by ability to handle stress (Kasl, 1989). In a study on Work, Stress and Strain among Police Officers (Ezra and Pendleton, 1989), data relevant to stress and strain were analyzed separately for 159 police officers with High Work Loads (HWL) and Low Work Loads (LWL) on traffic duty.

The sources of stress and strain were different for the two groups. For the LWL, the sources of stress and strain were difficulties in interpersonal relations with peers, community and especially with supervisors. Sources of stress among HWL were stress producing events in their lives in general as well as in performing the job of patrol officer and in dealing with crime and related matters.

The differences between the subjects can be explained by Social Comparison Theory or by Identity Theory. Gudjonsson and Adlam (1985) in a study comparing the occupational stressors of probationary constables, station sergeants and senior officers found significant differences in the reported levels of stress. There were

differences between the groups, the probationers more frequently reporting dangerous or violent confrontations when dealing with messy car accidents; the senior officer's most frequently citing paperwork and job overload as causing stress.

Similar Indian studies have also noted that rank differences lead to differences in vulnerability to stress. Dangwal et. al., (1982) found police inspectors in age group 3140 years obtained the highest stress scores. Bhaskar (1986) reported in this context that scores vary for policemen of different ranks. Group differences based on hierarchical status in the police have been found to exist with relation to stress, somatic / health related problems, perception of stressors and coping responses (Bhasker, 1986; Mathur, Pragya, 1995, Pillai, 1997; Yadav, 1994).

This study further explores the rank differences in the police sample as reflected in the stress index scores, the somatic status, the perception of stressors and the use of coping strategies. It is interesting to note that though out of the 93 officers in Friedman's (1968) study of policemen committing suicide, 64 per cent were patrolmen but officers of high rank such as lieutenant and captain were also listed. Danto's (1978) data on suicide cases of 12 Detroit police officers revealed eleven were patrolmen and one was a sergeant.

4.1.4. Tenure of Service and Stress:

Acknowledging other possible explanations, Gudjonsson (1994) suggests that experience of police work modifies the type of situation which is perceived as stressful. While recruits find it stressful, for example, to deal with car accidents and mutilated bodies, senior officers are able to cope with this type of experience but are increasingly sensitive to any administrative or managerial errors they may make. In Friedman's (1968) study of policemen committing suicide, of the 93 officers, 37 to 40 per cent joined the department in the period from 1925 – 1927. Although the length of service was not specified, it seemed likely that the officer had been active for at least 10 to 15 years or more.

The length of service in the police organization may be an important factor related to the experience of stress, in that 25 police officers were evaluated at or shortly after their recruitment and then again two years later. Eleven officers were available for follow up, four years after recruitment.

MMPI scores showed significant changes over time suggesting increasing somatic symptoms, anxiety and vulnerability to taking alcohol. Beutler, Nussbaum and Meredith (1988) discussed the results in terms of peculiar stresses of police work and the need for periodic revaluation to prevent stress associated problems and also initiate early intervention programs. It would be appropriate to suggest that preparing and equipping the police right at the beginning, to handle stress effectively, would reduce the negative outcomes seen with the passage of time.

Niederhoffer (1967) proposed that policemen tend to feel more isolated than powerless or normless but that alienation generally rises throughout their career, reaching a peak at their fifteenth year of service at which point retirement and pensions are within sight and subsequently feelings of alienation diminish. Tenure of service was included for study in the present investigation. Particularly with reference to the quasi-military structure and specialized functions, police organizations are difficult to study. The freedom of the investigator is limited by the quasi-military structure, formal rules and regulations and the code of secrecy of the police. It was not possible to have a purely experimental design or probability sampling either. As mentioned by Caplan (1985), true experiments are the rarest of all in studies in the literature on psychosocial stress in work. Experiments usually involve only limited number of respondents because such experiments are expensive to run. Caplan also suggested there are pressures which make employees resistant to engage in true experiments with random assignment to conditions. Therefore, the present study employed purposive sampling and self-report questionnaires to collect data for analysis.

Controversy surrounds the subjective versus objective nature of the experience of stress. Most models focus on the objective organizational environment of the focal person or on the respondent. However, the subjective environment or the person assumes primary causal importance because the subjective perception of events is of critical importance (Eulberg, 1988). The self-report questionnaire used by the researcher would provide information about the chronic job stressors as perceived by the police. The concept of validity must be widened to enhance the role of applied social science in the emerging world scene, beyond the current emphasis on the methodological validity.

Vaughan (1989) opined that the quest for certainty, precision and exactitude as the single end of social science research is at best questionable. Rather than defend the merits of social science research in terms of conventional notions of the validity of instruments, the accuracy of the findings or the relevance of such knowledge for solving society's problems, Prewitt (1980) argued that our efforts to produce knowledge and the character of the knowledge produced must be judged in terms of other types of criteria. According to his reasoning, social science knowledge should not be judged solely in terms of its record of providing solutions for the social problems of this or another society, but also in terms of the extent to which social science efforts "help us to cope with and to comprehend, to participate and perhaps to avert social conditions that: shift, mutate, explode, combine and change." Therefore, the value of social science research and knowledge should be judged not according to the technical validity of the knowledge it produces (at least in any exclusive sense) or to the extent of the problem solving capability produced, but rather should be evaluated in terms of contributions to the refinement of debate and sharpening of the intelligence upon which the collective management of human affairs depends. It is in the light of the above that the present study is meant to be seen.

4.2. THE MODEL:

To measure the symptoms of stress, a model developed by Smith & Venter in 1996 has been used. The main areas covered are mental symptoms, physical symptoms and other symptoms including increased smoking, intake of tobacco products and medication. There are 12 mental symptoms items developed by Smith & Venter in 1996 i.e. Anxious, worry a lot, irritability, easily frustrated, aggressive outburst, poor concentration, forgetfulness, depression, poor motivation, want to be alone always, poor self esteem and feel out of control. There are 13 physical symptoms items which was developed by Smith & Venter in 1996 i.e. headache, spastic colon, indigestion, ulcers, high blood pressure, hyper ventilation, asthma, stiff sore muscles, trouble sleeping, decreased immunity, change in married life, change in appetite and palpitation. There are 3 other symptoms items developed by Smith & Venter in 1996 i.e. concerning smoking, alcohol consumption and medication.

To measure the sources of stress, the model developed by the same author (Smith & Venter, 1996) has been used in this particular study. The sources of stress include the 7 items of personal sphere developed by Smith & Venter in 1996 i.e. struggle to make decisions, worried about my health, burdened with unresolved issues of the past, suffer from depression, unmotivated to take up challenges and have to adapt to a new life style. There are 5 items of interpersonal sphere, developed by Smith & Venter in 1996 i.e. difficulty in communicating, lost interest in others, difficulty in controlling my anger, am a perfectionist in my expectations of others and see that others use me as a doormat. There are 10 items of work sphere developed by Smith & Venter in 1996 i.e. feel overloaded with work, struggle to meet deadlines, carry a lot of responsibilities, struggle to get along with superior-subordinates and peers, have to tolerate a lot of frustration, working long hours, no control over my work schedule, dissatisfied with my salary, my work is boring and not challenging, perfectionist in execution of my task. One additional attribute has been used which is not a part of the model developed by Smith and Venter in 1996 that is post retirement departmental issues. There are 4 items of recreational sphere developed by Smith & Venter in 1996 i.e. spend a lot of time under the influence of drugs and alcohol, do

not have any free time, too tired to use my free time constructively and have free time but no interest/activities to fill it with.

The Coping Strategies developed by Miller in 1988 have been used to check the extent of practicing by the respondents. The items include maintaining a sense of humor, meditating, getting a massage, exercising regularly, eating more sensibly, limit intake of alcohol, take refuge in family and friend, delegate responsibility and quit from the job.

The extent to which police personnel engaged in cigarette smoking, alcohol and eating tobacco products was assessed using a questionnaire, developed by Madu and Matla (2003). They indicate the number of cigarettes they smoked or/and tobacco product they ate in a day and how often they do. In addition, they indicate how old they were when they first started smoking and taking tobacco products.

4.3. RESEARCH QUESTIONS & STATEMENT OF PROBLEM:

The functions of the police encompass preservation of law and order, to safeguard people from attack and to protect property among others. The society expects the cop to play these varied roles with equal elan. He is a helper, saviour, friend and referee. Then, as a law enforcer he makes an arrest or uses force to enforce the rule of law. This roller – coaster ride is a process difficult to understand functionally and incomprehensible emotionally (Bratz, 1979).

The police profession is not rewarded as compared to other professions in the society. They are so important not only for an individual but also at group, regional and national levels, as providing safeguard etc but not been treated properly as per their nature of work. Their working hours are normally uncertain as compared to other professions. As compared to other professions, police personnel have a high level of threat to their life and sometimes to their family life too. One major problem in our society is that police profession is not given as much respect as it deserves.

Keeping in mind all these important aspects, the following questions have been raised for their monetary, non-monetary, professional and personal improvement which provides them a concrete guideline for their betterment.

1. Are the police personnel of Gujarat suffer from stress? If yes then what is the severity of stress?
2. What are the main sources of stress among police personnel of Gujarat?
3. What are the reasons behind working long hours?
4. Do the post retirement issues cause stress among the police personnel of Gujarat?
5. Does the security of job cause stress among the police personnel of Gujarat?
6. How important is the unavailability of time for social issues for the police personnel of Gujarat?
7. Is there any impact of professional life on personal life of the police personnel of Gujarat?
8. Do they know about the term stress and their coping strategies?

4.4. RESEARCH GAP:

Research Gap has been divided into two categories, first, on the basis of time duration and the second on the basis of geographic location. Beyond this, a minor model modification has also been done in this study.

Periodical:

Pestonjee (1992) - in his compendium of stress research in India noted that there are only two studies on police professionals. Bushra Banoo pointed out that only few researches have been conducted on Indian police. They are as follows:

Dangwal et al. (1982) - He studied a sample including three states and subordinate police personnel only. They suggested a more representative sample including more states and also inclusion of all the levels of police hierarchy.

Bhaskar (1982) - He also suggested exploring the relationship between behavioural, psychological and health effects and the experience of job stress among police.

Pillai (1987) - His study suggested the need for periodical diagnosis of stress and related symptoms, to reinforce improved functioning of system and enhance the health and job satisfaction among police personnel.

Ramchandaran (1989) - He suggested the need for a more intensive study which would depict insights into behavioral patterns at other levels of hierarchy.

Tripathi et al. (1993) - They widened the scope for a larger and more representative sample in future studies on police personnel. His study was based on four districts to UP state.

Suresh (1992) - He also emphasized the need for research, to extend the findings of his study to include police officers in divergent regional and culture context.

Mathur (1999) - He suggested that longitudinal studies would be very good to identify the impact of police work on the individual. He also suggested that the family members of police personnel can also be included in future studies.

Regional:

At the global level, a number of studies have been conducted in the past on police stress but in Indian scenario very few systematic studies on police stress have been noticed. In depth study on the topic of stress among police personnel in Gujarat is yet to be carried out in a more scientific and advanced manner.

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CHAPTER - 5
RESEARCH METHODOLOGY

INTRODUCTION:

Research methodology is to be considered as a path maker, whistle blower and provide concrete guidelines to the researcher in any field and any kind of research. Without research methodology a research work looks like a building without a pillar, an effort without planning and a running train on track without any signal. It may be noted, in the context of planning and development that the significance of research lays in its quality and not in quantity. The need, therefore, is for those concerned with research, to pay due attention to designing and adhering to the appropriate methodology throughout for improving the quality of research. The methodology may differ from problem to problem, yet the basic approach towards research remains the same. Keeping in mind all these things, this chapter focuses on the research methodology and its various components used in this research.

With recent attention on police suicide, a number of cases have been reported in the media and studies carried out, review of these cases and studies indicate that one of the reasons of police suicide is the high level of stress. Between 1934 and 1960, police suicide rates were half that of the general population. Between 1980 to the present, suicide rates in some departments almost approach double. Reviews and research finding showed that the main reason behind the police suicide was a high level of stress. In recent times, the police stress has increased alarmingly, so there is a need to identify the reasons behind the growing stress level among police personnel in Gujarat.

Gujarat police have been quite satisfactory in keeping their objectives aimed at total peace for the state. The role and the need of the police in times of emergency is remarkable at the national level, in general. But in particular, they are the messengers of God during natural disasters for the people pf Gujarat. Even in handling criminal cases, they are amazing at pointing and striking out the problems.

There has been a lot of research on the negative effects of stress on people in general. It is a proven fact that police work is one of the top rated professions for job stress next to air traffic controllers and dentists.

The main purpose of this study is to find out the various symptoms and sources of stress among police personnel in the selected cities of Gujarat. The study also focuses on the idea of what stress is scientifically, the way it relates to the police job and gives us an idea of what cops may need to do to help them overcome stress.

5.1: RESEARCH OBJECTIVES:

i. To check whether the police personnel of Gujarat suffers from stress or not, if so then their level of stress and the possible ways to deal with it.

ii. To identify the key sources of stress the reasons of its occurrence and its impact on police personnel in Gujarat.

iii. To study the level of stress and its relationship with the hierarchy level of the police personnel in organization.

iv. To study the personal issues of police personnel which include worry about health, burden with unresolved issues in the past, suffering from depression and suffering from low esteem.

v. To find out the relationship between medication, smoking, consumption of alcohol with the stress level among police personnel in Gujarat.

vi. To check the relationship between the personal sphere and various symptoms of stress among police personnel of Gujarat.

vii. To check whether or not unresolved issues strengthen the level of stress among police personnel of Gujarat.

viii. To study the impact of depression if any on the level of stress among police personnel of Gujarat.

ix. To study the impact of work sphere on symptoms of stress among police personnel of Gujarat.

x. To check the association between being overloaded with the work and working long hours among police personnel of Gujarat.

xi. To study the impact of being overloaded with work on the level of stress among police personnel of Gujarat.

xii. To study the impact of dissatisfaction with salary on the sources of stress at work place among police personnel of Gujarat.

xiii. To study the relationship between post retirement departmental issues and the level of stress among police personnel of Gujarat.

xiv. To study the gap between Demand and Supply of qualified workforce leading to compelled excessive workload as well as pressure.

xv. To study the conditions of "what to do and what not to do" especially when police personnel feel heavily stressed out.

5.2: BENEFITS OF THE STUDY:

i. This study attempts to contribute to literature on the stress management among police officers in general and particularly in the state of Gujarat.

ii. It is expected that this study will contribute to a better understanding of the various reasons for stress among police personnel and different strategies for coping with stress among police personnel. This is expected to be useful to both the Government (Central & State) as well as policy makers.

iii. Most public policies seek to achieve certain objectives through changing the behavior of organizations or individuals. Government can use this study to achieve better performance by the police department in general and particularly by the government of Gujarat.

iv. It is also expected that this study will be helpful for police personnel to overcome various types of stress using coping strategies suggested by the study report and work efficiently in a competitive environment.

v. This study is also expected to generate some pointers to the emergence of new innovative system in India. The findings of the study may also be useful to other developing countries trying to reform or restructure their set-up of Police administration.

5.3: RESEARCH DESIGN:

The research design of this study is Descriptive and Analytical in nature. It is Descriptive as it has fact finding characteristics and describes the concept of stress and its relationship with police personnel in Gujarat and to establish the relationship between the level of stress among police personnel in Gujarat and demographic profile theoretically.

The study is Analytical as it involves a sound and scientific analysis of data with the help of measures of central tendency, measures of variation, hypothesis testing and regression analysis.

5.4: TARGET POPULATION:

The target population for this study is the State of Gujarat in general and the selected cities of Gujarat in particular. A total four cities namely Vadodara, Ahmedabad, Rajkot and Surat have been included in this study. So, the police personnel in all the four cities posted at different police stations on different positions are the target population of this study.

These four cities are very important in the state of Gujarat for numerous reasons. Vadodara is mainly known as the cultural capital of Gujarat and therefore its importance in this study.

Ahmedabad was known as the Manchester of Gujarat, known for the business environment. Moreover, it is the nearest city to the capital of the state of Gujarat. Gandhinagar. Due to its geographical advantage, Ahmedabad has almost all the essential and significant offices related to police personnel in Gujarat. So the police personnel in that city have been taken as a target population of this study.

Surat is known as a diamond city, not only in Gujarat but also at the global level and it is one of the biggest industrial areas in Asia Pacific and so the inclusion of Surat city and its police personnel for this study is justified. Study considered the police personnel of Surat city as a target population of this study.

Rajkot is best known for its geographical location as it is the connecting hub between Saurashtra and the rest of Gujarat and nearer to the coast. So it seemed appropriate to study the police personnel of Rajkot city as a target population.

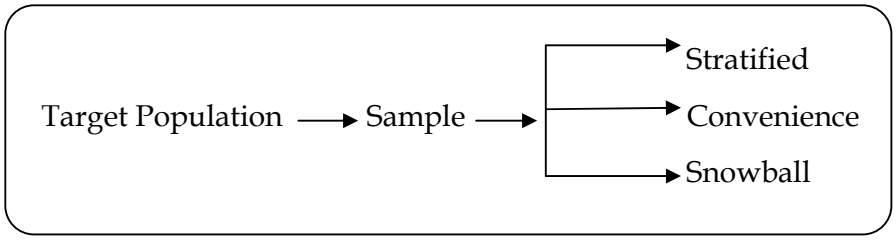
5.5: SAMPLING TECHNIQUES:

Multistage sampling with the combination of stratified, convenience and snow ball sampling has been used for this study due to data requirement and its diversity. No other sampling techniques were found to be appropriate than the above mentioned sampling techniques.

With the help of stratified sampling, the State of Gujarat was divided into various strata and a few among them were taken on the basis of some unique characteristics. Again, the city was divided into substrata on the basis of its similar characteristics.

Among the four strata which have been identified for this study, convenience sampling has been used to identify police personnel ready to act as a sample and provide the necessary information as per the requirement of the researcher.

Lastly, from the convenient police personnel identified as a sample, snowball sampling has been used to further identify the other police personnel to act as a sample for the study.

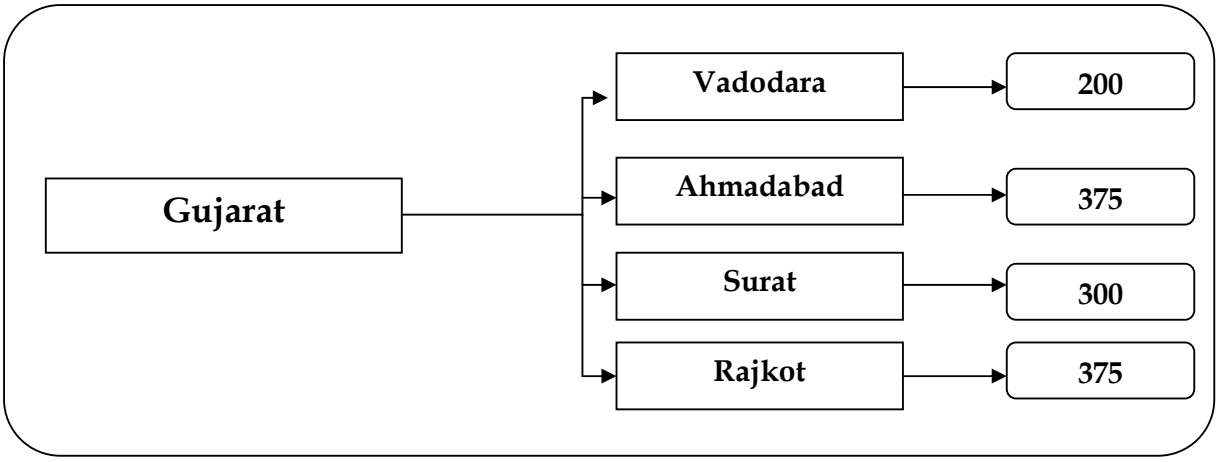


5.6: SAMPLE SIZE:

The calculation of sample size for this study is very difficult due to the huge number of police personnel as target population (numerically). But still, in consultation with experts across Gujarat (IIMA, IMNU and MSU) in this area, the researcher has attempted to find out the reasonable number which is considered as a true representative of that particular city in the State of Gujarat. As per the direction of Dr. Uma Sekaran in "Research Methodology" published by Wiley India, "Sampling

Techniques" by William G. Cochran published by Wiley India and with the expert advice in consultation with the research guide, the number of total respondent was decided.

Hence, keeping in mind the difficulty level, the total number of sample size taken for this study was 1250 respondents from the police personnel of the selected cities in the State of Gujarat. The Table below shows the city wise distribution of sample size for this study:



Furthermore, Ahmedabad and Rajkot had 375 number of respondent due to its size of the population and hence the size of police personnel. Surat & Vadodara had 300 and 200 respondents respectively, due to its nature of the police personnel posted and the general population.

5.7: METHODS OF DATA COLLECTION:

Primary methods of data collection with the help of a structured close-ended questionnaire were used for this study. Initially, the questionnaire was drafted on the basis of past references used by prominent scholars in that field. In the initial draft, the questionnaire had 80 questions. The entire questionnaire was divided into 5 parts namely: Demographic profile, Sources of stress, Symptoms of stress, Coping and Addiction.

Section A: It covers the demographic details of the participants. There are 13 items including age, gender, highest school grade passed; religion; race; ethnicity; place of residence (urban, semi urban or rural); whether parents are married/ never married / divorced / separated/ deceased; the number of dependents; name of the police station, rank in the police, component in the police and the number of years they have completed in the service.

Section B: It is an instrument that will measure the "Symptoms of Stress" (Smith & Venter, 1996). The main areas covered are mental symptoms, physical symptoms and other symptoms including increased smoking, intake of tobacco products and medication. The participants have to decide, to what degree they consider the nature and extent of their symptoms of stress on a 5 point Likert Scale. There are 12 items of mental symptoms, 13 physical symptoms and 3 other symptoms concerning smoking, tobacco products and medication.

Section C: It deals with Sources of Stress (Smith & Venter, 1996). The sources of stress include the personal sphere (12 items); interpersonal sphere (5 items); work sphere (10 items) and recreational sphere (9 items). The participants have to decide, to what degree they consider themselves stressed on a 5 – point Lickert scale.

Section D: This section assesses coping. Coping Strategies (Miller, 1988) will be used. The participants have to decide to what extent they consider themselves coping with stressful events on a 5 – point Lickert scale. The items include maintaining a sense of humour, meditating, getting a massage, exercising regularly, eating more sensibly, and limiting their intake.

Section E: The extent to which police personnel engaged in cigarette smoking, alcohol and eating tobacco products assessed using a questionnaire, developed by Madu and Matla (2003). They indicate the number of cigarettes they smoke or/and tobacco product they eat in a day; how often they do. In addition, they indicate how old they are when they first started smoking and consuming tobacco products; this measure includes "yes" and "no" categories and multiple choice answers.

5.8: RELIABILITY AND VALIDITY OF THE STUDY:

The study is valid if its measures actually justify what they claim to and if there are no logical errors in drawing conclusions from the data (Garson, 2002). Therefore different steps were taken to ensure the validity of the study. The theories that have been selected for the study were clearly described and research questions have been formulated based on previous theories. To check the content validity of the questionnaire, various experts in the field of academics and the psychologists from different organizations were contacted and the components of questionnaire were modified as per their instructions.

According to Garson (2002), reliability is a measure if the extent to which an item, scale or instrument will yield the same score when administered in different times, location or population, when the two administrations do not differ in relevant variables. The objective is to make sure that if another investigator follows the same procedures and uses the same case study objects, the same conclusion can be arrived at.

Cronbach's Alpha Reliability Index was used to evaluate internal consistency of each construct. Hair et al. (1998) suggests that that acceptable level of reliability index should be maintained at a minimum of 0.5 in order to satisfy the early stages of research; and over 0.7 is considered to be a good level.

Table 5.1: Reliability of the data

Sr. No.	Item	No. of Items	Cronbach's Alpha	Remark
1	Mental Symptoms of stress	11	0.75	Desired Level of Alpha is 0.700
2	Physical Symptoms of Stress	13	0.81	Desired Level of Alpha is 0.700
3	Other symptoms of Stress	3	0.83	Desired Level of Alpha is 0.700
4	Personal Sources of Stress	7	0.79	Desired Level of Alpha is 0.700
5	Inter Personal Sources of Stress	5	0.84	Desired Level of Alpha is 0.700
6	Sources of Stress (Work Spheres)	11	0.93	Desired Level of Alpha is 0.700
7	Recreational Sources of Stress	4	0.81	Desired Level of Alpha is 0.700
8	Symptoms and Sources of Stress (Total)	54	0.96	Desired Level of Alpha is 0.700

Source: Compilation from Primary Data

5.9: VARIABLE UNDER STUDY:

Table 5.2: Variables under study about various Symptoms of Stress		
Mental symptoms of stress	**Physical symptoms of stress**	**Other symptoms of stress**
Anxious	Headaches	Increased Smoking
Worry A Lot	Spastic Colon	Medication
Irritability	Indigestion	Increased intake of
Easily Frustrated	Ulcers	Increased Alcohol intake
Aggressive Outbursts	High Blood Pressure	
Poor Concentration	Palpitation	
Forgetfulness	Hyperventilation	
Depression	Asthma	
Poor Motivation	Stiff, sore muscles	
Want to be Alone Always	Trouble Sleeping	
Poor Self-esteem	Decreased Immunity	
Feel out-of-control	Change in Sexual Drive	
	Change in Appetite	

Table 5.3: Variables under study for Sources of Stress
Personal Sphere
Struggle to make decisions
Worried about my health
Burdened with unresolved issues of the past
Suffer from low self-esteem
Suffer from depression
Unmotivated to take up challenges
Have to adapt to a new lifestyle
Interpersonal sphere
Difficulty in Communicating
Losing Interest in others
Difficulty in Controlling my anger
Am a perfectionist in my expectations of others
See that others use me as a doormat

Work Sphere
Feel overloaded with work
Struggle to meet deadlines
Carry a lot of responsibilities
Struggle to get along with superiors, subordinates, and peers
Have to tolerate a lot of frustration
Work long hours
No control over my work schedule
Dissatisfied with my salary
My work is boring and not challenging
Perfectionist in the execution of my task
Recreational Sphere
Spend a lot of time under the influence of drugs and alcohol
Do not have any free time
Too tired to use my free time constructively
Have free time but no interests/activities to fill it with

Table 5.3: Variables under study for Sources of Stress

Coping Strategies
Maintain a sense of humour
Meditate
Get a massage
Exercise regularly
Eat more Sensibly
Limit intake of alcohol
Take refuge in family and friend
Delegate responsibility
Quit

5.10: HYPOTHESIS OF THE STUDY:

Table 5.4: HYPOTHESIS OF THE STUDY			
Sr. No.	**HYPOTHESIS**	**VARIABLES**	
		Independent	**Dependent**
$H0_1$	Mental Symptoms of Stress are independent of Physical Symptoms of Stress	Mental Symptoms of Stress	Physical Symptoms of Stress
$H0_{1a}$	There is no significant relationship between age and physical symptoms of stress.	Physical Symptoms of Stress	Age
$H0_{1b}$	There is no significant relationship between Smoking/Tobacco and the level of stress.	Smoking / Tobacco	Level of Stress
$H0_{1c}$	There is no strong association between consumption of drug, alcohol and level of stress.	Consumption of drug & Alcohol	Level of Stress
$H0_2$	There is no significant relation between personal sphere and symptoms of stress.	Symptoms of Stress	Personal Sources of Stress
$H0_{2a}$	Practicing Coping Strategies are independent of rank in the Police Force	Practicing Coping strategies	Rank in Police Force
$H0_{2b}$	Unresolved issues do not strengthen the level of stress among police personnel.	Unresolved Issues	Level of Stress among police personnel
$H0_{2c}$	There is no relationship between Depression and Stress.	Depression	Stress
$H0_3$	There is no significant relationship between Interpersonal sphere and Symptoms of Stress.	Symptoms of Stress	Interpersonal Sources of Stress
$H0_{3a}$	There is no correlation between level of stress and level of anger (short temper).	Level of Anger (Short Temper)	Level of Stress
$H0_{3b}$	Difficulties in communication are independent of the level of stress.	Difficulty in Communication	Level of Stress
$H0_4$	There is no significant relationship between Work sphere and symptoms of Stress.	Symptoms of Stress	Sources of Stress at Work Place
$H0_{4a}$	There is no association between being overloaded with work and the level of stress.	Overloaded with Work	Level of Stress

$H0_{4b}$	Overloaded with work and working long hours are independent of each other.	Overloaded with Work	Working Long Hours
$H0_{4c}$	There is no association between boring or/and less challenging work and the level of stress.	Boring or/and Less Challenging Work	Level of Stress
$H0_{4d}$	Cordial relationship among superiors, subordinates and peers are independent of the level of stress.	Cordial Relationship among Superior, Subordinates and Peers	Level of Stress
$H0_{5}$	There is no significant relationship between Recreational sphere and Stress among police personnel in Gujarat.	Recreational Sources of Stress	Level of Stress
$H0_{6}$	There is no significant relationship between gender and stress among police personnel in Gujarat.	Gender	Level of Stress
$H0_{7}$	Factors determining stress level of respondents are independent of their age.	Age	Level of Stress
$H0_{8}$	Factors determining stress level of respondents are independent of their Education.	Educational Qualification	Level of Stress
$H0_{9}$	Factors determining stress level of respondents are independent of their rank/position.	Rank/Position in Police Force	Level of Stress
$H0_{10}$	There is no evidence that the number of dependents is positively correlated with the level of stress.	Number of Dependent	Level of Stress
$H0_{11}$	There is no association between personal sources of Stress and Sources of Stress at Work Place	Personal Sources of Stress	Sources of Stress at work Place
$H0_{12}$	Sources of Stress at Work Place are independent of Dissatisfied with Salary	Dissatisfied with Salary	Sources of Stress Work Place
$H0_{13}$	Level of Stress is Independent of the Number of Cigarettes Smoked	Number of Cigarette Smoke	Level of Stress
$H0_{14}$	Level of Stress are Independent of regular Exercise	Exercise Regularly	Level of Stress

$H0_{15}$	There is no association between Level of Stress and Getting a Massage	Getting a Massage	Level of Stress
$H0_{16}$	Loss of Interest in Others is Independent of the Level of Stress	Lost Interest in Others	Level of Stress
$H0_{17}$	Post Retirement Departmental Issues are Independent of Level of Stress	Post Retirement Departmental Issues	Level of Stress
$H0_{18}$	Level of Stress is Independent of the Marital Status of the Respondents	Marital Status of Respondents	Level of Stress

5.11: STATISTICAL TOOLS FOR DATA ANALYSIS

The purpose of data analysis is to prepare a model whereby relationship between the variables can be studied. Analysis of data is made with reference to the objectives and hypotheses of the study. Analysis of data involves re-categorization of variables, tabulation for causal inferences.

The study made use of Excel for data processing. For the purpose of analyzing the data and for performing various tests, statistical and econometric packages (such as SPSS & SAS) have been used.

Furthermore, to analyze data various statistical tools such as Ratio Analysis, Percentages, Correlation, Regression Analysis, ANOVA and Paired T-Test were used to draw sound and meaningful conclusions.

5.12: LIMITATIONS OF THE STUDY:

Some major limitations of this study include the following points:

i. The major limitation for this study is that getting permission from the police department was very difficult and even when the permission was granted the police personnel were reluctant to provide the relevant information due to government and official rules & regulation and some time personal reasons.

ii. Respondents do not find additional time to respond as per the requirement of the study.

iii. Third major limitation of this study is that the suggestions and recommendations cannot be generalized. It will be applicable only to the concerned cities of the State of Gujarat.

5.13: DELIMITATION OF THE STUDY:

The major delimitation of this study is the geographical area and cities in the State of Gujarat. Researchers in the same field can take other cities in the State of Gujarat to conduct a survey on the same topic. This study is delimited to only four cities of the state of Gujarat. Other researchers can increase the number of cities for the same kind of study.

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CHAPTER – 6
DATA ANALYSIS AND INTERPRETATION

INTRODUCTION:

The data has been analyzed with the use of various statistical tools and techniques. The analysis of this study has been divided into six parts. The first part of the analysis focuses on the Demographic Profile of the respondents and the Cross Tabulation of the demographic Profile. The second part of the analysis deals with the Severity Index of Symptoms of Stress, Sources of Stress and Coping Strategies of Stress. The third part of the analysis focuses on the Regression Analysis, ANOVA and Post Hoc test. The fourth part of the analysis deals with the Correlation among the Attributes and the fifth part of the analysis deals with the Testing of Hypothesis followed by the Conclusions for this chapter.

Demographic Profile of the respondents (Table – 6.1) indicate that almost 75% of the respondents are 35 years of age or less while 36 years or above contains only 25% of the respondents. The maximum numbers of respondents were in the age range of 25 – 30 years while the minimum respondents fell between 58 and above or retired police personnel. The respondent's age breakup shows that the analysis and outcome of the study mainly depend on the perception and experience of the younger police personal. As table – 1 shows that 25% respondents are 25 years of age or below while the last 25% of the respondents are 36 years of age and above, rest of the 50% respondents are within the age group of 25 – 35 years.

The table confirms the gender bias towards police force as far as the total respondents are concerned. Female police personnel (2.9%) are less in comparison to male police personnel (97.1%). Level of education among the respondents (Table - 1) shows unequal distribution as was expected. In the police force recruitment, education is not considered a major criterion for the new entrant. 82% respondents were graduates or below while the post graduate and others had only 18% respondents which confirm that majority of the police personnel were not highly educated.

Table - 6.1: Demographic Profile of the Respondents			
		N	%
Age	Below 25	321	24.9
	25 -30	461	35.7
	31 -35	184	14.3
	36 – 40	114	8.8
	41 -45	70	5.4
	46 – 50	77	6.0
	51 -58	56	4.3
	58 & above Retd.	8	.6
	Total	**1291**	**100.0**
Gender	Male	1254	97.1
	Female	37	2.9
	Total	**1291**	**100.0**
Qualification	Up to HSC	339	26.3
	Graduate	722	55.9
	Post graduate	219	17.0
	Others	11	.9
	Total	**1291**	**100.0**
Religion	Hindu	1183	91.6
	Muslim	89	6.9
	Sikh	7	.5
	Christian	12	.9
	Total	**1291**	**100.0**
Category	General	523	40.5
	SEBC	429	33.2
	SC	234	18.1
	ST	105	8.1
	Total	**1291**	**100.0**
Place of Residence	Urban	765	59.3
	Town	243	18.8
	Rural-Village	283	21.9
	Total	**1291**	**100.0**
Marital Status	Married	947	73.4
	Unmarried	289	22.4
	Divorced	40	3.1
	Others	15	1.2
	Total	**1291**	**100.0**
Number of Dependants	Nil	579	44.8
	0ne	225	17.4
	Two	215	16.7
	Three	135	10.5
	Four	100	7.7
	Five & above	37	2.9
	Total	**1291**	**100.0**
Location of Police Station	Urban	859	66.5

	Town	220	17.0
	Village	177	13.7
	Out post	35	2.7
	Total	**1291**	**100.0**
Unit of Current Posting	Police Station	1129	87.5
	Police Chowki	162	12.5
	Total	**1291**	**100.0**
Rank in the Police Force	DG, ADG, IG, SPL, IG, DIG	3	.2
	DSP/DCP, DYSP/ACP	71	5.5
	PI	126	9.8
	PSI, JAMADAR, HEAD CONSTABLE, CONSTABLE	1091	84.5
	Total	**1291**	**100.0**
Experience	UP TO 5	641	49.7
	6 -10	360	27.9
	11 – 15	158	12.2
	16 – 20	63	4.9
	21 – 25	30	2.3
	26 -30	30	2.3
	Above 30	9	.7
	Total	**1291**	**100.0**
Income in Rupees	Below 1,00,000	726	56.2
	1,00,001 - 2,25,000	242	18.7
	2,25,001 - 3,00,000	189	14.6
	3,00,000 - 5,00,000	100	7.7
	Above 5,00,000	34	2.6
	Total	**1291**	**100.0**
Number of Family Members in Police Department	Nil	980	75.9
	One	192	14.9
	Two	73	5.7
	Three	30	2.3
	Four	10	.8
	Five & above	6	.5
	Total	**1291**	**100.0**
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire			

The religion of the respondents is highly skewed towards Hinduism as it was expected because the contribution of Muslims and Christians in Indian police force was negligible and the Sikhs are more inclined towards military and paramilitary. Caste category of the respondents shows an equally proportionate distribution as per their division in general population pattern. The outcomes in Table – 6.1 confirm that the contribution of Schedule Tribe (8.1%) in this study is very low as compared

to the General category (40.5%) of police personnel. The places of residence of the respondents are divided into three categories i.e. Urban, Semi Urban (Town) and Rural (Village). More than half of the respondents reside in urban (59.3%) areas while 22% police personnel live rural areas. Rest of the respondents (19%) resides in semi urban (Town) areas.

Out of total respondents, 73% are married while 22% are unmarried and 3% are divorced. 579 respondents are those who don't have any dependent member on them whereas 225 and 215 respondents are such who have one and two dependents on them respectively. Number of dependents is inversely related with the number of respondents as shown in Table – 6.1. Out of total respondents 859 (66%) of the respondents are posted in urban police stations followed by semi urban (town) (17%), Rural (village) (14%) and outpost (3%) only.

Police Chowki and Police Station are two different units of posting where police Chowki is a subset of police station of that area. Among the total (1291) respondents, 87% are currently posted in police stations, where as only 13% are posted at police Chowki.

In this study, rank of the police force has been divided into four categories. The Lowest category of the police force comprises of PSI, Jamadar, Head Constable and Constable as shown in the table – 6.1 indicates that 84% respondents belong to that category. The highest category comprises of DG, Add. DG, IG, Spl. IG, DIG and only 0.2% respondents belonged to this category. As they hold the top position, their responsibilities are higher than the other categories so they don't have enough time to respond.

The Experience of the respondents is divided into seven categories as shown in the table – 6.1. Out of total respondents 49% are having experience up to 5 years where as 28%, 12% and 5% respondents belongs to 6-10 years, 11-15 years and 16-20 years of experience respectively. The 9 respondents out of total have 30 years or more

experience. The income of the respondents are divided into five category namely up to 1, 00,000, 1.0-2.25 lakhs, 2.25-3.0, 3.0 – 5.0 and 5 lakhs and above as shown in table – 1. The majority of the respondents fall in the lower category of income and a few numbers of respondents fall into the higher category of income. The number of family members in police department is inversely related the number of respondents.

The summary of the above table confirms that the majority of the respondents are young in age, means they are new entrants that validate the marital status of the respondents. Further, the marital status of the respondents validates the number of dependents of the respondents. Low income and less experience are also being validated with the age of the respondents.

Table – 6.2: Descriptive Statistics [Mental Symptoms of Stress]												
Attributes	**Very Low**		**Low**		**Moderate**		**High**		**Very High**		**Total**	
	N	%	N	%	N	%	N	%	N	%	N	%
Anxious	571	44.2	240	18.6	249	19.3	159	12.3	72	5.6	1291	100.0
Worry a lot	473	36.6	311	24.1	266	20.6	142	11.0	99	7.7	1291	100.0
Irritability	496	38.4	252	19.5	316	24.5	150	11.6	77	6.0	1291	100.0
Easily Frustrated	475	36.8	264	20.4	308	23.9	193	14.9	51	4.0	1291	100.0
Aggressive Outbursts	451	34.9	235	18.2	357	27.7	181	14.0	67	5.2	1291	100.0
Poor Concentration	445	34.5	229	17.7	370	28.7	171	13.2	76	5.9	1291	100.0
Forgetfulness	460	35.6	284	22.0	341	26.4	147	11.4	59	4.6	1291	100.0
Depression	477	36.9	260	20.1	289	22.4	179	13.9	86	6.7	1291	100.0
Poor Motivation	461	35.7	252	19.5	352	27.3	161	12.5	65	5.0	1291	100.0
Want to be alone always	487	37.7	256	19.8	328	25.4	143	11.1	77	6.0	1291	100.0
Poor Self Esteem	524	40.6	239	18.5	317	24.6	168	13.0	43	3.3	1291	100.0
Feel out of Control	556	43.1	252	19.5	270	20.9	135	10.5	78	6.0	1291	100.0
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire												

To measure the mental symptoms of stress twelve attributes have been identified for this study with the help of existing literature. Out of total respondents (1291), 18% respondents reported higher anxiousness and 63% respondents have reported lower on anxiousness. Those respondents who do not have higher or lower anxiousness means they are in between i.e., (Moderate) and the it is 19%. As anxiety leads to loss of mental control and unseasonable/unusual, the data in table-6.2 validates that a few of the respondents have higher level of anxiousness. Out of total respondents (1291), 19% respondents reported higher on worry and 61% respondents have reported low on worry. Those respondents who do not feel higher or lower worry a lot means they are in between (Moderate) and they are 20%. Worry leads to an anxiety and also affects physical fitness. The data in Table-6.2 validates the relationship between anxiety and worry a lot.

Irritability has been identified as the third attributes to measure the mental symptoms of stress. 18% respondents reported that they have higher irritability, 24% moderate and 58% lower irritability. 19% respondents feel that they are easily frustrated to the extreme level, 24% frustrated moderately and 57% are less vulnerable to the easily frustration. Higher concentration is a sign of healthy and peaceful mind which leads to less forgetfulness and increase in the precision of task. As Table – 6.2 represents 19% respondents are highly poor in concentration, 29% concentrated moderately and 52% respondents reported that they are highly concentrated (Lower Poor Concentration) towards their task.

The level of forgetfulness is a function of poor concentration, worrying a lot and high anxiety. A person having a high level of forgetfulness suffers from poor concentration, high level of worry and an anxiety towards the task. Table - 6.2 confirm the logic and show the same trend. The study has included depression and poor motivations to measure the mental symptoms of stress of the respondents. 20% respondents have reported higher levels of depression, 22% are moderate and 58% have lower level of depression. 18% respondents reported that they feel high level of demotivation, 27% reported moderate and 55% reported experiencing lower poor motivation which means they are highly motivated toward their task.

Poor self esteem and wanting to be alone always has been used to measure the mental symptoms of stress in this study. 16% of the respondents strongly feel that they poor self esteem, 25% are moderate and 59% respondents feel they have self esteem. 17% respondents are strongly in favour of wanting to stay alone, 25% are moderate and 58% respondents prefer to stay with someone.

The descriptive statistics of mental Symptoms of Stress in Table - 6.2 reports that the responses of the respondents are skewed towards left which indicates the lower level of mental symptom among respondents. Similar trends have been noticed among all attributes in Table – 6.2 for measuring the mental symptoms of stress.

Table – 6.3: Descriptive Statistics [Physical Symptoms of Stress]												
Attributes	**Very Low**		**Low**		**Moderate**		**High**		**Very High**		**Total**	
	N	%	N	%	N	%	N	%	N	%	N	%
Headaches	529	41.0	302	23.4	267	20.7	103	8.0	90	7.0	1291	100.0
Spastic Colon	647	50.1	254	19.7	265	20.5	102	7.9	23	1.8	1291	100.0
Indigestion	563	43.6	275	21.3	290	22.5	127	9.8	36	2.8	1291	100.0
Ulcers	635	49.2	210	16.3	293	22.7	127	9.8	26	2.0	1291	100.0
High Blood Pressure	588	45.5	220	17.0	278	21.5	152	11.8	53	4.1	1291	100.0
Hyperventilation	578	44.8	239	18.5	306	23.7	122	9.5	46	3.6	1291	100.0
Asthma	665	51.5	222	17.2	283	21.9	86	6.7	35	2.7	1291	100.0
Stiff Sore Muscles	601	46.6	211	16.3	286	22.2	121	9.4	72	5.6	1291	100.0
Trouble Sleeping	506	39.2	253	19.6	331	25.6	149	11.5	52	4.0	1291	100.0
Decreased Immunity	583	45.2	248	19.2	301	23.3	128	9.9	31	2.4	1291	100.0
Change in Marriage Life	633	49.0	234	18.1	254	19.7	129	10.0	41	3.2	1291	100.0
Change in Appetite	590	45.7	206	16.0	332	25.7	126	9.8	37	2.9	1291	100.0
Palpitation	620	48.0	237	18.4	284	22.0	103	8.0	47	3.6	1291	100.0
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire												

Physical fitness plays an important role and considered to be the first and an important parameter to get selected in the professional life of the police. Keeping in mind the importance of physical fitness in police profession, moderate, high and very high score of symptoms of stress are cause of concern in measuring the physical symptoms of stress. This study has identified thirteen attributes to measure the physical symptoms of stress. Out of the total respondents 36% respondents have reported a higher frequency of feeling a headache, while 64% feel headache occasionally. 35% respondents reported the higher incidence of indigestion where as 65% reported that indigestion problem occurs occasionally. Ulcer, one of the outcomes of frequent indigestion confirms the similar trend among the respondents as reported in Table – 6.3.

High Blood Pressure, an outcome of some attributes of mental symptoms of stress is positively related. High Blood Pressure affects sleep and marital life. 38% respondents have reported Blood Pressure problem frequently whereas 62% rarely have blood pressure problem. It means job pressure may be the cause of rare blood pressure. Table – 6.3 validates a similar trend for hyper ventilations. 32% of the respondents reported disturbed sleep, where as 68% respondents rarely felt

disturbed while sleeping. 33% of respondents agreed to disturbed marital life whereas 67% reported that it is not a regular phenomenon. Change in appetite is a function of headache, indigestion, Ulcer, High Blood Pressure and Trouble Sleeping. Table – 6.3 of the physical symptoms of stress confirms the similar trend among the attributes.

Table – 6.4: Descriptive Statistics [Other Symptoms of Stress]

Attributes	Very Low		Low		Moderate		High		Very High		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Smoking	789	61.1	225	17.4	185	14.3	63	4.9	29	2.2	1291	100.0
Medication	736	57.0	253	19.6	206	16.0	80	6.2	16	1.2	1291	100.0
Alcohol Consumption	819	63.4	155	12.0	200	15.5	72	5.6	45	3.5	1291	100.0

Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire

Other symptoms of stress contain a behavioural activity that forces the respondents to repeatedly perform, to relax and minimize the level of stress. Regular consumption of alcohol, unnecessary smoking habits and medication are the indicators of stress and experience of stress. Due to the nature of the questionnaire (5 Point Likert Scale), the respondents who do not smoke or consume alcohol at all have forcefully marked 1 due to the absence of an appropriate option for the non smoker/drinker category.

Due to social awareness and rules and regulations of the Gujarat Government, generally people hide information about their consumption of alcohol and even smoking habits. Despite the fact, data in Table – 6.4 shows that 21% respondents are regular smokers and 79% respondents are smokers but their frequency of smoking is low or even some of them are non smokers. 24% respondents are highly dependent on medication whereas 76% respondents occasionally take medication as and when they feel it is unavoidable or even some of them do not take medication at all. 26% respondents have reported that their frequency of consuming alcohol is higher and 74% respondents reported that they are occasional consumers of alcohol or some of

them are totally non consumers of alcohol. Table – 6.4 confirms the honest responses by the respondents towards their behavioural aspect.

In this study, four different variables have been identified to measure the sources of stress namely Personal Sphere, Interpersonal Sphere, Work Sphere and Recreational Sphere. Work Sphere as one of the sources of the stress has a direct or positive impact on personal and interpersonal sphere as a sources of stress.

Table – 6.5: Descriptive Statistics [Sources of Stress; Personal Sphere]

Attributes	Very Low		Low		Moderate		High		Very High		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Struggle to make Decision	527	40.8	252	19.5	308	23.9	136	10.5	68	5.3	1291	100.0
Worried about my health	262	20.3	476	36.9	295	22.9	151	11.7	107	8.3	1291	100.0
Burdened with unresolved issue in the past	358	27.7	383	29.7	339	26.3	148	11.5	63	4.9	1291	100.0
Suffer from low self esteem	375	29.0	372	28.8	330	25.6	149	11.5	65	5.0	1291	100.0
Suffer from Depression	404	31.3	284	22.0	378	29.3	167	12.9	58	4.5	1291	100.0
Unmotivated to take up Challenge	366	28.4	329	25.5	318	24.6	216	16.7	62	4.8	1291	100.0
Have to adapt to a new life style	374	29.0	315	24.4	317	24.6	197	15.3	88	6.8	1291	100.0

Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire

The struggle to make a decision has been used as one of the attributes to measure the personal sources of stress among the respondents. Out of the total respondents (1291), 40% of the respondents reported that they struggle to make decisions towards moderate to higher level and 60% respondents have reported that they experience low level of difficulty in making decisions. 43% respondents reported moderate to higher level of worry about their health, whereas 57% respondents are occasionally worried about their health. 41% respondents reported that they feel high level of stress due to unresolved issue in the past and its burden on them and 59% of the respondents are less sensible towards burden and unresolved issues in the past.

Depression, an extreme level of stress is mainly caused by the inability to take correct decision, frequent worry about health and not being able to resolve long pending issues successfully. Almost half of the respondents suffer from moderate to

high level of depression. Unmotivated behavior to take up new challenges, many a times, forces towards the adoption of a new life style. The responses in Table – 6.5 validate a similar trend for unmotivated behaviour and adoption of a new life style.

Table – 6.6: Descriptive Statistics [Sources of Stress; Interpersonal Sphere]

Attributes	Very low		Low		Moderate		High		Very high		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Difficulty in communicating	480	37.2	389	30.1	252	19.5	114	8.8	56	4.3	1291	100.0
Lose interest in others	340	26.3	420	32.5	297	23.0	191	14.8	43	3.3	1291	100.0
Difficulty in Controlling my anger	332	25.7	388	30.1	324	25.1	174	13.5	73	5.7	1291	100.0
Perfectionist in my expectations of others	283	21.9	363	28.1	405	31.4	176	13.6	64	5.0	1291	100.0
See that other use me as a doormat	387	30.0	346	26.8	293	22.7	185	14.3	80	6.2	1291	100.0

Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire

Communication in this globalized era has proved to be one of the important elements for success at the personal as well as interpersonal level in the professional life. Innovation in communication tools and techniques has converted whole world in a global village. Five attributes have been identified to measure the interpersonal sources of stress as shown in Table – 6.6. 32% respondents reported that they felt moderate to high level of difficulty in communicating. 41% of the respondents reported not having any interest in others whereas 59% showed some proximity and interest in others.

The trend in difficulty level of controlling anger (table – 6.6) shows a similar pattern of one of the attributes "feel out of control", of mental symptoms of stress (table-6.2). Out of the total respondents (1291), 43% of the respondents felt that they found difficulty in controlling their anger and 57% respondents reported that usually they were able to control their anger. Half of the respondents responded of being a perfectionist in their expectation of others as one of the major sources of interpersonal stress.

Exploitation by others (others use me as a door mat) leads to various mental and physical problems like frustration, aggressive outburst, loss of motivation, poor self esteem, blood pressure and disturbed sleep. 43% respondents reported that they are

moderately to highly exploited by others and 57% respondents are either less exploited by others or not at all and experience this in their inter personal behaviour.

Table – 6.7: Descriptive Statistics [Sources of Stress; Work Sphere]

Attributes	Very low		Low		Moderate		High		Very high		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Feel Overloaded with work	410	31.8	287	22.2	300	23.2	180	13.9	114	8.8	1291	100.0
Struggle to meet deadline	323	25.0	378	29.3	323	25.0	186	14.4	81	6.3	1291	100.0
Carry a lot of responsibility	330	25.6	356	27.6	339	26.3	172	13.3	94	7.3	1291	100.0
Struggle to get along with superior	328	25.4	374	29.0	369	28.6	159	12.3	61	4.7	1291	100.0
Have to tolerate a lot of frustration	356	27.6	363	28.1	368	28.5	143	11.1	61	4.7	1291	100.0
Work Long Hours	303	23.5	312	24.2	329	25.5	205	15.9	142	11.0	1291	100.0
No Control over my work schedule	300	23.2	329	25.5	340	26.3	204	15.8	118	9.1	1291	100.0
Dissatisfied with my salary	249	19.3	280	21.7	256	19.8	218	16.9	288	22.3	1291	100.0
My work is boring and not challenging	375	29.0	342	26.5	335	25.9	173	13.4	66	5.1	1291	100.0
Perfectionist in the execution of my task	313	24.2	349	27.0	324	25.1	210	16.3	95	7.4	1291	100.0
Post retirement departmental issues	134	30.7	109	25.0	94	21.6	65	14.9	34	7.8	436	100.0

Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire

Work Sphere sources of stress are considered to be one of the key variables to study job stress. A total of eleven attributes have been identified to measure the Work sphere sources of stress. The eleventh attribute, Post retirement departmental issues, was responded by 436 respondents only. Out of the total respondents (1291), 46% respondents responded that they felt overloaded with work more frequently. But some of the respondents occasionally felt or never felt overloaded with work.

In professional life, finishing the task within an allotted time frame shows the ability, efficiency and the sense of responsibility of an individual in general but particularly from police force, these attributes are expected more with a high level of precision. The roles of police force are so crucial and important in terms of finishing their allotted task within the time frame so that it needs a proper execution of the allotted task, otherwise it may create serious problems.

The responses of the respondents show (Table – 6.7) that 45% struggled to meet a deadline, while rest of the respondents successfully completed their allotted task within the deadline. Table – 6.7 indicates that respondents struggle to meet a

deadline due to inefficiency, excessive work allotment and demand supply gap in the police force.

Generally it has been observed that a proper blend of discipline, code of conduct and healthy HR practices increases the efficiency of a person in particular and organisation in general. But in police force, presence of discipline and code of conduct are imposed with unproductive HR practices that lead to non-cordial and unhealthy environment. Half of the respondents who struggle to get along with their superiors, subordinates and peers, confirm the above statement.

Working long hours has been identified one of the attributes to measure the work sphere sources of stress. In general, it refers to excess workload, inefficiency, demand supply gap and sometimes mismatch of vacancies. Out of the total respondents, 52% work long hours which indicate that they are allotted excess work, they are inefficient, and supply is less than the demand of police force or mismatch of vacancies which leads to no control over work schedule of police force.

Descriptive statistics of Table – 6.7 shows that 2/3 respondents are moderately to very highly dissatisfied with their salaries which leads to making their job less interesting and challenging. 52% of the respondents reported that they were imperfect in the execution of their task. It may be due to the dissatisfaction with the salary and vice versa.

Out of the total 436 respondents in this category, 45% of the respondents believed that post retirement departmental issues are sources of stress from moderate to a very high level.

Table – 6.8: Descriptive Statistics [Sources of Stress; Recreational Sphere]												
Attributes	Very low		Low		Normal		High		Very high		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Spend a lot of time under the influence of drugs and alcohol	647	50.1	252	19.5	256	19.8	91	7.0	45	3.5	1291	100.0
Do not have any free time	407	31.5	332	25.7	302	23.4	131	10.1	119	9.2	1291	100.0
Too tired to use my free time constructively	429	33.2	341	26.4	307	23.8	150	11.6	64	5.0	1291	100.0
Have free time but no interest	451	34.9	322	24.9	282	21.8	152	11.8	84	6.5	1291	100.0
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire												

To measure the recreational sources of stress, four attributes have been identified as mentioned in Table – 6.8. The descriptive statistics of the table shows that 21% of the respondents (moderate to very high) spent a lot of time under the influence of drugs and alcohol. As mentioned in Table – 6.7 due to long working hours, 42% of the respondents reported that they had less free time which has been validated in Table – 6.8.

Out of the total respondents (1291), 40% respondents responded that they were unable to use their free time constructively due to the tiredness. 41% respondents responded that due to the lack of interest they were not able to use their free time.

Table – 6.9: Descriptive Statistics: [Awareness about Coping with Stress]						
Attributes	Yes		No		Total	
	N	%	N	%	N	%
Do you know about Coping Strategy	1180	91.4	111	8.6	1291	100.0
Do you think this has helped you to reduce stress	909	77.0	271	23.0	1180	100.0
Did not help because do not have proper knowledge of coping strategy	81	29.9	190	70.1	271	100.0
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire						

To check the awareness about the coping strategies of stress, a straight dichotomous question were asked to the respondents. 91% respondents reported that they were aware about the coping strategies of stress and 77% of (1180) respondents felt that it

helped in reducing the level of stress. A total of 271 respondents answered that coping strategy did not help to reduce the stress.

Table – 6.10: Descriptive Statistics: [Coping Strategies of Stress]

Attributes	Very low		Low		Moderate		High		Very high		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Maintain a Sense of Humour	389	33.0	182	15.4	332	28.1	125	10.6	152	12.9	1180	100.0
Meditate	236	20.0	465	39.4	305	25.8	101	8.6	73	6.2	1180	100.0
Get a Massage	196	16.6	310	26.3	442	37.5	139	11.8	93	7.9	1180	100.0
Exercise Regularly	176	14.9	322	27.3	367	31.1	171	14.5	144	12.2	1180	100.0
Eat more Sensibly	223	18.9	302	25.6	399	33.8	145	12.3	111	9.4	1180	100.0
Limit Intake of Alcohol	327	27.7	296	25.1	328	27.8	167	14.2	62	5.3	1180	100.0
Take refuge in family and Friend	277	23.5	284	24.1	392	33.2	165	14.0	62	5.3	1180	100.0
Delegate responsibility	271	23.0	331	28.1	338	28.6	175	14.8	65	5.5	1180	100.0
Quit	403	34.2	239	20.3	337	28.6	129	10.9	72	6.1	1180	100.0

Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire

According to Susan Folkman & Richard Lazarus, coping is extending conscious effort to solve personal and interpersonal problem and seeking to master, minimize or tolerate conflict. The study considered (Miller-1988) nine attributes to measure to what extent the participants considered themselves to be coping with stressful events.

Maintaining a sense of humour is an indicator of either a lower level of stress or a manageable level of stress. Sense of humour means living with fun in all situations, cordial attitude and behavior with others, absence of short temper and anxiousness. Humour is the tendency of particular cognitive experiences to provoke laughter and provide amusement.

Out of the total respondents (1291), 48%respondents have been responded that they maintained a low level of sense of humour and 52% respondents reported that they maintained a moderate to higher level of sense of humour. The data validates that majority of the respondents are aware and practice humour as one of the tools to overcome stressful situations in their personal and professional life.

Consumption of anti anxiety medicines is considered under medication. Almost 60% of the respondents reported that they did not consume or rely on medication to overcome the stressful or conflicting situation in their personal and professional life.

Massage is considered as one of the most practicable attributes to relax physically as well as mentally. Normally, an individual gets a massage when they feel mental and physical drain out. The data validates (Table – 6.10) that 60% of the respondents responded that they had a massage on a regular basis to reenergise themselves.

People normally prefer to do regular exercise for their fitness (metal and physical). This study has considered regular exercise as one of the attributes to measure to what extent the participants considered themselves coping with stressful situations in their personal and professional life. 58% respondents confirmed that they did regular exercise. 43% respondents reported that they not sensible in eating, in response to the attribute: "Eat more sensibly".

Conflicting response was noticed found in response of a question asked at two different places in different styles. At one place a direct question (Table – 6.4) was asked to the respondents and majority of them responded that they did not consume alcohol at all or occasionally. At another place, an indirect question (Table – 6.10) was asked to the respondents and a reverse trend was reported. Out of the total respondents (1291), 53% respondents reported, moderate to higher level; they preferred to stay with friends and family.

Transfer of stressful task from one person to another is referred to as the delegation of responsibility. Almost 51% respondents reported on the lower side. It meant that they did not delegate their responsibility. The last attribute for coping of stress is quitting stressful environment, stressful task or the job itself. 46% respondents reported that they quit from stressful environment, stressful task or job itself to reduce the level of stress.

Table – 6.11: Descriptive Statistics: [Smoker and Non Smoker of Cigarette]			
Attributes		**N**	**%**
Do you smoke a cigarette?	Yes	198	15.4
	No	1086	84.6
	Total	**1284**	**100.0**
At what age you have started smoking?	Below 25	148	74.7
	2 – 30	35	17.7
	31 – 35	7	3.5
	36 – 40	8	4.0
	41 and above	0	.0
	Total	**198**	**100.0**
How many cigarettes do you smoke in a day?	One	76	38.4
	Two	28	14.1
	Three	41	20.7
	Four	21	10.6
	Five and above	32	16.2
	Total	**198**	**100.0**
In which categories do you rate yourself as a cigarette smoker?	Occasionally	105	53.0
	Regular	78	39.4
	Chain smoker	15	7.6
	Total	**198**	**100.0**
Which factors force you to smoke?	Work pressure	65	32.8
	Tension	33	16.7
	Headache	24	12.1
	To be fresh	76	38.4
	Total	**198**	**100.0**
What do you feel after smoking a cigarette?	Nothing	64	32.3
	Meet ego	7	3.5
	Relieved from tension	67	33.8
	Feel energetic	60	30.3
	Total	**198**	**100.0**
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire			

Table – 6.12: Descriptive Statistics: [Consumer and Non Consumer of Tobacco]			
Attributes		**N**	**%**
Do you chew any Tobacco product?	Yes	225	17.4
	No	1066	82.6
	Total	**1291**	**100.0**
I started chewing at the age of:	Below 25	168	74.7
	2 - 30	37	16.4
	31 - 35	6	2.7
	36 - 40	13	5.8
	41 and above	1	.4
	Total	**225**	**100.0**
How many tobacco products do you consume in a day?	One	61	27.1
	Two	38	16.9
	Three	69	30.7
	Four	34	15.1
	Five and above	23	10.2
	Total	**225**	**100.0**
In which category do you rate yourself?	Occasionally	83	36.9
	Regular	117	52.0
	Chain smoker	25	11.1
	Total	**225**	**100.0**
Which of the following forces you to consume tobacco products?	Work pressure	48	21.3
	Tension	30	13.3
	Headache	49	21.8
	To be fresh	98	43.6
	Total	**225**	**100.0**
What you feel after consuming tobacco products?	Nothing	51	22.7
	Meet ego	10	4.4
	Relieved from tension	42	18.7
	Feel energetic	122	54.2
	Total	**225**	**100.0**
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire			

Table – 6.13:Percentile Among Variables									
		MSS	PSS	OSS	PSSS	IPSSS	WSSS	RSSS	CS
N	Valid	1291	1291	1291	1291	1291	1291	1291	1180
	Missing	0	0	0	0	0	0	0	111
Percentiles	33	20.00	19.00	3.00	12.00	9.00	20.00	6.00	19.00
	66	34.00	32.00	6.00	20.00	14.00	31.00	10.72	26.00
MSS = Mental Symptoms of Stress; PSS = Physical Symptoms of Stress; OSS = Other Symptoms of Stress; PSSS = Personal Sphere of Sources of Stress; IPSSS = Interpersonal Sphere of Sources of Stress; WSSS = Work Sphere of Sources of Stress; RSSS = Recreational Sphere of Sources of Stress; CS = Coping Strategies.									
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire									

To find out the rate of response, the data is divided into three groups on the basis of percentile. The overall responses of the respondents are divided into three categories i.e. Low, Moderate and High. Low Category has been defined as 33% or below of the total score while the moderate has been defined as 66% or below of the total score & More than 66% is considered as high level of response.

Under Mental Symptoms of Stress if a respondent score is 20 or below, they are considered in the lower rate of response up to 33 percentile while the increase in score up to 34 respondents is treated as moderate with a 66 percentile and more than 34 is considered as the high rate of response.

Under physical symptoms of stress if a respondent score is 19 or below, they are considered in the lower rate of response up to 33 percentile while if the scores increase up to 32 respondents it is treated as moderate with a 66 percentile and more than 32 is considered as the high rate of response.

Under other symptoms of stress if a respondent score is 3 or below, they are considered in the lower rate of response up to 33 percentile while if the scores increase up to 6 respondents it treated as moderate with a 66 percentile and more than 6 is considered as a high rate of response.

In Personal Sources of Stress if a respondents score is 12 or below, they are considered in the lower rate of response up to 33 percentile, and when the scores

increase up to 20 respondents it is treated as moderate with a 66 percentile and more than 20 is considered as the high rate of response.

In Inter Personal Sources of Stress if a respondents score is 9 or below, they are considered in the lower rate of response up to 33 percentile, and when the scores go up to 14 respondents it is treated as moderate with a 66 percentile and more than 14 is considered as the high rate of response.

In Work (Sphere) Sources of Stress if a respondents score is 20 or below, they are considered in the lower rate of response up to 33 percentile, and when the scores inch up to 31 respondents it is treated as moderate with a 66 percentile and more than 31 is considered as the high rate of response.

In Recreational (Sphere) Sources of Stress if a respondents score is 6 or below, they are considered in lower rate of response up to 33 percentile, while the increase in scores up to 10.72 respondents is treated as moderate with a 66 percentile and more than 10.72 is considered as the high rate of response.

In Coping Strategies if a respondents score is 19 or below, they are considered in lower rate of response up to 33 percentile, when the scores increase up to 26 respondents it is treated as moderate with a 66 percentile and more than 26 is considered as the high rate of response.

Table – 6.14: Cross Tabulation [Mental Symptoms of Stress Vs. Demographic Profile]

		Mental Symptoms of Stress							
		LOW		MODERATE		HIGH		Total	
		N	%	N	%	N	%	N	%
Age	Below 25	139	43.3	112	34.9	70	21.8	321	100.0
	25 -30	209	45.3	152	33.0	100	21.7	461	100.0
	31 -35	38	20.7	74	40.2	72	39.1	184	100.0
	36 – 40	19	16.7	42	36.8	53	46.5	114	100.0
	41 -45	8	11.4	10	14.3	52	74.3	70	100.0
	46 – 50	2	2.6	35	45.5	40	51.9	77	100.0
	51 -58	11	19.6	23	41.1	22	39.3	56	100.0
	58 & above Retd.	3	37.5	2	25.0	3	37.5	8	100.0
Gender	Male	417	33.3	429	34.2	408	32.5	1254	100.0
	Female	12	32.4	21	56.8	4	10.8	37	100.0
Qualification	up to HSC	21	6.2	146	43.1	172	50.7	339	100.0
	Graduate	330	45.7	225	31.2	167	23.1	722	100.0
	Post graduate	77	35.2	75	34.2	67	30.6	219	100.0
	Others	1	9.1	4	36.4	6	54.5	11	100.0
Religion	Hindu	396	33.5	396	33.5	391	33.1	1183	100.0
	Muslim	27	30.3	46	51.7	16	18.0	89	100.0
	Sikh	6	85.7	0	.0	1	14.3	7	100.0
	Christian	0	.0	8	66.7	4	33.3	12	100.0
Category	General	149	28.5	178	34.0	196	37.5	523	100.0
	SEBC	97	22.6	186	43.4	146	34.0	429	100.0
	SC	154	65.8	48	20.5	32	13.7	234	100.0
	ST	29	27.6	38	36.2	38	36.2	105	100.0
Place of Residence	Urban	294	38.4	264	34.5	207	27.1	765	100.0
	Town	63	25.9	108	44.4	72	29.6	243	100.0
	Rural-Village	72	25.4	78	27.6	133	47.0	283	100.0
Marital Status	Married	331	35.0	319	33.7	297	31.4	947	100.0
	Unmarried	95	32.9	114	39.4	80	27.7	289	100.0
	Divorced	3	7.5	15	37.5	22	55.0	40	100.0
	Others	0	.0	2	13.3	13	86.7	15	100.0
Number of Dependant	Nil	259	44.7	152	26.3	168	29.0	579	100.0
	0ne	51	22.7	64	28.4	110	48.9	225	100.0
	Two	57	26.5	99	46.0	59	27.4	215	100.0
	Three	28	20.7	68	50.4	39	28.9	135	100.0
	Four	23	23.0	51	51.0	26	26.0	100	100.0
	Five & above	11	29.7	16	43.2	10	27.0	37	100.0
Location of Police Station	Urban	326	38.0	296	34.5	237	27.6	859	100.0
	Town	59	26.8	93	42.3	68	30.9	220	100.0
	Village	27	15.3	50	28.2	100	56.5	177	100.0
	Out post	17	48.6	11	31.4	7	20.0	35	100.0
Unit of Current Posting	Police Station	393	34.8	399	35.3	337	29.8	1129	100.0
	Police Chowky	36	22.2	51	31.5	75	46.3	162	100.0

Rank in the Police Force	DG, ADG, IG, SPL, IG, DIG	2	66.7	0	.0	1	33.3	3	100.0
	DSP/DCP, DYSP/ACP	23	32.4	29	40.8	19	26.8	71	100.0
	PI	33	26.2	48	38.1	45	35.7	126	100.0
	PSI, JAMADAR, HEAD CONSTABLE, CONSTABLE	371	34.0	373	34.2	347	31.8	1091	100.0
Experience	UP TO 5	246	38.4	245	38.2	150	23.4	641	100.0
	6 -10	136	37.8	87	24.2	137	38.1	360	100.0
	11 – 15	18	11.4	56	35.4	84	53.2	158	100.0
	16 – 20	15	23.8	22	34.9	26	41.3	63	100.0
	21 – 25	6	20.0	15	50.0	9	30.0	30	100.0
	26 -30	5	16.7	21	70.0	4	13.3	30	100.0
	Above 30	3	33.3	4	44.4	2	22.2	9	100.0
Income in Rupees	Below 1,00,000	263	36.2	264	36.4	199	27.4	726	100.0
	1,00,001 - 2,25,000	102	42.1	70	28.9	70	28.9	242	100.0
	2,25,001 - 3,00,000	33	17.5	77	40.7	79	41.8	189	100.0
	3,00,000 - 5,00,000	21	21.0	26	26.0	53	53.0	100	100.0
	above 5,00,000	10	29.4	13	38.2	11	32.4	34	100.0
Number of Family Members in Police Department	Nil	349	35.6	305	31.1	326	33.3	980	100.0
	One	57	29.7	89	46.4	46	24.0	192	100.0
	Two	14	19.2	39	53.4	20	27.4	73	100.0
	Three	6	20.0	11	36.7	13	43.3	30	100.0
	Four	2	20.0	4	40.0	4	40.0	10	100.0
	Five & above	1	16.7	2	33.3	3	50.0	6	100.0
	Total	**429**	**33.2**	**450**	**34.9**	**412**	**31.9**	**1291**	**100.0**
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire									

Table – 6.14 contains the value of Cross Tabulation of Percentile (Rate of Response) of Mental Symptoms of Stress with Demographic Variables of the study. The table has three categories Low, Moderate and High which have a value of 33, 66 & 100 percentile respectively.

Out of total respondents (1291), 461 respondents belong to age group of 25-30 and only 8 respondents belong to age group of 58 and Above (Retired). Table 6.14 indicates that the majority of the respondents in this study are young in age. In the age group of 25-30, 31-35 and below 25, 100 respondents out of 461, 72 respondents out of 184 and 70 respondents out of 321 have reported high rate of mental symptoms of stress respectively. 74.3% respondents within the age group of 41-45,

51.9% respondents within the age group of 46-50 and 46.5% respondents within the age group of 36-40 have reported high rate of mental symptoms of stress.

In terms of the number of respondents belonging to 25-30 age group, more respondents have reported high mental symptoms of stress which indicate that the younger police personnel experience high level of mental symptoms of stress and in terms of percentage the respondents belonging to the age group of 41-45 have reported high level of mental symptoms of stress.

Out of the total respondents, only 37 respondents are female and majority of them have reported moderate level of mental symptoms of stress. Amongst the male respondents, the levels of mental symptoms of stress are distributed in equal proportion.

Out of the total respondents, more than half of the respondents are graduates, in which 167 respondents reported high level of mental symptoms of stress and 330 respondents reported low level of mental symptoms of stress. 11 respondents belong to the other category of educational qualification in which 6 respondents have reported high levels of mental symptoms of stress. Amongst all educational categories, respondents who have education up to HSC have reported higher levels of mental symptoms of stress, while more Post Graduate respondents have reported less mental symptoms of stress.

Out of the total respondents, 196 respondents belonging to the general category have reported high level of mental symptoms of stress, followed by SEBC. In terms of percentage respondents of general category have reported higher levels of mental symptoms of stress followed by ST.

Out of total respondents, 297 respondents of married category have reported high level of mental symptoms of stress. 55% of respondents in the divorced category

have reported high level of mental symptoms of stress and only 7.5% have reported low level of mental symptoms of stress.

Out of the 110 respondents, those who have one dependent member have reported high level of mental symptoms of stress and as the number of dependents increase, there is a negative relationship among the number of dependents and number of respondents who have high level of mental symptoms of stress. But if we consider it in terms of percentage there is not much variation in the response of respondents as shown in Table – 6.14. Out of the total respondents belonging to the location of urban police station, 237 have been reported high level of mental symptoms of stress and in terms of percentage within the group location of village police stations, 56.5% respondents reported high level of mental symptoms of stress. There is not much variation in the level of mental symptoms of stress reported in the place of police station of the respondents' response for unit of current posting but there is a variation in police Chowki. 46.3% respondents within the group have reported high level of mental symptoms of stress.

Out of total respondents, 35.7% respondents within the group of PI reported high level of mental symptoms of stress followed by DG, Add. DG, IG, Spl. IG and DIG. Under the category of PSI, Jamadar, Head constable and Constable 347 respondents reported high level of mental symptoms of stress and 371 respondents have reported low level of mental symptoms of stress.

Out of total respondents, 360 respondents belong to 6-10 years of experience, 137 respondents have reported high level of mental symptoms of stress but in terms of percentage within the group, 53.2% respondents, belong to 11-15 years of experience have reported high level of mental symptoms of stress followed by respondents having experience of 16-20 years.

This study considered the income of respondents as one of the demographic variables in which respondents having income ranging between 3-5 lakhs, 53% of the

respondents have reported high level of mental symptoms of stress followed by respondents' whose income ranged between 2.25-3.0 lakhs. In the lower category of income, the responses of the respondents with reference to the level of mental symptoms of stress have less variation in terms of the rate of response.

Table – 6.14 indicates that there is a strong negative association between the number of family member in the police department and the number of respondents' who respond to higher level of mental symptoms of stress. But the case reported inversely in the lower level of mental symptoms of stress.

Table – 6.15: Cross Tabulation [Physical Symptoms of Stress Vs. Demographic Profile]

		Physical Symptoms of Stress							
		LOW		MODERATE		HIGH		Total	
		N	%	N	%	N	%	N	%
Age	Below 25	134	41.7	93	29.0	94	29.3	321	100.0
	25 -30	226	49.0	111	24.1	124	26.9	461	100.0
	31 -35	49	26.6	60	32.6	75	40.8	184	100.0
	36 – 40	12	10.5	58	50.9	44	38.6	114	100.0
	41 -45	1	1.4	42	60.0	27	38.6	70	100.0
	46 – 50	5	6.5	31	40.3	41	53.2	77	100.0
	51 -58	17	30.4	17	30.4	22	39.3	56	100.0
	58 & above Retd.	4	50.0	2	25.0	2	25.0	8	100.0
Gender	Male	438	34.9	394	31.4	422	33.7	1254	100.0
	Female	10	27.0	20	54.1	7	18.9	37	100.0
Qualification	up to HSC	5	1.5	127	37.5	207	61.1	339	100.0
	Graduate	348	48.2	205	28.4	169	23.4	722	100.0
	Post graduate	93	42.5	82	37.4	44	20.1	219	100.0
	Others	2	18.2	0	.0	9	81.8	11	100.0
Religion	Hindu	415	35.1	376	31.8	392	33.1	1183	100.0
	Muslim	24	27.0	33	37.1	32	36.0	89	100.0
	Sikh	6	85.7	0	.0	1	14.3	7	100.0
	Christian	3	25.0	5	41.7	4	33.3	12	100.0
Category	General	138	26.4	191	36.5	194	37.1	523	100.0
	SEBC	103	24.0	158	36.8	168	39.2	429	100.0
	SC	163	69.7	44	18.8	27	11.5	234	100.0
	ST	44	41.9	21	20.0	40	38.1	105	100.0
Place of Residence	Urban	280	36.6	219	28.6	266	34.8	765	100.0
	Town	69	28.4	83	34.2	91	37.4	243	100.0
	Rural-Village	99	35.0	112	39.6	72	25.4	283	100.0
Marital Status	Married	340	35.9	306	32.3	301	31.8	947	100.0

	Unmarried	105	36.3	88	30.4	96	33.2	289	100.0
	Divorced	2	5.0	17	42.5	21	52.5	40	100.0
	Others	1	6.7	3	20.0	11	73.3	15	100.0
Number of Dependants	Nil	260	44.9	116	20.0	203	35.1	579	100.0
	0ne	59	26.2	100	44.4	66	29.3	225	100.0
	Two	59	27.4	100	46.5	56	26.0	215	100.0
	Three	38	28.1	46	34.1	51	37.8	135	100.0
	Four	24	24.0	37	37.0	39	39.0	100	100.0
	five & above	8	21.6	15	40.5	14	37.8	37	100.0
Location of Police Station	Urban	338	39.3	234	27.2	287	33.4	859	100.0
	Town	52	23.6	84	38.2	84	38.2	220	100.0
	Village	33	18.6	91	51.4	53	29.9	177	100.0
	Out post	25	71.4	5	14.3	5	14.3	35	100.0
Unit of Current Posting	Police Station	415	36.8	371	32.9	343	30.4	1129	100.0
	Police Chowky	33	20.4	43	26.5	86	53.1	162	100.0
Rank in the Police Force	DG, ADG, IG, SPL, IG, DIG	1	33.3	0	.0	2	66.7	3	100.0
	DSP/DCP, DYSP/ACP	23	32.4	19	26.8	29	40.8	71	100.0
	PI	26	20.6	45	35.7	55	43.7	126	100.0
	PSI, JAMADAR, HEAD CONSTABLE, CONSTABLE	398	36.5	350	32.1	343	31.4	1091	100.0
Experience	UP TO 5	271	42.3	180	28.1	190	29.6	641	100.0
	6 -10	139	38.6	102	28.3	119	33.1	360	100.0
	11 – 15	8	5.1	78	49.4	72	45.6	158	100.0
	16 – 20	15	23.8	24	38.1	24	38.1	63	100.0
	21 – 25	4	13.3	12	40.0	14	46.7	30	100.0
	26 -30	6	20.0	15	50.0	9	30.0	30	100.0
	Above 30	5	55.6	3	33.3	1	11.1	9	100.0
Income in Rupees	Below 1,00,000	291	40.1	199	27.4	236	32.5	726	100.0
	1,00,001 - 2,25,000	101	41.7	60	24.8	81	33.5	242	100.0
	2,25,001 - 3,00,000	27	14.3	94	49.7	68	36.0	189	100.0
	3,00,000 - 5,00,000	20	20.0	48	48.0	32	32.0	100	100.0
	above 5,00,000	9	26.5	13	38.2	12	35.3	34	100.0
Number of Family Members in Police Department	Nil	369	37.7	281	28.7	330	33.7	980	100.0
	One	54	28.1	78	40.6	60	31.3	192	100.0
	Two	17	23.3	36	49.3	20	27.4	73	100.0
	Three	5	16.7	11	36.7	14	46.7	30	100.0
	Four	0	.0	6	60.0	4	40.0	10	100.0
	Five & above	3	50.0	2	33.3	1	16.7	6	100.0
	Total	448	34.7	414	32.1	429	33.2	1291	100.0
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire									

Table – 6.15 shows the output rate of response between physical symptoms of stress and the demographic variables of respondents (Low, Moderate and High) on the

basis of Table – 6.13. Out of the total respondents (1291), 461 respondents belong to the age group of 25-30, out of which 124 respondents reported higher level of physical symptoms of stress, followed by the age group of 25 and below with a total of 94 respondents in this category. In terms of percentage, 53.2% of respondents belonging to the age group 46-50 reported higher level of physical symptoms of stress within that group, followed by the age group of 31-35 with a 40.8% of the respondents.

The response rate of the respondents among male category is almost equal in all the three categories of the response, while among female the majority of the respondents reported a moderate level of physical symptoms of stress as reported in Table – 6.15.

Out of the total respondents (1291), 339 respondents have educational qualification up to HSC, out of which 207 respondents have reported higher level of physical symptoms of stress. There is an inverse relationship between educational qualification and high level of physical symptoms of stress. In the other category of educational qualification, 9 respondents out of 11 have reported high level of physical symptoms of stress.

In the caste category of the respondents, 194 (out of 523) respondents in the general category have reported high level of physical symptoms of stress, followed by SEBC, ST category having 168 respondents (out of 429), 40 respondents (out of 105) reporting high level of physical symptoms of stress respectively.

Married respondents in this study have reported an equal rate of physical symptoms of stress while in the divorced and other category of marital status 21 out of 40 respondents, 11 out of 15 respondents have reported high level of physical symptoms of stress respectively. The highest numbers of respondents in the unmarried category have reported low level of physical symptoms of stress.

The level of physical symptoms of stress is high among respondents who do not have any dependents and it decreases with an increase in the number of dependents up to two dependents but when dependents increase up to three or more, the level of physical symptoms of stress starts increasing as reported in Table – 6.15.

The location of police station and the level of physical symptoms of stress has some association among them as reported in Table – 6.15. 338 respondents from police stations located in urban areas, have reported low level of physical symptoms of stress while 287 respondents within the same group have reported high level of physical symptoms of stress. From police station located at outpost, the highest numbers of respondents (25 out of 35) have reported low level of physical symptoms of stress.

Among the unit of current posting, respondents posted at police chowki have reported high level of physical symptoms of stress while a high number of respondents in police stations have reported a low level of stress.

With regard to the designation of the respondents, the highest level of physical symptoms of stress has been reported by the police personnel on top positions (DG, Add. DG, IG Spl. IG & DIG) followed by Police Inspector (PI). Among the lower designations of police personnel, the levels of physical symptoms of stress have been equally reported in all three categories.

Experience in the police force and the level of physical symptoms of stress vary differentially in categories 271 respondents out of 640 having an experience up to five years, have reported low level of physical symptoms of stress. In terms of percentage, experience of 21-25 years, 46% respondents within this group have reported a high level of physical symptoms of stress followed by respondents having an experience 11-15 years, 16-20 years respectively. A majority of respondents having an experience 30 years and above (retired) have reported low level of physical symptoms of stress. There is not much impact of income on high and low

levels of physical symptoms of stress in the responses of the respondents as reported in Table – 6.15 while moderate level of physical symptoms of stress varies as income varies.

The number of family members in the police department and the level of physical symptoms of stress are equally distributed among all three categories but about low level of physical symptoms of stress, 369 respondents out of 448 have responded that they do not have any family members in the police department and the same trend been reported in moderate and high level of physical symptoms of stress.

Table – 6.16: Cross Tabulation [Other Symptoms of Stress Vs. Demographic Profile]

		Other Symptoms of Stress							
		LOW		MODERATE		HIGH		Total	
		N	%	N	%	N	%	N	%
Age	Below 25	175	54.5	93	29.0	53	16.5	321	100.0
	25 -30	266	57.7	99	21.5	96	20.8	461	100.0
	31 -35	85	46.2	54	29.3	45	24.5	184	100.0
	36 – 40	42	36.8	24	21.1	48	42.1	114	100.0
	41 -45	19	27.1	3	4.3	48	68.6	70	100.0
	46 – 50	36	46.8	8	10.4	33	42.9	77	100.0
	51 -58	24	42.9	22	39.3	10	17.9	56	100.0
	58 & above Retd.	4	50.0	1	12.5	3	37.5	8	100.0
Gender	Male	621	49.5	301	24.0	332	26.5	1254	100.0
	Female	30	81.1	3	8.1	4	10.8	37	100.0
Qualification	up to HSC	146	43.1	72	21.2	121	35.7	339	100.0
	Graduate	394	54.6	189	26.2	139	19.3	722	100.0
	Post graduate	107	48.9	43	19.6	69	31.5	219	100.0
	Others	4	36.4	0	.0	7	63.6	11	100.0
Religion	Hindu	597	50.5	263	22.2	323	27.3	1183	100.0
	Muslim	44	49.4	36	40.4	9	10.1	89	100.0
	Sikh	7	100.0	0	.0	0	.0	7	100.0
	Christian	3	25.0	5	41.7	4	33.3	12	100.0
Category	General	219	41.9	133	25.4	171	32.7	523	100.0
	SEBC	201	46.9	112	26.1	116	27.0	429	100.0
	SC	171	73.1	39	16.7	24	10.3	234	100.0
	ST	60	57.1	20	19.0	25	23.8	105	100.0
Place of Residence	Urban	424	55.4	170	22.2	171	22.4	765	100.0
	Town	104	42.8	92	37.9	47	19.3	243	100.0
	Rural-Village	123	43.5	42	14.8	118	41.7	283	100.0
Marital Status	Married	514	54.3	179	18.9	254	26.8	947	100.0

	Unmarried	121	41.9	106	36.7	62	21.5	289	100.0
	Divorced	12	30.0	13	32.5	15	37.5	40	100.0
	Others	4	26.7	6	40.0	5	33.3	15	100.0
Number of Dependant	Nil	329	56.8	138	23.8	112	19.3	579	100.0
	0ne	92	40.9	58	25.8	75	33.3	225	100.0
	Two	101	47.0	55	25.6	59	27.4	215	100.0
	Three	74	54.8	20	14.8	41	30.4	135	100.0
	Four	39	39.0	21	21.0	40	40.0	100	100.0
	Five & above	16	43.2	12	32.4	9	24.3	37	100.0
Location of Police Station	Urban	456	53.1	205	23.9	198	23.1	859	100.0
	Town	109	49.5	72	32.7	39	17.7	220	100.0
	Village	59	33.3	25	14.1	93	52.5	177	100.0
	Out post	27	77.1	2	5.7	6	17.1	35	100.0
Unit of Current Posting	Police Station	570	50.5	269	23.8	290	25.7	1129	100.0
	Police Chowky	81	50.0	35	21.6	46	28.4	162	100.0
Rank in the Police Force	DG, ADG, IG, SPL, IG, DIG	0	.0	2	66.7	1	33.3	3	100.0
	DSP/DCP, DYSP/ACP	34	47.9	22	31.0	15	21.1	71	100.0
	PI	39	31.0	52	41.3	35	27.8	126	100.0
	PSI, JAMADAR, HEAD CONSTABLE, CONSTABLE	578	53.0	228	20.9	285	26.1	1091	100.0
Experience	UP TO 5	329	51.3	178	27.8	134	20.9	641	100.0
	6 -10	193	53.6	59	16.4	108	30.0	360	100.0
	11 – 15	48	30.4	42	26.6	68	43.0	158	100.0
	16 – 20	39	61.9	11	17.5	13	20.6	63	100.0
	21 – 25	15	50.0	7	23.3	8	26.7	30	100.0
	26 -30	20	66.7	6	20.0	4	13.3	30	100.0
	Above 30	7	77.8	1	11.1	1	11.1	9	100.0
Income in Rupees	Below 1,00,000	399	55.0	179	24.7	148	20.4	726	100.0
	1,00,001 - 2,25,000	128	52.9	47	19.4	67	27.7	242	100.0
	2,25,001 - 3,00,000	75	39.7	49	25.9	65	34.4	189	100.0
	3,00,000 - 5,00,000	36	36.0	15	15.0	49	49.0	100	100.0
	above 5,00,000	13	38.2	14	41.2	7	20.6	34	100.0
Number of Family Members in Police Department	Nil	501	51.1	218	22.2	261	26.6	980	100.0
	One	87	45.3	55	28.6	50	26.0	192	100.0
	Two	42	57.5	18	24.7	13	17.8	73	100.0
	Three	15	50.0	7	23.3	8	26.7	30	100.0
	Four	4	40.0	2	20.0	4	40.0	10	100.0
	Five & above	2	33.3	4	66.7	0	.0	6	100.0
	Total	651	50.4	304	23.5	336	26.0	1291	100.0
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire									

In other symptoms of stress, a majority of the respondents have responded to a low rate of response for identified attributes like smoking, medication and alcohol. All

the demographic variables have a similar trend as far as the response rate of the respondents is concerned for other symptoms of stress except in the category of divorced under marital status of the respondents as shown in the Table – 6.16.

In the category of village, under location of police station, more than 50% of the respondents have responded highly for the other symptoms of stress. The point to be noted here is that the study is conducted among police personnel, who are in public life; they are very reluctant to provide accurate information regarding their smoking and drinking habits for various reasons.

Table – 6.17: Cross Tabulation [Sources of Stress; Personal Sphere Vs. Demographic Profile]

		Personal Sphere of Sources of Stress							
		LOW		MODERATE		HIGH		Total	
		N	%	N	%	N	%	N	%
Age	Below 25	147	45.8	101	31.5	73	22.7	321	100.0
	25 -30	192	41.6	155	33.6	114	24.7	461	100.0
	31 -35	35	19.0	83	45.1	66	35.9	184	100.0
	36 – 40	23	20.2	53	46.5	38	33.3	114	100.0
	41 -45	6	8.6	32	45.7	32	45.7	70	100.0
	46 – 50	12	15.6	18	23.4	47	61.0	77	100.0
	51 -58	15	26.8	14	25.0	27	48.2	56	100.0
	58 & above Retd.	4	50.0	2	25.0	2	25.0	8	100.0
Gender	Male	416	33.2	444	35.4	394	31.4	1254	100.0
	Female	18	48.6	14	37.8	5	13.5	37	100.0
Qualification	up to HSC	34	10.0	120	35.4	185	54.6	339	100.0
	Graduate	332	46.0	240	33.2	150	20.8	722	100.0
	Post graduate	66	30.1	93	42.5	60	27.4	219	100.0
	Others	2	18.2	5	45.5	4	36.4	11	100.0
Religion	Hindu	407	34.4	401	33.9	375	31.7	1183	100.0
	Muslim	22	24.7	47	52.8	20	22.5	89	100.0
	Sikh	2	28.6	4	57.1	1	14.3	7	100.0
	Christian	3	25.0	6	50.0	3	25.0	12	100.0
Category	General	149	28.5	171	32.7	203	38.8	523	100.0
	SEBC	90	21.0	191	44.5	148	34.5	429	100.0
	SC	154	65.8	62	26.5	18	7.7	234	100.0
	ST	41	39.0	34	32.4	30	28.6	105	100.0
Place of Residence	Urban	298	39.0	228	29.8	239	31.2	765	100.0
	Town	70	28.8	112	46.1	61	25.1	243	100.0
	Rural-Village	66	23.3	118	41.7	99	35.0	283	100.0
Marital Status	Married	334	35.3	333	35.2	280	29.6	947	100.0

	Unmarried	95	32.9	103	35.6	91	31.5	289	100.0
	Divorced	2	5.0	18	45.0	20	50.0	40	100.0
	Others	3	20.0	4	26.7	8	53.3	15	100.0
Number of Dependants	Nil	250	43.2	149	25.7	180	31.1	579	100.0
	0ne	55	24.4	100	44.4	70	31.1	225	100.0
	Two	62	28.8	96	44.7	57	26.5	215	100.0
	Three	26	19.3	64	47.4	45	33.3	135	100.0
	Four	28	28.0	42	42.0	30	30.0	100	100.0
	Five & above	13	35.1	7	18.9	17	45.9	37	100.0
Location of Police Station	Urban	331	38.5	274	31.9	254	29.6	859	100.0
	Town	56	25.5	96	43.6	68	30.9	220	100.0
	Village	31	17.5	76	42.9	70	39.5	177	100.0
	Out post	16	45.7	12	34.3	7	20.0	35	100.0
Unit of Current Posting	Police Station	393	34.8	400	35.4	336	29.8	1129	100.0
	Police Chowky	41	25.3	58	35.8	63	38.9	162	100.0
Rank in the Police Force	DG, ADG, IG, SPL, IG, DIG	1	33.3	1	33.3	1	33.3	3	100.0
	DSP/DCP, DYSP/ACP	26	36.6	29	40.8	16	22.5	71	100.0
	PI	26	20.6	49	38.9	51	40.5	126	100.0
	PSI, JAMADAR, HEAD CONSTABLE, CONSTABLE	381	34.9	379	34.7	331	30.3	1091	100.0
Experience	UP TO 5	223	34.8	262	40.9	156	24.3	641	100.0
	6 -10	144	40.0	96	26.7	120	33.3	360	100.0
	11 – 15	18	11.4	60	38.0	80	50.6	158	100.0
	16 – 20	20	31.7	18	28.6	25	39.7	63	100.0
	21 – 25	15	50.0	4	13.3	11	36.7	30	100.0
	26 -30	9	30.0	15	50.0	6	20.0	30	100.0
	Above 30	5	55.6	3	33.3	1	11.1	9	100.0
Income in Rupees	Below 1,00,000	250	34.4	275	37.9	201	27.7	726	100.0
	1,00,001 - 2,25,000	106	43.8	57	23.6	79	32.6	242	100.0
	2,25,001 - 3,00,000	41	21.7	72	38.1	76	40.2	189	100.0
	3,00,000 - 5,00,000	22	22.0	45	45.0	33	33.0	100	100.0
	above 5,00,000	15	44.1	9	26.5	10	29.4	34	100.0
Number of Family Members in Police Department	Nil	335	34.2	331	33.8	314	32.0	980	100.0
	One	58	30.2	81	42.2	53	27.6	192	100.0
	Two	29	39.7	24	32.9	20	27.4	73	100.0
	Three	7	23.3	15	50.0	8	26.7	30	100.0
	Four	0	.0	6	60.0	4	40.0	10	100.0
	Five & above	5	83.3	1	16.7	0	.0	6	100.0
	Total	434	33.6	458	35.5	399	30.9	1291	100.0
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire									

In personal sources of stress 461 respondents out of 1291, belong to the age group of 25 – 30 years, out of them 114 respondents have reported a high rate of response

while 192 respondents have reported a low rate of response to personal sources of stress. Out of 77 respondents in the age group of 46 – 50, 47 respondents reported a high rate of response to personal sources of stress while 12 respondents reported a low rate of response. The level of rate of response is indifferent to gender as shown in the Table – 6.17.

The educational qualification of the respondents and their rate of response towards personal sources of stress vary from each other. Up to HSC category, out of 339, 185 respondents have reported a high rate of response while 34 respondents have reported a low rate of response. Among the graduate respondents the number of response and the level of rate of response are inversely related.

In the caste category 523 respondents belong to the general category, out of which 203 respondents reported high rate of response for personal source of stress, followed by SEBC category as shown in Table – 17. In SC category out of 234, 154 respondents reported a low rate of response followed by the ST category.

Regarding marital status of the respondents in each category, a majority of the respondents reported moderate and high rate of response towards personal sources of stress. The number of dependents on the respondents and the response rate for moderate and high level in personal sources of stress are directly related with each others. Among the respondents, those who have only two dependents, 96 respondents out of 215 reported a moderate rate of response for personal sources of stress.

Location of a police station and the level of rate of response for personal sources of stress are inversely related with the low rate of response and the number of respondents. Among the respondents who are posted in village police station, 146 respondents out of 177 reported a moderate and high rate of response for the personal sources of stress and a similar trend is observed in town and urban areas.

Of the total respondents (1291), 126 belong to PI category out of which 51 respondents have reported a high rate of response, while 26 respondents have reported a low rate of response for personal sources of stress. The number of respondents in the high rate of response is decreasing with an increase in the experience of the respondents as reported in Table – 6.17.

Respondents who fall in the below Rs 1,00,000 income category respond in a similar way in all the three levels of the rate of response for personal sources of stress whereas with an increase in income from Rs 2.25 lakhs and above the response rate in high rate of response are increasing.

Table – 6.18: Cross Tabulation [Sources of Stress; Interpersonal Sphere Vs. Demographic Profile]

		Interpersonal Sphere of Sources of Stress							
		LOW		MODERATE		HIGH		Total	
		N	%	N	%	N	%	N	%
Age	Below 25	145	45.2	109	34.0	67	20.9	321	100.0
	25 -30	210	45.6	140	30.4	111	24.1	461	100.0
	31 -35	47	25.5	65	35.3	72	39.1	184	100.0
	36 – 40	21	18.4	49	43.0	44	38.6	114	100.0
	41 -45	9	12.9	26	37.1	35	50.0	70	100.0
	46 – 50	10	13.0	24	31.2	43	55.8	77	100.0
	51 -58	24	42.9	14	25.0	18	32.1	56	100.0
	58 & above Retd.	3	37.5	2	25.0	3	37.5	8	100.0
Gender	Male	448	35.7	417	33.3	389	31.0	1254	100.0
	Female	21	56.8	12	32.4	4	10.8	37	100.0
Qualification	up to HSC	56	16.5	112	33.0	171	50.4	339	100.0
	Graduate	326	45.2	240	33.2	156	21.6	722	100.0
	Post graduate	86	39.3	75	34.2	58	26.5	219	100.0
	Others	1	9.1	2	18.2	8	72.7	11	100.0
Religion	Hindu	425	35.9	393	33.2	365	30.9	1183	100.0
	Muslim	33	37.1	33	37.1	23	25.8	89	100.0
	Sikh	6	85.7	1	14.3	0	.0	7	100.0
	Christian	5	41.7	2	16.7	5	41.7	12	100.0
Category	General	161	30.8	184	35.2	178	34.0	523	100.0
	SEBC	123	28.7	157	36.6	149	34.7	429	100.0
	SC	133	56.8	68	29.1	33	14.1	234	100.0
	ST	52	49.5	20	19.0	33	31.4	105	100.0
Place of Residence	Urban	304	39.7	247	32.3	214	28.0	765	100.0
	Town	79	32.5	84	34.6	80	32.9	243	100.0

	Rural-Village	86	30.4	98	34.6	99	35.0	283	100.0
Marital Status	Married	347	36.6	327	34.5	273	28.8	947	100.0
	Unmarried	115	39.8	82	28.4	92	31.8	289	100.0
	Divorced	7	17.5	12	30.0	21	52.5	40	100.0
	Others	0	.0	8	53.3	7	46.7	15	100.0
Number of Dependants	Nil	254	43.9	152	26.3	173	29.9	579	100.0
	0ne	58	25.8	98	43.6	69	30.7	225	100.0
	Two	79	36.7	78	36.3	58	27.0	215	100.0
	Three	38	28.1	50	37.0	47	34.8	135	100.0
	Four	34	34.0	37	37.0	29	29.0	100	100.0
	Five & above	6	16.2	14	37.8	17	45.9	37	100.0
Location of Police Station	Urban	357	41.6	267	31.1	235	27.4	859	100.0
	Town	60	27.3	82	37.3	78	35.5	220	100.0
	Village	38	21.5	66	37.3	73	41.2	177	100.0
	Out post	14	40.0	14	40.0	7	20.0	35	100.0
Unit of Current Posting	Police Station	430	38.1	365	32.3	334	29.6	1129	100.0
	Police Chowky	39	24.1	64	39.5	59	36.4	162	100.0
Rank in the Police Force	DG, ADG, IG, SPL, IG, DIG	1	33.3	1	33.3	1	33.3	3	100.0
	DSP/DCP, DYSP/ACP	30	42.3	21	29.6	20	28.2	71	100.0
	PI	25	19.8	55	43.7	46	36.5	126	100.0
	PSI, JAMADAR, HEAD CONSTABLE, CONSTABLE	413	37.9	352	32.3	326	29.9	1091	100.0
Experience	UP TO 5	270	42.1	210	32.8	161	25.1	641	100.0
	6 -10	126	35.0	104	28.9	130	36.1	360	100.0
	11 – 15	16	10.1	72	45.6	70	44.3	158	100.0
	16 – 20	22	34.9	24	38.1	17	27.0	63	100.0
	21 – 25	20	66.7	3	10.0	7	23.3	30	100.0
	26 -30	11	36.7	14	46.7	5	16.7	30	100.0
	Above 30	4	44.4	2	22.2	3	33.3	9	100.0
Income in Rupees	Below 1,00,000	276	38.0	232	32.0	218	30.0	726	100.0
	1,00,001 - 2,25,000	104	43.0	68	28.1	70	28.9	242	100.0
	2,25,001 - 3,00,000	53	28.0	72	38.1	64	33.9	189	100.0
	3,00,000 - 5,00,000	17	17.0	49	49.0	34	34.0	100	100.0
	above 5,00,000	19	55.9	8	23.5	7	20.6	34	100.0
Number of Family Members in Police Department	Nil	369	37.7	291	29.7	320	32.7	980	100.0
	One	63	32.8	81	42.2	48	25.0	192	100.0
	Two	23	31.5	35	47.9	15	20.5	73	100.0
	Three	7	23.3	17	56.7	6	20.0	30	100.0
	Four	4	40.0	2	20.0	4	40.0	10	100.0
	Five & above	3	50.0	3	50.0	0	.0	6	100.0
	Total	469	36.3	429	33.2	393	30.4	1291	100.0
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire									

Of the total respondents (1291), a majority of the respondents have reported moderate and high rate of response for interpersonal source of stress and the same trend continues with an increase in the age of respondents as shown in Table – 6.18. In the category of male respondents, more number of respondents within the group has reported low rate of response followed by moderate and high rate of response for inter personal sources of stress.

In the category of educational qualification i.e., upto HSC 171 (out of 339) respondents have reported high rate of response for inter personal sources of stress whereas in graduate and post graduate category, more number of respondents, within the group, have reported low rate of response for inter personal sources of stress. Among other category's 8 respondents out of 11 have reported a high rate of response for inter personal sources of stress.

Among the caste category of the respondents, a majority of the respondents have reported moderate and high rate of response for inter personal sources of stress whereas in the SC & ST category, a majority of the respondents within the group have reported a low rate of response for inter personal sources of stress.

Regarding the marital status of the respondents in each category, the majority of respondents reported moderate and high rate of response towards personal sources of stress. The number of dependents on the respondents and the number of respondents towards moderate and high rate of response for interpersonal sources of stress are directly related with each other.

The location of a police station and the level of rate of response for inter personal sources of stress are inversely related with low rate of response and the number of respondents. Out of the 177 respondents who are posted in village police station 139 respondents reported moderate and high rate of response for the inter personal sources of stress and a similar trend is observed in town and urban.

In the PI category of rank in the police force, 55 respondents have reported a moderate rate of response followed by a high rate of response within the group, whereas in PSI category of rank in police force, 413 respondents have reported low rate of response for inter personal sources of stress, followed by moderate and high within the group. The number of respondents among the high rate of response is decreasing with an increase in the experience of the respondents as reported in Table – 6.18 for inter personal sources of stress.

The income categories and the number of respondents in the various levels of inter personal stress are varied. 276 respondents whose income fall below Rs. 10,000 have reported low rate of response followed by moderate and high rate of response for inter personal sources of stress. Respondents belonging to the income category of 2.25-5.0 lakhs, a majority of the respondents have reported moderate and high level of rate of response for interpersonal sources of stress.

Table – 6.19: Cross Tabulation [Sources of Stress; Work Sphere Vs. Demographic Profile]

		Work Sphere of Sources of Stress							
		LOW		MODERATE		HIGH		Total	
		N	%	N	%	N	%	N	%
Age	Below 25	150	46.7	110	34.3	61	19.0	321	100.0
	25 -30	191	41.4	144	31.2	126	27.3	461	100.0
	31 -35	50	27.2	79	42.9	55	29.9	184	100.0
	36 – 40	21	18.4	42	36.8	51	44.7	114	100.0
	41 -45	9	12.9	25	35.7	36	51.4	70	100.0
	46 – 50	12	15.6	23	29.9	42	54.5	77	100.0
	51 -58	22	39.3	18	32.1	16	28.6	56	100.0
	58 & above Retd.	3	37.5	4	50.0	1	12.5	8	100.0
Gender	Male	435	34.7	435	34.7	384	30.6	1254	100.0
	Female	23	62.2	10	27.0	4	10.8	37	100.0
Qualification	up to HSC	43	12.7	171	50.4	125	36.9	339	100.0
	Graduate	353	48.9	187	25.9	182	25.2	722	100.0
	Post graduate	61	27.9	83	37.9	75	34.2	219	100.0
	Others	1	9.1	4	36.4	6	54.5	11	100.0
Religion	Hindu	418	35.3	400	33.8	365	30.9	1183	100.0
	Muslim	29	32.6	43	48.3	17	19.1	89	100.0
	Sikh	6	85.7	0	.0	1	14.3	7	100.0
	Christian	5	41.7	2	16.7	5	41.7	12	100.0

Category	General	171	32.7	173	33.1	179	34.2	523	100.0
	SEBC	87	20.3	186	43.4	156	36.4	429	100.0
	SC	163	69.7	45	19.2	26	11.1	234	100.0
	ST	37	35.2	41	39.0	27	25.7	105	100.0
Place of Residence	Urban	328	42.9	241	31.5	196	25.6	765	100.0
	Town	76	31.3	99	40.7	68	28.0	243	100.0
	Rural-Village	54	19.1	105	37.1	124	43.8	283	100.0
Marital Status	Married	346	36.5	308	32.5	293	30.9	947	100.0
	Unmarried	106	36.7	107	37.0	76	26.3	289	100.0
	Divorced	6	15.0	23	57.5	11	27.5	40	100.0
	Others	0	.0	7	46.7	8	53.3	15	100.0
Number of Dependants	Nil	256	44.2	202	34.9	121	20.9	579	100.0
	0ne	68	30.2	65	28.9	92	40.9	225	100.0
	Two	60	27.9	79	36.7	76	35.3	215	100.0
	Three	28	20.7	53	39.3	54	40.0	135	100.0
	Four	38	38.0	32	32.0	30	30.0	100	100.0
	Five & above	8	21.6	14	37.8	15	40.5	37	100.0
Location of Police Station	Urban	354	41.2	278	32.4	227	26.4	859	100.0
	Town	63	28.6	107	48.6	50	22.7	220	100.0
	Village	22	12.4	49	27.7	106	59.9	177	100.0
	Out post	19	54.3	11	31.4	5	14.3	35	100.0
Unit of Current Posting	Police Station	419	37.1	383	33.9	327	29.0	1129	100.0
	Police Chowky	39	24.1	62	38.3	61	37.7	162	100.0
Rank in the Police Force	DG, ADG, IG, SPL, IG, DIG	1	33.3	1	33.3	1	33.3	3	100.0
	DSP/DCP, DYSP/ACP	32	45.1	21	29.6	18	25.4	71	100.0
	PI	34	27.0	45	35.7	47	37.3	126	100.0
	PSI, JAMADAR, HEAD CONSTABLE, CONSTABLE	391	35.8	378	34.6	322	29.5	1091	100.0
Experience	UP TO 5	232	36.2	245	38.2	164	25.6	641	100.0
	6 -10	151	41.9	94	26.1	115	31.9	360	100.0
	11 – 15	25	15.8	59	37.3	74	46.8	158	100.0
	16 – 20	21	33.3	26	41.3	16	25.4	63	100.0
	21 – 25	13	43.3	7	23.3	10	33.3	30	100.0
	26 -30	13	43.3	11	36.7	6	20.0	30	100.0
	Above 30	3	33.3	3	33.3	3	33.3	9	100.0
Income in Rupees	Below 1,00,000	254	35.0	301	41.5	171	23.6	726	100.0
	1,00,001 - 2,25,000	112	46.3	60	24.8	70	28.9	242	100.0
	2,25,001 - 3,00,000	52	27.5	56	29.6	81	42.9	189	100.0
	3,00,000 - 5,00,000	26	26.0	18	18.0	56	56.0	100	100.0
	above 5,00,000	14	41.2	10	29.4	10	29.4	34	100.0
Number of Family Members in Police Department	Nil	340	34.7	340	34.7	300	30.6	980	100.0
	One	85	44.3	55	28.6	52	27.1	192	100.0
	Two	21	28.8	31	42.5	21	28.8	73	100.0
	Three	7	23.3	12	40.0	11	36.7	30	100.0

	Four	4	40.0	2	20.0	4	40.0	10	100.0
	Five & above	1	16.7	5	83.3	0	.0	6	100.0
	Total	458	35.5	445	34.5	388	30.1	1291	100.0
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire									

Out of the total respondents, a majority of the respondents have reported moderate to high rate of response for Sources of stress at work place in all categories of age. In the age group of 41-45 and 46-50, only 9 and 12 respondents have reported a low rate of response within the group of sources of stress at work place respectively.

In the category of gender, 819 male respondents reported moderate to high rate of response for sources of stress at work place whereas among the female, a majority of the respondents have reported low rate of response for sources of stress at work place. 171 respondents out of 339 having educational qualification up to HSC, have reported a moderate level of rate of response for sources of stress at work place followed by high rate of response (125 respondents). Among the graduate respondents, the response rate of the respondents are similarly divided in two levels i.e. low (353 respondents) and Moderate to high (369 respondents) as shown in Table – 6.19.

In the caste category i.e., General category; respondents' response rate is uniformly divided among three categories whereas in SEBC category 186 respondents out of 429 have reported moderate level of rate of response for the sources of stress at work place followed by a high level of rate of response. Among SC category a majority of the respondents have responded low rate of response while in ST category of the respondents more number of respondents reported moderate level of rate of response within the group of sources of stress at work place followed by low level in the rate of response by the respondents.

It was observed that majority of the respondents reported moderate to high rate of response in all the categories of marital status. A majority of the respondents, having no dependents on them have reported low level of rate of response for sources of

stress at work place whereas, more number of respondents have reported moderate to high rate of response in case of respondents having dependents on them.

With reference to the police station's location urban, town and village areas, majority of the respondents have reported moderate to high level of rate of response for sources of stress at work place whereas in outpost category majority of the respondents have reported low level of rate of response within the group.

Among the PI, 92 respondents reported moderate to high rate of response for sources of stress at work place where as in DSP/DCP category half of the respondents have reported moderate to high rate of response as shown in Table – 6.19. As experiences of the respondents increase the respondents rate of response for moderate to high also increases. It has been observed that more respondents having experience up to five years, have reported, within the group, moderate level of rate of response for sources of stress at work place followed by low level of rate of response. A large number of respondents having an income of Rs. 2.25-5.0 lakhs, have reported high level of rate of response for sources of stress at work place whereas more number of respondents having an income below Rs. 1 Lakh have reported moderate level of rate of response followed by low level in the rate of response within the group.

Table – 6.20: Cross Tabulation [Sources of Stress; Recreational Sphere Vs. Demographic Profile]

		Recreational Sphere of Sources of Stress							
		LOW		MODERATE		HIGH		Total	
		N	%	N	%	N	%	N	%
Age	Below 25	123	38.3	121	37.7	77	24.0	321	100.0
	25 -30	187	40.6	152	33.0	122	26.5	461	100.0
	31 -35	48	26.1	51	27.7	85	46.2	184	100.0
	36 – 40	15	13.2	46	40.4	53	46.5	114	100.0
	41 -45	11	15.7	13	18.6	46	65.7	70	100.0
	46 – 50	17	22.1	25	32.5	35	45.5	77	100.0
	51 -58	24	42.9	14	25.0	18	32.1	56	100.0
	58 & above Retd.	3	37.5	2	25.0	3	37.5	8	100.0
Gender	Male	408	32.5	413	32.9	433	34.5	1254	100.0

	Female	20	54.1	11	29.7	6	16.2	37	100.0
Qualification	Up to HSC	61	18.0	100	29.5	178	52.5	339	100.0
	Graduate	284	39.3	256	35.5	182	25.2	722	100.0
	Post graduate	80	36.5	64	29.2	75	34.2	219	100.0
	Others	3	27.3	4	36.4	4	36.4	11	100.0
Religion	Hindu	381	32.2	388	32.8	414	35.0	1183	100.0
	Muslim	38	42.7	32	36.0	19	21.3	89	100.0
	Sikh	6	85.7	0	.0	1	14.3	7	100.0
	Christian	3	25.0	4	33.3	5	41.7	12	100.0
Category	General	152	29.1	170	32.5	201	38.4	523	100.0
	SEBC	97	22.6	169	39.4	163	38.0	429	100.0
	SC	131	56.0	57	24.4	46	19.7	234	100.0
	ST	48	45.7	28	26.7	29	27.6	105	100.0
Place of Residence	Urban	290	37.9	258	33.7	217	28.4	765	100.0
	Town	69	28.4	93	38.3	81	33.3	243	100.0
	Rural-Village	69	24.4	73	25.8	141	49.8	283	100.0
Marital Status	Married	326	34.4	317	33.5	304	32.1	947	100.0
	Unmarried	98	33.9	84	29.1	107	37.0	289	100.0
	Divorced	4	10.0	11	27.5	25	62.5	40	100.0
	Others	0	.0	12	80.0	3	20.0	15	100.0
Number of Dependants	Nil	230	39.7	162	28.0	187	32.3	579	100.0
	One	57	25.3	67	29.8	101	44.9	225	100.0
	Two	67	31.2	81	37.7	67	31.2	215	100.0
	Three	41	30.4	49	36.3	45	33.3	135	100.0
	Four	21	21.0	47	47.0	32	32.0	100	100.0
	Five & above	12	32.4	18	48.6	7	18.9	37	100.0
Location of Police Station	Urban	328	38.2	277	32.2	254	29.6	859	100.0
	Town	60	27.3	83	37.7	77	35.0	220	100.0
	Village	27	15.3	42	23.7	108	61.0	177	100.0
	Out post	13	37.1	22	62.9	0	.0	35	100.0
Unit of Current Posting	Police Station	393	34.8	362	32.1	374	33.1	1129	100.0
	Police Chowky	35	21.6	62	38.3	65	40.1	162	100.0
Rank in the Police Force	DG, ADG, IG, SPL, IG, DIG	0	.0	1	33.3	2	66.7	3	100.0
	DSP/DCP, DYSP/ACP	32	45.1	30	42.3	9	12.7	71	100.0
	PI	20	15.9	62	49.2	44	34.9	126	100.0
	PSI, JAMADAR, HEAD CONSTABLE, CONSTABLE	376	34.5	331	30.3	384	35.2	1091	100.0
Experience	UP TO 5	231	36.0	222	34.6	188	29.3	641	100.0
	6 -10	118	32.8	98	27.2	144	40.0	360	100.0
	11 – 15	18	11.4	63	39.9	77	48.7	158	100.0
	16 – 20	25	39.7	16	25.4	22	34.9	63	100.0
	21 – 25	16	53.3	11	36.7	3	10.0	30	100.0
	26 -30	16	53.3	10	33.3	4	13.3	30	100.0
	Above 30	4	44.4	4	44.4	1	11.1	9	100.0

Income in Rupees	Below 1,00,000	240	33.1	244	33.6	242	33.3	726	100.0
	1,00,001 - 2,25,000	102	42.1	74	30.6	66	27.3	242	100.0
	2,25,001 - 3,00,000	44	23.3	65	34.4	80	42.3	189	100.0
	3,00,000 - 5,00,000	26	26.0	27	27.0	47	47.0	100	100.0
	Above 5,00,000	16	47.1	14	41.2	4	11.8	34	100.0
Number of Family Members in Police Department	Nil	334	34.1	282	28.8	364	37.1	980	100.0
	One	61	31.8	89	46.4	42	21.9	192	100.0
	Two	25	34.2	27	37.0	21	28.8	73	100.0
	Three	7	23.3	17	56.7	6	20.0	30	100.0
	Four	0	.0	6	60.0	4	40.0	10	100.0
	Five & above	1	16.7	3	50.0	2	33.3	6	100.0
	Total	428	33.2	424	32.8	439	34.0	1291	100.0
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire									

Many respondents in the age categories below 25-30 and 51-58, have reported low level of rate of response for recreational sources of stress whereas a large number of respondents belonging to the age group 21-35, 36-40, 41-45 and 46-50 have reported high level of rate of response. In the male category, the highest number of respondents reported high level of rate of response for recreational source of stress followed by moderate level of rate of response within the group.

A majority of respondents having an educational qualification up to HSC, have reported high level of rate of response for recreational sources of stress whereas a large number of graduate respondents have reported low level of rate of response for recreational sources of stress followed by moderate level of rate of response.

A majority of the respondents belonging to general and SEBC category have reported moderate to high level of rate of response for recreational sources of stress whereas a majority of respondents belonging to SC and ST category, have reported low level of rate of response. In the unmarried and divorced categories respondents have reported a high level of rate of response for recreational sources of stress where as in the married category the response is uniformly distributed among all the three levels of rate of response. Majority of the respondents have reported moderate to high level of rate of response for recreational sources of stress irrespective of the number dependents on them.

Majority of the respondents posted in village police station have reported high level of rate of response for recreational sources of stress whereas no respondents have reported high level of rate of response amongst out post. In town police station, 83 respondents out of 220 have reported moderate level of rate of response for recreational sources of stress followed by high level of rate of response (77 respondents).

Among the top rank of the police force no respondents have reported low level of rate of response for recreational sources of stress whereas more numbers of respondents belonging to DSP/DCP have reported low level of rate of response as shown in Table – 6.20. In PI category 62 respondents out of 126, have reported moderate levels of rate response for recreational sources of stress followed by high level of rate of response. In PSI category more numbers of respondents have reported high level of rate of response for recreational sources of stress followed by low level of rate of response. A large number of respondents having an experience of 6-20 years have reported high level of rate of response for recreational sources of stress where as respondents belonging in the age group of 21 and above, majority of them have reported low level of rate of response.

The majority of the respondents reported moderate to high level of rate of response for recreational source of stress irrespective of the variation in income level of the respondents.

Table – 6.21: Cross Tabulation [Coping Strategies of Stress Vs. Demographic Profile]									
		Coping Strategies							
		LOW		MODERATE		HIGH		Total	
		N	%	N	%	N	%	N	%
Age	Below 25	109	34.1	126	39.4	85	26.6	320	100.0
	25 -30	189	41.4	139	30.4	129	28.2	457	100.0
	31 -35	54	30.7	63	35.8	59	33.5	176	100.0
	36 – 40	20	24.4	26	31.7	36	43.9	82	100.0
	41 -45	11	30.6	6	16.7	19	52.8	36	100.0
	46 – 50	7	12.5	15	26.8	34	60.7	56	100.0
	51 -58	12	24.0	20	40.0	18	36.0	50	100.0
	58 & above Retd.	1	33.3	0	.0	2	66.7	3	100.0
Gender	Male	393	34.3	382	33.3	371	32.4	1146	100.0
	Female	10	29.4	13	38.2	11	32.4	34	100.0
Qualification	Up to HSC	28	8.7	121	37.7	172	53.6	321	100.0
	Graduate	294	45.0	219	33.5	141	21.6	654	100.0
	Post graduate	77	39.5	55	28.2	63	32.3	195	100.0
	Others	4	40.0	0	.0	6	60.0	10	100.0
Religion	Hindu	353	32.8	363	33.7	361	33.5	1077	100.0
	Muslim	39	45.9	28	32.9	18	21.2	85	100.0
	Sikh	6	85.7	0	.0	1	14.3	7	100.0
	Christian	5	45.5	4	36.4	2	18.2	11	100.0
Category	General	143	31.1	147	32.0	170	37.0	460	100.0
	SEBC	89	22.6	149	37.8	156	39.6	394	100.0
	SC	122	54.5	71	31.7	31	13.8	224	100.0
	ST	49	48.0	28	27.5	25	24.5	102	100.0
Place of Residence	Urban	247	33.4	255	34.5	238	32.2	740	100.0
	Town	88	38.3	77	33.5	65	28.3	230	100.0
	Rural-Village	68	32.4	63	30.0	79	37.6	210	100.0
Marital Status	Married	299	35.5	276	32.7	268	31.8	843	100.0
	Unmarried	97	33.7	103	35.8	88	30.6	288	100.0
	Divorced	5	13.2	14	36.8	19	50.0	38	100.0
	Others	2	18.2	2	18.2	7	63.6	11	100.0
Number of Dependants	Nil	221	38.5	176	30.7	177	30.8	574	100.0
	One	63	35.6	64	36.2	50	28.2	177	100.0
	Two	51	27.6	78	42.2	56	30.3	185	100.0
	Three	33	26.4	35	28.0	57	45.6	125	100.0
	Four	24	26.7	36	40.0	30	33.3	90	100.0
	Five & above	11	37.9	6	20.7	12	41.4	29	100.0
Location of Police Station	Urban	304	36.5	279	33.5	251	30.1	834	100.0
	Town	72	34.0	71	33.5	69	32.5	212	100.0
	Village	10	10.1	40	40.4	49	49.5	99	100.0
	Out post	17	48.6	5	14.3	13	37.1	35	100.0
Unit of Current Posting	Police Station	371	36.0	355	34.4	305	29.6	1031	100.0
	Police Chowky	32	21.5	40	26.8	77	51.7	149	100.0

Rank in the Police Force	DG, ADG, IG, SPL, IG, DIG	1	33.3	2	66.7	0	.0	3	100.0
	DSP/DCP, DYSP/ACP	27	40.9	28	42.4	11	16.7	66	100.0
	PI	45	37.2	42	34.7	34	28.1	121	100.0
	PSI, JAMADAR, HEAD CONSTABLE, CONSTABLE	330	33.3	323	32.6	337	34.0	990	100.0
Experience	UP TO 5	223	35.3	207	32.8	201	31.9	631	100.0
	6 -10	114	35.6	117	36.6	89	27.8	320	100.0
	11 – 15	36	28.3	39	30.7	52	40.9	127	100.0
	16 – 20	19	33.9	13	23.2	24	42.9	56	100.0
	21 – 25	5	23.8	6	28.6	10	47.6	21	100.0
	26 -30	5	20.8	13	54.2	6	25.0	24	100.0
	Above 30	1	100.0	0	.0	0	.0	1	100.0
Income in Rupees	Below 1,00,000	231	32.0	244	33.7	248	34.3	723	100.0
	1,00,001 - 2,25,000	85	39.9	67	31.5	61	28.6	213	100.0
	2,25,001 - 3,00,000	51	34.2	45	30.2	53	35.6	149	100.0
	3,00,000 - 5,00,000	21	33.9	25	40.3	16	25.8	62	100.0
	Above 5,00,000	15	45.5	14	42.4	4	12.1	33	100.0
Number of Family Members in Police Department	Nil	281	31.8	297	33.6	306	34.6	884	100.0
	One	78	42.9	64	35.2	40	22.0	182	100.0
	Two	25	35.2	21	29.6	25	35.2	71	100.0
	Three	16	55.2	9	31.0	4	13.8	29	100.0
	Four	3	33.3	2	22.2	4	44.4	9	100.0
	Five & above	0	.0	2	40.0	3	60.0	5	100.0
	Total	403	34.2	395	33.5	382	32.4	1180	100.0
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire									

It has been observed that practices of coping strategies of stress are inversely related with the age of the respondents as reported in Table 6.21. Respondents response rate for the coping strategies of stress are uniformly distributed among three levels of the rate of response irrespective of gender.

In educational qualification of the respondents, except graduate respondents, a large number of respondents have reported high level of rate of response for practices of coping strategies of stress. In the caste category, many respondents belonging to the general and SEBC category have reported a high level of rate of response for practices of coping strategies of stress whereas more respondents belonging to SC and ST category reported low rate of response for practices of coping strategies of stress.

Majority of the respondents have been practicing coping strategies of stress with a moderate to high level of rate of response irrespective of the marital status of the respondents as shown in Table 6.21. The same trend has been observed in the respondents irrespective of the number of dependents on them.

Many respondents posted in urban and town police stations, have reported low level of rate of response for practicing coping strategies of stress whereas in village police station 49 respondents out of 99 respondents have reported high level of rate of response for practicing coping strategies of stress followed by moderate level of rate of response.

Among the respondents at top rank (ACP/Dy. SP and Above), a large numbers of respondents reported a moderate rate of response for practicing coping strategies of stress whereas PI and those below that rank have uniformly reported all three levels of rate of response.

It was observed that a large number of less experienced respondents, more number of respondents is rarely practice coping strategies of stress. The data reported in the table shows that there is a direct relationship between the number of years of experience and the level of the rate of response for practicing coping strategies of stress.

248 respondents out of 723 having a low level income i.e., below 1 Lakh, have reported a high level of rate of response for practicing coping strategies of stress followed by moderate level of rate of response by 244 respondents. While in income category of 1.0-2.25 lakh and 5 lakhs or above, many respondents have reported a low level of rate of response for practicing coping strategies of stress followed by moderate level of rate of response.

The study essentially focuses on those respondents who have reported moderate, high and a very high level of stress and survives in a stressful situation which leads to various problems in their personal and professional life. The response were collected on a 5-point Likert scale which best fits in qualitative ranking but difficult to quantify exactly and differentiate the degree of response to find out the level of stress. For that purpose, the original response (5-point Scale) of the respondents have been converted into three quantitative categories by assigning a Zero to very low and low, One to moderate and Two for high and very high degree of response and the summation of these scores is termed as Severity Index (SI) of the respondents response to stress.

Table – 6.22: Mean Comparison of Severity Index of Mental, Physical, Other Symptoms of Stress; Personal, Interpersonal, Work, Recreational Sphere of Sources of Stress; Coping Strategies with respect to Age Group

Age		SIMSS	SIPSS	SIOSS	SIPSSS	SIIPSSS	SIWSSS	SIRSSS	SICS
Below 25	Mean	5.6137	5.7321	.7227	3.3832	2.3645	5.2181	1.7539	6.0594
	N	321	321	321	321	321	321	321	320
	Std. Deviation	6.04155	6.19197	1.41898	3.77817	2.63650	5.32175	2.24969	4.35849
25 -30	Mean	5.6095	4.7657	.7310	3.7375	2.5488	6.5488	1.8568	5.7418
	N	461	461	461	461	461	461	461	457
	Std. Deviation	6.18514	6.01641	1.42390	3.88846	2.90732	6.10277	2.26819	4.63717
31 -35	Mean	8.6033	7.5978	.9185	5.0652	3.4946	7.4674	2.6087	6.7614
	N	184	184	184	184	184	184	184	176
	Std. Deviation	6.08503	6.25341	1.47433	3.46348	2.63851	5.10320	2.04836	4.83439
36 – 40	Mean	9.4561	7.9912	1.4737	4.9561	3.6140	9.2368	2.7544	7.4268
	N	114	114	114	114	114	114	114	82
	Std. Deviation	5.90056	5.90409	1.75091	3.26524	2.54346	5.53237	2.10167	4.99143
41 -45	Mean	12.1714	7.8143	2.3000	6.7000	4.5000	11.2000	3.4714	8.3611
	N	70	70	70	70	70	70	70	36
	Std. Deviation	5.62338	5.22617	1.98070	2.80450	2.55802	4.47084	2.32018	5.44139
46 – 50	Mean	12.0260	10.7922	1.2987	7.0260	5.0130	11.2078	3.0130	9.1071
	N	77	77	77	77	77	77	77	56
	Std. Deviation	5.44584	6.66755	1.60644	3.61639	2.86307	4.86756	2.44138	3.80755
51 -58	Mean	7.8750	5.9107	.5000	5.1786	2.9643	6.9821	2.0714	6.7800
	N	56	56	56	56	56	56	56	50
	Std. Deviation	6.31035	5.56704	1.23583	3.91318	3.15055	6.23332	2.49259	4.71338

58 & above (Retd.)	Mean	6.6250	5.3750	.7500	3.6250	3.3750	8.0000	1.8750	10.0000
	N	8	8	8	8	8	8	8	3
	Std. Deviation	6.36817	5.97465	1.03510	3.24863	2.97309	4.47214	1.72689	8.66025
Total	Mean	7.2200	6.2727	.9303	4.3648	3.0077	7.1441	2.1836	6.3915
	N	1291	1291	1291	1291	1291	1291	1291	1180
	Std. Deviation	6.43184	6.27447	1.54963	3.83428	2.86410	5.85213	2.29416	4.69467
SIMSS = Severity Index of Mental Symptoms of Stress; SIPSS = Severity Index of Physical Symptoms of Stress; SIOSS = Severity Index of Other Symptoms of Stress; SIPSSS = Severity Index of Personal Sphere of Sources of Stress; SIIPSSS = Severity Index of Interpersonal Sphere of Sources of Stress; SIWSSS = Severity Index of Work Sphere of Sources of Stress; SIRSSS = Severity Index of Recreational Sphere of Sources of Stress; SICS = Severity Index of Coping Strategies.									
Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire									

The mean comparison of age group and severity index of mental symptoms of stress shows that the mean are varied in the category of age. The average severity index of mental symptoms of stress is 7.22 out of 24 which indicates that 30% mental symptoms of stress were observed in the sample of the study. The respondents belong to the age group of 31-35 to 51-58 and have a higher mean than the sample mean with a maximum mean of 12.17 in the age group of 41-45 and a minimum mean of 5.609 in the age group of 25-30. A total of 501 (38.8%) respondents have more than 30% (Average) of mental symptoms of stress out of which 147 respondents reported more than 50% of mental symptoms of stress and belonged to the age group of 41-45 and 46-50.

The mean comparison of age group and the severity index of physical symptoms of stress show that the mean are varied in the age category. The average severity index of physical symptoms of stress is 6.27 out of 26, which indicate that 24% of physical symptoms of stress were observed among the sample of the study. The respondents belonging to the age group of 31-35 to 46-50 have a higher mean than the sample mean with a maximum mean of 10.79 in the age group of 46-50 and a minimum mean of 4.76 in age group of 25-30. A total 445 (34.5%) respondents have more than 24% (Average) of physical symptoms of stress.

The mean comparison of age group and the severity index of other symptoms of stress show that the mean are varied in the age category. The average severity index of other symptoms of stress is 0.93 out of 6 which indicate that 15.5% of the other symptoms of stress were observed in the sample of the study.

The respondents who belong to the age group of 36-40 to 46-50 have a higher mean than the sample mean with a maximum mean of 2.3 in age group of 41-45 and a minimum mean of 0.5 in age group of 51-58. Total 261 (20.2%) respondents have more than 15.5% (Average) of other symptoms of stress.

It was observed that out of the three identified symptoms of stress, the severities of mental symptoms of stress are high among the respondents, followed by physical symptoms of stress.

The high severity of mental symptoms of stress indicates that the police personnel fall short of the expectation and are not able to perform efficiently, because one of the major reasons could be the lack of concentration in their professional and personal life which leads to negative impact on their assigned task. This in turn may increase the level of physical symptoms of stress.

The mean comparison of age group and the severity index of personal sources of stress show that the mean are varied among the age category. The average severity index of personal sources of stress is 4.36 out of 14, which indicate that 31% of personal sources of stress were observed in the sample of the study. The respondents who belong to the age group of 31-35 to 51-58 have a higher mean than the sample mean with a maximum mean of 7.02 in age group of 46-50 and a minimum mean of 3.38 in age group of below 25. A total 501 (38.8%) respondents have more than 31% (Average) of mental symptoms of stress in which 77 respondents have more than 50% of personal sources of stress and belong to age group of 46-50.

The mean comparison of age group and the severity index of inter personal sources of stress show that the mean are varied among the age category. The average severity index of inter personal sources of stress is 3.01 out of 10 which indicates that 30% of inter personal sources of stress were observed in the sample of the study. The respondents belonging to the age group of 31-35 to 46-50 and 58 & above have a higher mean than the sample mean with a maximum mean of in age group of 46-50 and a minimum mean of 3.38 in age group of below 25. Total 453 (35.1%) respondents have more than 30% (Average) of inter personal symptoms of stress in which 77 respondents have more than 50% of personal sources of stress and belong to age group of 46-50.

The mean comparison of age group and the severity index of sources of stress at work place show that the mean are varied among the age category. The average severity index of sources of stress at work place is 7.14 out of 20 which indicates that 35.9% of sources of stress at work place were observed in the sample of the study. The respondents belong to the age group of 31-35 to 46-50 and 58 and above have a higher mean than the sample mean with a maximum mean of 11.21 in age group of 46-50 and a minimum mean of 5.21 in age group of below 25. A total of 453 (35.1%) respondents have more than 35.9% (Average) of sources of stress at work place in which 147 respondents reveal more than 50% of sources of stress are work place and belong to age group of 41-45 and 46-50.

The mean comparison of age group and the severity index of Recreational sources of stress show that the mean are varied among the age category. The average severity index of recreational sources of stress is 2.18 out of 08 which indicates that 27.3% of recreational sources of stress were observed among the sample of the study. The respondents belonging to the age group of 31-35 to 46-50 have a higher mean than the sample mean with a maximum mean of 3.47 in the age group of 41-45 and a minimum mean of 1.75 in the age group of below 25. A total 445 i.e., (34.5%) respondents have more than 27.3% (Average) of recreational sources of stress.

The data of the study indicates that one of the major sources of stress is work sphere, as the high Severity Index of Sources of stress were observed at work place followed by Personal and Inter personal sources of stress reported in Table 6.22. In general, it has been observed that the discomfort at work place is one of the main sources of personal and inter-personal source of stress and collectively it affects the behavior of individuals at work, and their personal and Inter personal activities. The data of the study confirms this finding.

The mean comparison of age group and the severity index of practicing coping strategies for stress show that the mean are varied among the age category. The average severity index of practicing coping strategies for stress is 6.39 out of 18 which indicates that 35.5% of practicing coping strategies for stress were observed in the sample of the study. The respondents belong to the age group of below 25 and 25-30 have a lower mean than the sample mean with a minimum mean of 5.74 in age group of 25-30. A total of 777 i.e., (65.9%) respondents have lower than 35.5% (Average) of practicing coping strategies for stress.

The study found that those respondents who belong to the middle and upper category of age are more sensible towards practicing coping strategies for stress than the younger respondents.

Table – 6.23: Mean Comparison of Severity Index of Mental, Physical, Other Symptoms of Stress; Personal, Interpersonal, Work, Recreational Sphere of Sources of Stress; Coping Strategies with respect to Gender

Gender		SIMSS	SIPSS	SIOSS	SIPSSS	SIIPSSS	SIWSSS	SIRSSS	SICS
Male	Mean	7.2648	6.2911	.9426	4.4019	3.0447	7.1914	2.2049	6.3709
	N	1254	1254	1254	1254	1254	1254	1254	1146
	Std. Deviation	6.47853	6.31917	1.55502	3.84905	2.88064	5.88897	2.30554	4.70356
Female	Mean	5.7027	5.6486	.5135	3.1081	1.7568	5.5405	1.4595	7.0882
	N	37	37	37	37	37	37	37	34
	Std. Deviation	4.37077	4.52288	1.30430	3.08026	1.86198	4.17396	1.74156	4.39261
Total	Mean	7.2200	6.2727	.9303	4.3648	3.0077	7.1441	2.1836	6.3915
	N	1291	1291	1291	1291	1291	1291	1291	1180
	Std. Deviation	6.43184	6.27447	1.54963	3.83428	2.86410	5.85213	2.29416	4.69467

SIMSS = Severity Index of Mental Symptoms of Stress; SIPSS = Severity Index of Physical Symptoms of Stress; SIOSS = Severity Index of Other Symptoms of Stress; SIPSSS = Severity Index of Personal Sphere of Sources of Stress; SIIPSSS = Severity Index of Interpersonal Sphere of Sources of Stress; SIWSSS = Severity Index of Work Sphere of Sources of Stress; SIRSSS = Severity Index of Recreational Sphere of Sources of Stress; SICS = Severity Index of Coping Strategies.

Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire

The Severity Index among gender is higher than the sample mean for male and lower in the female category in all the variables under study except practicing coping strategies for stress. The general perception of the society is that females are more conscious and sensible towards their mental and physical health which has been confirmed from the practice of coping strategies for stress in this study as shown in Table 6.23.

Table – 6.24: Mean Comparison of Severity Index of Mental, Physical, Other Symptoms of Stress; Personal, Interpersonal, Work, Recreational Sphere of Sources of Stress; Coping Strategies with respect to Qualification

Qualification		SIMSS	SIPSS	SIOSS	SIPSSS	SIIPSSS	SIWSSS	SIRSSS	SICS
up to HSC	Mean	11.2655	10.7581	1.2920	6.5959	4.4071	9.3864	3.1475	9.2523
	N	339	339	339	339	339	339	339	321
	Std. Deviation	5.26575	5.27699	1.70805	3.22143	2.60054	4.26919	2.23780	4.08448
Graduate	Mean	5.4030	4.4972	.6870	3.2119	2.3283	5.8241	1.7355	5.0581
	N	722	722	722	722	722	722	722	654
	Std. Deviation	6.05931	5.60272	1.34961	3.66158	2.70696	6.09753	2.22783	4.46559
Post graduate	Mean	6.7123	4.7580	1.1005	4.6119	2.9635	7.8311	2.1735	6.0103
	N	219	219	219	219	219	219	219	195
	Std. Deviation	6.36247	5.98246	1.68069	3.65358	2.93016	5.94036	2.14968	4.19498
Others	Mean	11.9091	14.7273	2.3636	6.3636	5.3636	11.0000	2.0909	9.2000
	N	11	11	11	11	11	11	11	10
	Std. Deviation	6.83307	7.44434	2.57964	4.20173	2.87307	5.38516	2.25630	5.90292
Total	Mean	7.2200	6.2727	.9303	4.3648	3.0077	7.1441	2.1836	6.3915
	N	1291	1291	1291	1291	1291	1291	1291	1180
	Std. Deviation	6.43184	6.27447	1.54963	3.83428	2.86410	5.85213	2.29416	4.69467

SIMSS = Severity Index of Mental Symptoms of Stress; SIPSS = Severity Index of Physical Symptoms of Stress; SIOSS = Severity Index of Other Symptoms of Stress; SIPSSS = Severity Index of Personal Sphere of Sources of Stress; SIIPSSS = Severity Index of Interpersonal Sphere of Sources of Stress; SIWSSS = Severity Index of Work Sphere of Sources of Stress; SIRSSS = Severity Index of Recreational Sphere of Sources of Stress; SICS = Severity Index of Coping Strategies.

Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire

The mean comparison of academic qualification and severity index of mental symptoms of stress shows that the mean are varied among the categories of educational qualification. The respondents with educational qualification up to HSC and Others have a severity index of mental symptoms of stress higher than the sample mean. A total 350 i.e., (27%) of the respondents have more than above average mental symptoms of stress. The same trend has been observed in the majority of the variables under study as shown in Table 6.24.

In physical symptoms of stress, Inter personal source of stress and source of stress at work place, respondents with educational qualification in the others category have more than 50% of severity of symptoms and sources of stress. Respondents in the

qualification category up to HSC and others are level-headed towards practicing coping strategies for stress, while graduates and post graduates are numbed towards practicing coping strategies for stress, in which graduates are more insensitive than post graduates in practicing coping strategies for stress.

Table – 6.25: Mean Comparison of Severity Index of Mental, Physical, Other Symptoms of Stress; Personal, Interpersonal, Work, Recreational Sphere of Sources of Stress; Coping Strategies with respect to Religion

Religion		SIMSS	SIPSS	SIOSS	SIPSSS	SIIPSSS	SIWSSS	SIRSSS	SICS
Hindu	Mean	7.3297	6.2502	.9780	4.3728	3.0304	7.2409	2.2401	6.5125
	N	1183	1183	1183	1183	1183	1183	1183	1077
	Std. Deviation	6.46096	6.26528	1.57750	3.82933	2.86954	5.85299	2.30350	4.71029
Muslim	Mean	5.6517	6.5955	.3371	4.1798	2.7753	5.9551	1.4494	4.9765
	N	89	89	89	89	89	89	89	85
	Std. Deviation	5.35151	5.90977	1.01067	3.73729	2.68731	5.44791	1.99437	4.27054
Sikh	Mean	2.4286	2.1429	.0000	2.8571	.4286	2.4286	.4286	3.5714
	N	7	7	7	7	7	7	7	7
	Std. Deviation	6.42540	4.81070	.00000	4.22013	1.13389	4.68534	1.13389	5.19157
Christian	Mean	10.8333	8.5000	1.1667	5.8333	4.0000	9.1667	3.0833	7.2727
	N	12	12	12	12	12	12	12	11
	Std. Deviation	8.00946	9.47245	1.52753	4.78318	3.59292	7.39574	2.64432	4.10100
Total	Mean	7.2200	6.2727	.9303	4.3648	3.0077	7.1441	2.1836	6.3915
	N	1291	1291	1291	1291	1291	1291	1291	1180
	Std. Deviation	6.43184	6.27447	1.54963	3.83428	2.86410	5.85213	2.29416	4.69467

SIMSS = Severity Index of Mental Symptoms of Stress; SIPSS = Severity Index of Physical Symptoms of Stress; SIOSS = Severity Index of Other Symptoms of Stress; SIPSSS = Severity Index of Personal Sphere of Sources of Stress; SIIPSSS = Severity Index of Interpersonal Sphere of Sources of Stress; SIWSSS = Severity Index of Work Sphere of Sources of Stress; SIRSSS = Severity Index of Recreational Sphere of Sources of Stress; SICS = Severity Index of Coping Strategies.

Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire

More than 90% of the respondents belonged to the Hindu religion; it was observed that the severity index is higher than the sample mean except physical symptoms of stress among variables under study. The number of respondents from other religion is very less but still the study has taken into consideration and found that the severity index for variables in the study among Christians is higher than the sample mean while the inverse trend has been found in Sikh religion. In Muslims except severity index of physical symptoms of stress all variables under study have a lower severity index value than the sample mean as shown in table 6.25.

Table – 6.26: Mean Comparison of Severity Index of Mental, Physical, Other Symptoms of Stress; Personal, Interpersonal, Work, Recreational Sphere of Sources of Stress; Coping Strategies with respect to Caste/Category

Category		SIMSS	SIPSS	SIOSS	SIPSSS	SIIPSSS	SIWSSS	SIRSSS	SICS
General	Mean	8.2199	7.1453	1.1663	5.0669	3.3442	7.7075	2.4302	6.8522
	N	523	523	523	523	523	523	523	460
	Std. Deviation	6.55681	6.35703	1.63448	4.00733	2.96404	6.00163	2.40617	4.91185
SEBC	Mean	7.7646	7.3357	.9977	4.9883	3.4802	8.5758	2.5105	7.2640
	N	429	429	429	429	429	429	429	394
	Std. Deviation	5.78332	6.05999	1.61838	3.46037	2.63827	5.33083	2.23565	4.48195
SC	Mean	3.6325	2.4744	.3632	1.8333	1.4957	3.3846	1.1068	4.1607
	N	234	234	234	234	234	234	234	224
	Std. Deviation	5.67594	4.70519	1.07672	2.83184	2.43587	4.97262	1.81355	3.97538
ST	Mean	8.0095	6.0476	.7429	3.9619	2.7714	6.8667	2.0190	5.8431
	N	105	105	105	105	105	105	105	102
	Std. Deviation	7.18906	6.61493	1.39386	3.98054	3.00403	5.45271	2.21438	4.39339
Total	Mean	7.2200	6.2727	.9303	4.3648	3.0077	7.1441	2.1836	6.3915
	N	1291	1291	1291	1291	1291	1291	1291	1180
	Std. Deviation	6.43184	6.27447	1.54963	3.83428	2.86410	5.85213	2.29416	4.69467

SIMSS = Severity Index of Mental Symptoms of Stress; SIPSS = Severity Index of Physical Symptoms of Stress; SIOSS = Severity Index of Other Symptoms of Stress; SIPSSS = Severity Index of Personal Sphere of Sources of Stress; SIIPSSS = Severity Index of Interpersonal Sphere of Sources of Stress; SIWSSS = Severity Index of Work Sphere of Sources of Stress; SIRSSS = Severity Index of Recreational Sphere of Sources of Stress; SICS = Severity Index of Coping Strategies.

Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire

The mean comparison of caste category and the severity index of all variables under study show that the mean are varied among all categories. Respondents belonging to the general and SEBC in caste category have higher mean value of severity index than the sample mean for all variables under study where as among SC respondents, the inverse trend was observed with exceptionally low mean value of severity index. While in the ST category the mean value of the severity index for all the variables were found lower than the sample mean except for severity index of mental symptoms of stress.

Respondents belonging to the SEBC category practiced coping strategies of stress more rigorously than the General category as shown in Table 6.26 whereas from among the SC and ST category, respondents belonging to ST category were responsible in practicing coping strategies of stress than the respondent belonging to the SC category.

Table – 6.27: Mean Comparison of Severity Index of Mental, Physical, Other Symptoms of Stress; Personal, Interpersonal, Work, Recreational Sphere of Sources of Stress; Coping Strategies with respect to Place of Residence

Place of Residence		SIMSS	SIPSS	SIOSS	SIPSSS	SIIPSSS	SIWSSS	SIRSSS	SICS
Urban	Mean	6.6876	6.3778	.8013	4.0941	2.7281	6.3477	1.8954	6.4149
	N	765	765	765	765	765	765	765	740
	Std. Deviation	6.52967	6.54083	1.48280	3.99103	2.87694	5.79758	2.22834	4.68719
Town	Mean	7.0041	7.0741	.8066	4.3539	3.2510	7.0494	2.1276	5.9261
	N	243	243	243	243	243	243	243	230
	Std. Deviation	5.71463	6.28085	1.46574	3.59727	2.92021	5.49959	2.11747	4.47396
Rural Village	Mean	8.8445	5.3004	1.3852	5.1060	3.5548	9.3781	3.0106	6.8190
	N	283	283	283	283	283	283	283	210
	Std. Deviation	6.49963	5.36652	1.70836	3.49915	2.68691	5.73670	2.42107	4.92874
Total	Mean	7.2200	6.2727	.9303	4.3648	3.0077	7.1441	2.1836	6.3915
	N	1291	1291	1291	1291	1291	1291	1291	1180
	Std. Deviation	6.43184	6.27447	1.54963	3.83428	2.86410	5.85213	2.29416	4.69467

SIMSS = Severity Index of Mental Symptoms of Stress; SIPSS = Severity Index of Physical Symptoms of Stress; SIOSS = Severity Index of Other Symptoms of Stress; SIPSSS = Severity Index of Personal Sphere of Sources of Stress; SIIPSSS = Severity Index of Interpersonal Sphere of Sources of Stress; SIWSSS = Severity Index of Work Sphere of Sources of Stress; SIRSSS = Severity Index of Recreational Sphere of Sources of Stress; SICS = Severity Index of Coping Strategies.

Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire

The general perception of the society towards urban area is that the standard of living and access to various amenities and technologies are high as compared to the town and village. The access amenities and technologies are considered as two edged sword which either cause the comfort or discomfort in the various sections of the society.

The study found that among the urban respondents, the severity index of all the variables are lower than the sample mean except the severity index of physical symptoms of stress and practicing of the coping strategies. When studying the town and village respondents, it was noticed that the respondents belonging to the village have a higher value of severity index than the respondents belonging to the town except severity index of physical symptoms of stress. The respondents living in rural areas (village) are more prone to practicing coping strategies than the respondents living in town (semi-urban areas).

Table – 6.28: Mean Comparison of Severity Index of Mental, Physical, Other Symptoms of Stress; Personal, Interpersonal, Work, Recreational Sphere of Sources of Stress; Coping Strategies with respect to Marital Status

Marital Status		SIMSS	SIPSS	SIOSS	SIPSSS	SIIPSSS	SIWSSS	SIRSSS	SICS
Married	Mean	7.0539	6.0169	.9176	4.2313	2.9166	7.0961	2.0697	6.3215
	N	947	947	947	947	947	947	947	843
	Std. Deviation	6.48239	6.22633	1.54550	3.85031	2.82776	5.99368	2.26318	4.74002
Unmarried	Mean	6.9100	6.3564	.8858	4.4671	2.9654	6.8824	2.3737	6.2292
	N	289	289	289	289	289	289	289	288
	Std. Deviation	6.17557	6.26063	1.57589	3.84416	2.93545	5.60444	2.40633	4.58177
Divorced	Mean	11.5750	10.6750	1.5000	6.3000	4.7500	8.7000	3.5500	9.0789
	N	40	40	40	40	40	40	40	38
	Std. Deviation	5.74183	6.40267	1.60128	2.86625	2.75262	4.33944	1.93417	4.08942
Others	Mean	12.0667	9.0667	1.0667	5.6667	4.9333	11.0667	2.0667	6.7273
	N	15	15	15	15	15	15	15	11
	Std. Deviation	3.57505	4.38287	.79881	3.47782	1.98086	2.15362	1.53375	3.69028
Total	Mean	7.2200	6.2727	.9303	4.3648	3.0077	7.1441	2.1836	6.3915
	N	1291	1291	1291	1291	1291	1291	1291	1180
	Std. Deviation	6.43184	6.27447	1.54963	3.83428	2.86410	5.85213	2.29416	4.69467

SIMSS = Severity Index of Mental Symptoms of Stress; SIPSS = Severity Index of Physical Symptoms of Stress; SIOSS = Severity Index of Other Symptoms of Stress; SIPSSS = Severity Index of Personal Sphere of Sources of Stress; SIIPSSS = Severity Index of Interpersonal Sphere of Sources of Stress; SIWSSS = Severity Index of Work Sphere of Sources of Stress; SIRSSS = Severity Index of Recreational Sphere of Sources of Stress; SICS = Severity Index of Coping Strategies.

Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire

The mean comparison of marital status and the severity index of all variables under study show that the mean are varied among all the categories. In the married category, the respondent's value of the severity index of all variables under study are lower than the sample mean whereas the respondents who belong to the unmarried category, the value of the severity index of physical symptoms of stress, personal source of stress and recreational source of stress are higher than the sample mean. In the divorced and other category of marital status, the value of severity index of all the variables are higher than the sample mean of all the variables under study. While in the other category of marital status the value of severity index of mental symptoms of stress and sources of stress at work place are more than 50% of the total values of severity index in both the variables as shown in Table 6.28.

Table – 6.29: Mean Comparison of Severity Index of Mental, Physical, Other Symptoms of Stress; Personal, Interpersonal, Work, Recreational Sphere of Sources of Stress; Coping Strategies with respect to Number of Dependent

Number of Dependant		SIMSS	SIPSS	SIOSS	SIPSSS	SIIPSSS	SIWSSS	SIRSSS	SICS
Nil	Mean	6.3299	5.7962	.7150	3.9171	2.6960	5.7772	1.9672	5.9321
	N	579	579	579	579	579	579	579	574
	Std. Deviation	6.73317	6.52437	1.38077	4.06053	2.93367	5.67125	2.35969	4.79389
0ne	Mean	8.8222	6.5022	1.2044	4.8000	3.2489	8.0800	2.7511	6.4237
	N	225	225	225	225	225	225	225	177
	Std. Deviation	5.96077	5.81725	1.66180	3.35942	2.69429	5.84111	2.36423	4.78707
Two	Mean	7.3023	6.2558	.9302	4.2047	3.0140	8.1860	2.1395	6.4324
	N	215	215	215	215	215	215	215	185
	Std. Deviation	6.31544	6.04923	1.49759	3.69705	2.85389	5.99398	2.17227	4.36227
Three	Mean	7.7852	6.9556	.8741	5.3852	3.6074	9.0296	2.2593	8.0960
	N	135	135	135	135	135	135	135	125
	Std. Deviation	5.94425	5.95489	1.41648	3.53234	2.79951	5.56768	2.29198	4.25862
Four	Mean	7.5200	7.3600	1.5300	4.6600	3.0200	7.2800	2.1800	6.6889
	N	100	100	100	100	100	100	100	90
	Std. Deviation	5.74453	6.62490	2.01236	3.76110	2.79603	5.27062	1.99180	4.25228
Five & above	Mean	8.0541	7.0000	1.2162	5.1351	4.1622	9.5405	2.1081	6.7586
	N	37	37	37	37	37	37	37	29
	Std. Deviation	6.56144	6.07819	2.00188	3.99418	2.61952	5.64503	1.76043	5.75484
Total	Mean	7.2200	6.2727	.9303	4.3648	3.0077	7.1441	2.1836	6.3915
	N	1291	1291	1291	1291	1291	1291	1291	1180
	Std. Deviation	6.43184	6.27447	1.54963	3.83428	2.86410	5.85213	2.29416	4.69467

SIMSS = Severity Index of Mental Symptoms of Stress; SIPSS = Severity Index of Physical Symptoms of Stress; SIOSS = Severity Index of Other Symptoms of Stress; SIPSSS = Severity Index of Personal Sphere of Sources of Stress; SIIPSSS = Severity Index of Interpersonal Sphere of Sources of Stress; SIWSSS = Severity Index of Work Sphere of Sources of Stress; SIRSSS = Severity Index of Recreational Sphere of Sources of Stress; SICS = Severity Index of Coping Strategies.

Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire

The mean comparison of the number of dependents and the severity index of all variables under study shows that the mean are varied in all the categories. In respondents having no dependents on them, the average value of the severity index off all the variables are lower than the sample mean. In, respondents having one dependent on them have a higher average value of severity index than the sample mean for all the variables except the severity index of recreational sources of stress. While in respondents having two dependents on them, the value of the severity index of mental symptoms of stress, inter personal sources of stress, source of stress at work place and practicing coping strategies of stress are higher than the sample mean.

Respondents having three dependents on them, the value of the severity index of all the variables under study are higher than the sample mean except the severity index of other symptoms of stress whereas in respondents having four dependents on them, the value of the severity index for all the variables are higher than the sample mean except severity index of recreational sources of stress and the same trend has been seen in the five and more number of dependent category.

Table – 6.30: Mean Comparison of Severity Index of Mental, Physical, Other Symptoms of Stress; Personal, Interpersonal, Work, Recreational Sphere of Sources of Stress; Coping Strategies with respect to Location of Police Station

Location of Police Station		SIMSS	SIPSS	SIOSS	SIPSSS	SIIPSSS	SIWSSS	SIRSSS	SICS
Urban	Mean	6.5728	6.1059	.8184	4.1048	2.7905	6.5821	1.9884	6.1439
	N	859	859	859	859	859	859	859	834
	Std. Deviation	6.46834	6.54920	1.49423	3.98490	2.89125	5.89288	2.25524	4.78552
Town	Mean	7.3182	6.8864	.7136	4.3773	3.3091	6.9045	2.1409	6.5472
	N	220	220	220	220	220	220	220	212
	Std. Deviation	5.89239	5.66821	1.32582	3.14467	2.70547	5.13605	2.13968	4.32918
Village	Mean	10.7345	7.0339	1.7966	5.8418	3.8870	10.7571	3.4520	8.3535
	N	177	177	177	177	177	177	177	99
	Std. Deviation	5.80190	5.58803	1.81327	3.54482	2.78973	5.17564	2.39536	4.10652
Out post	Mean	4.7143	2.6571	.6571	3.2000	2.0000	4.1714	.8286	5.8000
	N	35	35	35	35	35	35	35	35
	Std. Deviation	5.86902	4.80773	1.34914	3.72432	2.44949	5.39327	.95442	5.00470
Total	Mean	7.2200	6.2727	.9303	4.3648	3.0077	7.1441	2.1836	6.3915
	N	1291	1291	1291	1291	1291	1291	1291	1180
	Std. Deviation	6.43184	6.27447	1.54963	3.83428	2.86410	5.85213	2.29416	4.69467

SIMSS = Severity Index of Mental Symptoms of Stress; SIPSS = Severity Index of Physical Symptoms of Stress; SIOSS = Severity Index of Other Symptoms of Stress; SIPSSS = Severity Index of Personal Sphere of Sources of Stress; SIIPSSS = Severity Index of Interpersonal Sphere of Sources of Stress; SIWSSS = Severity Index of Work Sphere of Sources of Stress; SIRSSS = Severity Index of Recreational Sphere of Sources of Stress; SICS = Severity Index of Coping Strategies.

Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire

The mean comparison of the location of police station and the severity index of all variables under study show that the mean are varied among all the categories. The average value of severity index of mental symptoms of stress is high in the village and town category of the location of police station than the sample mean and same trend has been observed in the severity index of physical symptoms of stress, personal and inter personal sources of stress and the practicing of coping strategies for stress. While in others symptoms of stress, the value of the severity index is

higher in the village category of location of police station than the sample mean and the same trend has been found in the sources of stress at work place and recreational sources of stress.

Table – 6.31: Mean Comparison of Severity Index of Mental, Physical, Other Symptoms of Stress; Personal, Interpersonal, Work, Recreational Sphere of Sources of Stress; Coping Strategies with respect to Rank in the Police Force

Rank in the Police Force		SIMSS	SIPSS	SIOSS	SIPSSS	SIIPSSS	SIWSSS	SIRSSS	SICS
DG, ADG, IG, SPL, IG, DIG	Mean	5.3333	10.3333	1.0000	4.3333	4.3333	9.3333	4.0000	7.0000
	N	3	3	3	3	3	3	3	3
	Std. Deviation	6.65833	9.60902	1.73205	4.04145	3.51188	7.57188	1.00000	3.60555
DSP/DCP, DYSP/ACP	Mean	6.2394	7.4366	.6761	3.6197	2.9296	6.2535	1.1408	4.7727
	N	71	71	71	71	71	71	71	66
	Std. Deviation	6.46411	7.89346	1.26236	3.70469	3.33520	6.28313	1.74271	3.89791
PI	Mean	7.6667	7.6111	.9365	5.0556	3.5635	7.9444	2.3730	5.9587
	N	126	126	126	126	126	126	126	121
	Std. Deviation	6.25204	5.75357	1.51127	3.67109	3.00798	5.78592	2.03070	4.73708
PSI, JAMADAR, HEAD CONSTABLE, CONSTABLE	Mean	7.2374	6.0312	.9459	4.3336	2.9450	7.1036	2.2246	6.5505
	N	1091	1091	1091	1091	1091	1091	1091	990
	Std. Deviation	6.45105	6.18276	1.57090	3.85358	2.80869	5.82334	2.33953	4.72253
Total	Mean	7.2200	6.2727	.9303	4.3648	3.0077	7.1441	2.1836	6.3915
	N	1291	1291	1291	1291	1291	1291	1291	1180
	Std. Deviation	6.43184	6.27447	1.54963	3.83428	2.86410	5.85213	2.29416	4.69467

SIMSS = Severity Index of Mental Symptoms of Stress; SIPSS = Severity Index of Physical Symptoms of Stress; SIOSS = Severity Index of Other Symptoms of Stress; SIPSSS = Severity Index of Personal Sphere of Sources of Stress; SIIPSSS = Severity Index of Interpersonal Sphere of Sources of Stress; SIWSSS = Severity Index of Work Sphere of Sources of Stress; SIRSSS = Severity Index of Recreational Sphere of Sources of Stress; SICS = Severity Index of Coping Strategies.

Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire

The mean comparison of rank in the police force and the severity index of all variables under study show that the mean are varied among all the categories. In the respondents belonging to the DG category, the value of the severity index is higher for all the variables except the severity index of mental symptoms of stress and personal sources of stress than the sample mean as shown in Table 6.31, where as in the DSP/DCP category, the average value of the severity index of all the variables is lower than the sample mean except the severity index of physical symptoms of stress.

In the respondents belonging to the PI category, the value of the severity index of all the variables is higher than the sample mean except the severity index for practicing coping strategies of stress. While among the PSI category, the value of the severity index of mental and other symptoms of stress, recreational sources of stress and practicing coping strategies of stress is higher than the sample mean.

Table – 6.32: Mean Comparison of Severity Index of Mental, Physical, Other Symptoms of Stress; Personal, Interpersonal, Work, Recreational Sphere of Sources of Stress; Coping Strategies with respect to Experience

Experience		SIMSS	SIPSS	SIOSS	SIPSSS	SIIPSSS	SIWSSS	SIRSSS	SICS
UP TO 5	Mean	6.0109	5.5179	.7691	3.9766	2.7005	6.6895	2.0343	6.2678
	N	641	641	641	641	641	641	641	631
	Std. Deviation	5.99413	6.12654	1.42622	3.67607	2.72617	5.62795	2.24417	4.52326
6 -10	Mean	7.6444	6.1000	1.1222	4.2028	3.0806	6.8111	2.2833	5.9688
	N	360	360	360	360	360	360	360	320
	Std. Deviation	6.82705	6.17624	1.67783	3.96720	2.99613	6.23923	2.43758	4.78100
11 – 15	Mean	10.1203	8.5127	1.4810	6.0759	4.2595	9.6392	2.9304	7.3780
	N	158	158	158	158	158	158	158	127
	Std. Deviation	6.15858	5.90664	1.83983	3.59679	2.64016	5.62096	2.17723	5.14693
16 – 20	Mean	9.0635	8.1111	.5238	5.0794	3.0000	7.2222	2.2540	7.0536
	N	63	63	63	63	63	63	63	56
	Std. Deviation	7.32180	7.42731	1.11958	4.09288	3.13667	5.90911	2.34155	5.02510
21 – 25	Mean	8.6667	9.2000	.8667	4.6667	2.4000	7.4667	1.2000	8.8571
	N	30	30	30	30	30	30	30	21
	Std. Deviation	6.01340	6.60929	1.40770	4.76578	3.36923	5.03596	1.62735	4.45293
26 -30	Mean	7.4000	6.7667	.3000	4.2333	2.6667	6.5333	1.3000	6.6250
	N	30	30	30	30	30	30	30	24
	Std. Deviation	3.63508	6.06677	.59596	3.01357	2.35377	4.44688	1.74494	3.58514
Above 30	Mean	7.1111	3.3333	.2222	2.8889	3.2222	9.4444	1.4444	.0000
	N	9	9	9	9	9	9	9	1
	Std. Deviation	6.31357	3.77492	.66667	2.52212	3.23179	5.91843	1.58990	.
Total	Mean	7.2200	6.2727	.9303	4.3648	3.0077	7.1441	2.1836	6.3915
	N	1291	1291	1291	1291	1291	1291	1291	1180
	Std. Deviation	6.43184	6.27447	1.54963	3.83428	2.86410	5.85213	2.29416	4.69467

SIMSS = Severity Index of Mental Symptoms of Stress; SIPSS = Severity Index of Physical Symptoms of Stress; SIOSS = Severity Index of Other Symptoms of Stress; SIPSSS = Severity Index of Personal Sphere of Sources of Stress; SIIPSSS = Severity Index of Interpersonal Sphere of Sources of Stress; SIWSSS = Severity Index of Work Sphere of Sources of Stress; SIRSSS = Severity Index of Recreational Sphere of Sources of Stress; SICS = Severity Index of Coping Strategies.

Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire

The mean comparison of Experience and severity index of all the variables under study show that the mean are varied among al the categories. Among respondents

having experience of up to five years, the average value of the severity index of all the variables is lower than the sample mean. While in respondents having an experience of 6-10 years, the average values of the severity index of all the variables is lower than the sample mean except severity index of mental & other symptoms of stress and inter personal & recreational sources of stress.

Among the respondents having 11-15 years of experience, the average value of the severity index of all the variables is higher than the sample mean where as in the respondents with 16-20 years of experience the average value of the severity index of all the variables is higher than the sample mean except other symptoms of stress and inter personal sources of stress. While in respondents with 21-25 years of experience, the average value of the severity index of all the variables is higher than the sample mean except other symptoms of stress, inter personal & recreational sources of stress.

Those respondents who belong fall in the category of 26-30 years of experience, the average value of the severity index of all the variables is lower than the sample mean except mental & physical symptoms of stress and practicing coping strategies for stress whereas in respondents belonging to the category of 30 years and above experience, the average value of the severity index of all the variables is lower than the sample mean except inter personal & work place sources of stress.

Table – 6.33: Mean Comparison of Severity Index of Mental, Physical, Other Symptoms of Stress; Personal, Interpersonal, Work, Recreational Sphere of Sources of Stress; Coping Strategies with respect to Income in Rupees

Income in Rupees		SIMSS	SIPSS	SIOSS	SIPSSS	SIIPSSS	SIWSSS	SIRSSS	SICS
below 1,00,000	Mean	6.7149	5.9421	.7796	4.1763	2.9311	6.6997	2.1708	6.6321
	N	726	726	726	726	726	726	726	723
	Std. Deviation	6.29482	6.31338	1.43970	3.73565	2.79521	5.48560	2.30466	4.60551
1,00,001 - 2,25,000	Mean	6.5207	5.9917	.9380	4.0537	2.6364	6.1694	1.7769	5.7324
	N	242	242	242	242	242	242	242	213
	Std. Deviation	6.55218	6.45507	1.64490	4.04759	2.71006	5.93955	2.11883	4.98571
2,25,001 - 3,00,000	Mean	8.8995	7.4497	1.1746	5.1746	3.4868	8.7566	2.6243	6.7450
	N	189	189	189	189	189	189	189	149
	Std. Deviation	6.06748	5.25356	1.56633	3.83103	3.05553	5.90834	2.28353	4.71793

3,00,000 - 5,00,000	Mean	9.6000	7.1500	1.7200	5.1000	3.7600	9.9000	2.7800	6.2097
	N	100	100	100	100	100	100	100	62
	Std. Deviation	6.56898	6.40293	1.89673	3.57460	2.88892	6.50951	2.40614	4.65582
Above 5,00,000	Mean	6.6471	6.2059	.4118	3.9412	2.4118	6.5000	1.1471	4.1212
	N	34	34	34	34	34	34	34	33
	Std. Deviation	7.14305	8.09332	.89163	4.41033	3.55151	6.66174	2.16210	3.78944
Total	Mean	7.2200	6.2727	.9303	4.3648	3.0077	7.1441	2.1836	6.3915
	N	1291	1291	1291	1291	1291	1291	1291	1180
	Std. Deviation	6.43184	6.27447	1.54963	3.83428	2.86410	5.85213	2.29416	4.69467

SIMSS = Severity Index of Mental Symptoms of Stress; SIPSS = Severity Index of Physical Symptoms of Stress; SIOSS = Severity Index of Other Symptoms of Stress; SIPSSS = Severity Index of Personal Sphere of Sources of Stress; SIIPSSS = Severity Index of Interpersonal Sphere of Sources of Stress; SIWSSS = Severity Index of Work Sphere of Sources of Stress; SIRSSS = Severity Index of Recreational Sphere of Sources of Stress; SICS = Severity Index of Coping Strategies.

Sources: SPSS (Version 20) Output of Primary Data Based on Questionnaire

The mean comparison of income and the severity index of all variables under study show that the mean are varied among the all categories. The average value of the severity index of mental symptoms of stress is higher among the middle income group than the sample mean as shown in Table 6.33 and the same trend has been observed in the severity index of physical symptoms of stress, personal, inter personal work place and recreational sources of stress. While in other symptoms of stress the average of the severity index of others symptoms of stress is high among the income group of 1-2.5 lakhs to 3-5 lakhs than the sample mean. The respondents in the below one lakh and 2.25-3 lakhs income category are sensible in practicing coping strategies of stress.

REGRESSION ANALYSIS:

The study has considered Others symptoms of stress as Dependent variables and two independent variables were used to check the influence of independent variables on dependent variable mental symptoms of stress and physical symptoms of stress. To establish the relationship between dependent and independent variables, the study applied the OLS regression model to determine the significance of the level of the independent variables for the various symptoms of stress among selected police personnel in the State of Gujarat.

The basic model is as follows:

Other symptoms of stress (OSS) = f [Mental symptoms of stress (MSS) and Physical symptoms of stress (PSS)]. Statistically Regression equation can be written as:

$$[OSS = \alpha + ß_1x_1 + ß_2x_2 + e]$$

Where,

OSS = Others symptoms of stress

X_1 = Mental symptoms of stress (MSS)

X_2 = Physical symptoms of stress (PSS)

The α is constant while $ß_s$ are coefficients of estimates and e is the error term.

Table 6.34 a: [Descriptive Statistics of Various Symptoms of Stress

	Mean	Std. Deviation	N
Other Symptoms of Stress	1.7281	.93133	1291
Mental Symptoms of Stress	2.2772	.94226	1291
Physical Symptoms of Stress	2.0565	.87167	1291

[Source: SPSS regression results of the primary data]

Table (6.34 a) shows the mean value depicting all the variables of stress for selected police personnel in the State of Gujarat. As far as the descriptive statistics of all the variables is concerned, the other symptoms of stress have a mean value of 1.7281 on a 5 point Likert scale, while the mental and physical symptoms of stress have a mean

value of 2.2772 and 2.0565 respectively. The respondents have shown very low level of other symptoms of stress while the level of mental symptoms of stress is very high among the three variables. The study tried to find out the impact of mental symptoms of stress and physical symptoms of stress on other symptoms of stress. A regression analysis was applied for the same to identify and explain the independent variables and its effect on dependent variables. The overall regression models and its ANOVA are summarized in the following table.

Table 6.34 b: Model Summary of Symptoms of Stress

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.556[a]	.309	.308	.77471

a. Predictors: (Constant), PSS, MSS

Table 6.34 c: ANOVAb : Symptoms of Stress

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	345.869	2	172.935	288.137	.000[a]
	Residual	773.034	1288	.600		
	Total	1118.903	1290			

a. Predictors: (Constant), PSS, MSS

b. Dependent Variable: OSS

It is clear from the ANOVA test (Table 6.34 c) shown in the table that the significance value 0.05 is greater than the calculated significance value 0.000. It reflects the null hypothesis at 5% level of significance. It means that there was a significant correlation between Dependent and Independent variables. Therefore the other symptoms of stress among selected police personnel in Gujarat depends on the mental symptoms of stress and physical symptoms of stress. But it does not mean that both the identified independent variables have a significant correlation with other symptoms of stress among selected police personnel in Gujarat.

The overall predictability of the model is shown in Table 6.34 b. The adjusted R^2 value of .308 indicates that the model explains 30.8% of independent variables as

responsible for others symptoms of stress among selected police personnel in the State of Gujarat. The ANOVA table shows the significant F values which implies that the model and data are appropriate to explain the other symptoms of stress. Based on the data found in Table 6.34 d, it can be interpreted that the independent variable i.e., mental symptoms of stress have a strong impact on the other symptoms of stress than the Physical symptoms of stress. Both the variables have almost equal and significant contribution towards other symptoms of stress. Hence no variable has been dropped from the final analysis.

Table 6.34 d: Coefficients[a] Symptoms of Stress

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.419	.059	-	7.148	.000
	MSS	.315	.037	.319	8.489	.000
	PSS	.288	.040	.269	7.179	.000
a. Dependent Variable: OSS						

On the basis of above data and its finding, the following regression model has been developed:

$$[OSS = 0.419 + .315X_1 + .288X_2]$$

Where,

OSS = Other Symptoms of Stress

X_1 = Mental Symptoms of Stress

X_2 = Physical Symptoms of Stress

Coefficient analysis shows the relationship between Dependent variable and each Independent variable. According to the significance value, Mental Symptoms of Stress and Physical Symptoms of Stress have Positive significant correlation with the Other Symptoms of Stress. But the table significance value is 0.05 which is greater than the calculated significance value 0.000.

In regression coefficient analysis (Table 6.34 d) Beta value of X_1 (Mental Symptoms of Stress) is .319 which indicates that 100% variation in Mental symptoms of stress leads to 31.9% change in the Other symptoms of Stress among selected police personnel in the State of Gujarat.

Beta value of X_2 (Physical Symptoms of Stress) is .269 which indicates that 100% variation in Physical Symptoms of Stress leads to 26.9% change in the Other symptoms of Stress among selected police personnel in the State of Gujarat.

An attempt has been made to improve the goodness of fit of the model by inter changing the variables. In this modified regression analysis, dependent variable has been considered as Mental Symptoms of stress and independent variables are Physical symptoms of stress and Other Symptoms of stress. The descriptive statistics of the modified model is the same as above.

Table 6.35 a: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.800[a]	.639	.639	.56637

a. Predictors: (Constant), OSS, PSS

Table 6.35 b: ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	732.170	2	366.085	1141.234	.000[a]
	Residual	413.164	1288	.321		
	Total	1145.334	1290			

a. Predictors: (Constant), OSS, PSS

b. Dependent Variable: MSS

A comparison has been made between the original model of adjusted R square and modified model of adjusted R square. A drastic improvement has been noticed between the two adjusted R square. The earlier model's adjusted R square was .308 while the current modified model's adjusted R square is .639.

Table 6.35 c: Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.430	.042		10.218	.000
	PSS	.757	.021	.700	35.742	.000
	OSS	.168	.020	.166	8.489	.000
a. Dependent Variable: MSS						

On the basis of the above data and its finding, the following modified regression model has been developed:

$$[MSS = .430 + .757X_1 + .168X_2]$$

Where,

MSS = Mental Symptoms of Stress

X_1 = Physical Symptoms of Stress

X_2 = Other Symptoms of Stress

In the model, a major improvement has been noticed in all aspects. The first improvement is in the constant (Alpha) value. The modified constant value increased slightly to .430 from the original constant value .419. The second improvement is in the contribution of physical symptoms of stress towards dependent variable. In the previous model the parameter of physical symptoms of stress was .066 only, whereas in the modified model the significant improvement has been noticed in the value (0.757). This explains that 100% variation in Physical symptoms of stress leads to 75.7% change in mental symptoms of stress among selected police personnel in the State of Gujarat. In other symptoms of stress, the standard Beta value explains that 100% variation in other symptoms of stress leads to 16.8% change in the mental symptoms of stress which explains that other symptoms of stress have a say of 16.8% in the mental symptoms of stress. Finally, the improved regression analysis model has been taken into consideration for the study and the analysis has been made on that basis.

Regression Analysis: Personal Source vs. Symptoms of Stress:

The study has considered Personal Sources of Stress as a Dependent variable and three independent variables are used to check the influence of independent variables on the dependent variable mental symptoms of stress, physical symptoms of stress and others symptoms of stress. To establish the relationship between dependent and independent variables, the study has applied the OLS regression model to determine the significance level of the independent variables for the Personal Sources of Stress among selected police personnel in the State of Gujarat.

The basic model is as follows:
Personal Sources of Stress (PSS) = f [Mental symptoms of stress (MSS), Physical symptoms of stress (PSS) and Others Symptoms of Stress (OSS)]. Statistically the Regression equation can be written as:

$$[PSS = \alpha + ß_1x_1 + ß_2x_2 + ß_3x_3 + e]$$

Where,
PSS = Personal Sources of Stress
X_1 = Mental symptoms of stress (MSS)
X_2 = Physical symptoms of stress (PSS)
X_3 = Other symptoms of Stress (OSS)

The α is constant while $ß_s$ are coefficients of estimates and e is the error term.

Table (6.36 a) shows the mean value depicting all variables of symptoms of stress for selected police personnel in the State of Gujarat. As far as the descriptive statistics of all variables is concerned, the other symptoms of stress have a mean value of 1.7281 on a 5 point Likert scale while the mental and physical symptoms of stress have a mean value of 2.2772 and 2.0565 respectively. The mean value of personal symptoms of stress is 2.3851, the highest among all four variables in the study. The respondents have shown very less level of other symptoms of stress while the level

of mental symptoms of stress is very high among the three variables. The study tries to find out the impact of various symptoms of stress on personal sources of stress. A regression analysis was applied for the same to identify and explain the independent variables and its effect on dependent variables. The overall regression models and its ANOVA are summarized in the following tables.

Table 6.36 a: Descriptive Statistics

	Mean	Std. Deviation	N
Personal sources of stress	2.3851	.86529	1291
Mental symptoms of stress	2.2772	.94226	1291
Physical symptoms of stress	2.0565	.87167	1291
Other symptoms of stress	1.7281	.93133	1291

[Source: SPSS regression results of the primary data]

Table 6.36 b: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.767[a]	.588	.587	.55596

a. Predictors: (Constant), OSS, PSS, MSS

It is clear from the ANOVA test (Table 6.36 c) that the table significance value 0.05 is greater than the calculated significance value 0.000. It reflects the null hypothesis at 5% level of significance. It means that there was a significant correlation between Dependent and Independent variables. Therefore the personal sources of stress among selected police personnel in Gujarat depends on the mental symptoms of stress, physical symptoms of stress and other symptoms of stress. But it does not mean that all the three identified independent variables have a significant correlation with personal sources of stress.

The overall predictability of the model is shown in Table 6.36 b. The adjusted R^2 value of .587 indicates that the model explains 58.7% of independent variables are responsible for personal sources of stress among selected police personnel in the State of Gujarat. The ANOVA table shows the significant F values which implies that

the model and data are useful in explaining the personal sources of stress. Based on the data found in the Table 6.36 d, it can be interpreted that the independent variables Mental symptoms of stress, physical symptoms of stress and others symptoms of stress have a strong impact on the personal sources of stress. The entire three variables have significant contribution towards personal sources of stress. Hence no any variable have been dropped from the final analysis.

Table 6.36 c: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	568.060	3	189.353	612.606	.000[a]
	Residual	397.805	1287	.309		
	Total	965.865	1290			

a. Predictors: (Constant), OSS, PSS, MSS

b. Dependent Variable: PSSS

Table 6.36 d Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.691	.043		16.094	.000
	MSS	.416	.027	.453	15.203	.000
	PSS	.324	.029	.326	11.031	.000
	OSS	.047	.020	.051	2.371	.018

a. Dependent Variable: PSSS

On the basis of above data and its finding, the following regression model has been developed:

$$[PSS = 0.691 + .416X_1 + .324X_2 + .047X_3]$$

Where,

PSS = Personal Sources of Stress

X_1 = Mental Symptoms of Stress

X_2 = Physical Symptoms of Stress

X_3 = Other Symptoms of Stress

Coefficient analysis shows the relationship between Dependent variable and each Independent variable. According to significance value Mental Symptoms of Stress, Physical Symptoms of Stress and other symptoms of stress have Positive significant correlation with the personal sources of stress. But the table significance value is 0.05 which is greater than the calculated significance value 0.000.

In regression coefficient analysis (Table 6.36 d) Beta value of X_1 (Mental Symptoms of Stress) is .453 which indicates that 100% variation in Mental symptoms of stress leads to 45.3% change in the personal sources of stress among selected police personnel in the state of Gujarat.

Beta value of X_2 (Physical Symptoms of Stress) is .326 which indicates that 100% variation in Physical symptoms of stress leads to 32.6% change in the personal sources of stress.

Beta value of X_3 (Other symptoms of stress) is .051 which indicates that 100% variation in others symptoms of stress leads to 5.1% change in the personal sources of stress.

The study has considered inter personal sources of stress as dependent variable and three independent variables used to check the influence of independent variables on dependent variable mental symptoms of stress, physical symptoms of stress and other symptoms of stress. To establish the relationship between dependent and independent variables, the study applied the OLS regression model to determine the significance level of the independent variables for the inter personal sources of stress among selected police personnel in the State of Gujarat. The basic model is as follows:

Inter Personal Sources of Stress (IPSS) = f [Mental symptoms of stress (MSS), Physical symptoms of stress (PSS) and Other symptoms of stress (OSS)]. Statistically Regression equation can be written as:

$$[IPSS = \alpha + ß_1x_1 + ß_2x_2 + ß_3x_3 + e]$$

Where,

IPSS = Inter Personal Sources of Stress

X_1 = Mental symptoms of stress (MSS)

X_2 = Physical symptoms of stress (PSS)

X_3 = Other symptoms of stress (OSS)

The α is constant while $ß_s$ are coefficients of estimates and e is the error term.

Table 6.37 a: Descriptive Statistics

	Mean	Std. Deviation	N
Inter Personal Sources of Stress	2.3682	.88842	1291
Mental symptoms of stress	2.2772	.94226	1291
Physical symptoms of stress	2.0565	.87167	1291
Other symptoms of stress	1.7281	.93133	1291

[Source: SPSS regression results of the primary data]

Table (6.37 a) shows the mean value depicting all the variables of stress for selected police personnel in the State of Gujarat. As far as the descriptive statistics of all variables is concerned, the other symptoms of stress have a lowest mean value of

1.7281 on a 5 point Likert scale, while the mental and physical symptoms of stress have a mean value of 2.2772 and 2.0565 respectively. The respondents have shown very low level of other symptoms of stress while the level of mental symptoms of stress is very high among the three variables. The study tries to find out the impact of mental symptoms of stress, physical symptoms of stress and other symptoms of stress on inter personal sources of stress. A regression analysis has been applied for the same to identify and explain the independent variables and its effect on dependent variables. The overall regression models and its ANOVA are summarized in the following table:

Table 6.37 b: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.755[a]	.570	.569	.58312

a. Predictors: (Constant), OSS, PSS, MSS

Table 6.37 c: ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	580.556	3	193.519	569.119	.000[a]
	Residual	437.621	1287	.340		
	Total	1018.178	1290			

a. Predictors: (Constant), OSS, PSS, MSS

b. Dependent Variable: IPSSS

It is clear from the ANOVA test (Table 6.37 c) which shows that the table significance value 0.05 is greater than the calculated significance value 0.000. It reflects the null hypothesis at 5% level of significance. It means that there was a significant correlation between Dependent and Independent variables. Therefore, inter personal sources of stress among selected police personnel in Gujarat depends on the mental symptoms of stress, physical symptoms of stress and other symptoms of stress. But it does not mean that all three identified independent variables have a significant correlation with inter personal sources of stress among selected police personnel in Gujarat.

The overall predictability of the model is shown in Table 6.37 b. The adjusted R^2 value of .569 indicates that the model explains 56.9% of independent variables as responsible for inter personal sources of stress among selected police personnel in the State of Gujarat. The ANOVA table shows the significant F value which implies that the model and data fit well to explain inter personal sources of stress.

Based on the data found in the Table 6.37 d, it can be interpreted that the independent variables Mental symptoms of stress have a strong impact on the inter personal sources of stress than the Physical and other symptoms of stress. All the three variables have significant positive contribution towards inter personal sources of stress. Hence not a single variable has been dropped from the final analysis.

Table 6.37 d: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.637	.045		14.159	.000
	MSS	.385	.029	.408	13.424	.000
	PSS	.306	.031	.300	9.944	.000
	OSS	.130	.021	.136	6.200	.000

a. Dependent Variable: IPSSS

On the basis of above data and its finding, the following regression model has been developed:

$$\mathbf{[IPSS = 0.637 + .385X_1 + .306X_2 + .130X_3]}$$

Where,

IPSS = Inter Personal Sources of Stress

X_1 = Mental symptoms of stress (MSS)

X_2 = Physical symptoms of stress (PSS)

X_3 = Other symptoms of stress (OSS)

Coefficient analysis shows the relationship between Dependent variable and each Independent variable. According to significance value Mental Symptoms of Stress, Physical Symptoms of Stress and others symptoms of stress have Positive significant correlation with inter personal sources of stress. The table significance value is 0.05 which is greater than the calculated significance value 0.000.

In regression coefficient analysis (Table 6.37 d) Beta value of X_1 (Mental Symptoms of Stress) is .408 which indicates that 100% variation in Mental symptoms of stress leads to 40.8% change in inter personal sources of Stress among selected police personnel in the State of Gujarat.

Beta value of X_2 (Physical Symptoms of Stress) is .300 which indicates that 100% variation in Physical Symptoms of Stress leads to 30% change in inter personal sources of Stress among selected police personnel in the State of Gujarat.

Beta value of X_3 (Other Symptoms of Stress) is .136 which indicates that 100% variation in Physical Symptoms of Stress leads to 13.6% change in inter personal sources of Stress among selected police personnel in the State of Gujarat.

The study has considered sources of stress at work place as Dependent variable and three independent variables were used to check the influence of independent variables on dependent variable mental symptoms of stress, physical symptoms of stress and other symptoms of stress. To establish the relationship between dependent and independent variables, the study has applied the OLS regression model to determine the significance level of the independent variables for sources of stress at work place among selected police personnel in the State of Gujarat.

The basic model is as follows:

Sources of Stress at Work Place (SSWP) = f [Mental symptoms of stress (MSS), Physical symptoms of stress (PSS) and Other symptoms of stress (OSS)]. Statistically Regression equation can be written as:

$$\mathbf{[SSWP = \alpha + ß_1x_1 + ß_2x_2 + ß_3x_3 + e]}$$

Where,

SSWP = Sources of Stress at Work Place

X_1 = Mental symptoms of stress (MSS)

X_2 = Physical symptoms of stress (PSS)

X_3 = Other symptoms of stress (OSS)

The α is constant while $ß_s$ are coefficients of estimates and e is the error term.

Table 6.38 a: Descriptive Statistics

	Mean	Std. Deviation	N
Work sphere sources of stress	2.5466	.91643	1291
Mental symptoms of stress	2.2772	.94226	1291
Physical symptoms of stress	2.0565	.87167	1291
Others symptoms of stress	1.7281	.93133	1291

[Source: SPSS regression results of the primary data]

Table (6.38 a) shows the mean value depicting all the variables of stress for selected police personnel in the State of Gujarat. As far as the descriptive statistics of all

variables is concerned, the other symptoms of stress have the lowest mean value of 1.7281 on a 5 point Likert scale, while the mental and physical symptoms of stress have a mean value of 2.2772 and 2.0565 respectively. The respondents have shown very low level of other symptoms of stress while the level of mental symptoms of stress is very high among the three variables. The study tries to find out the impact of mental symptoms of stress, physical symptoms of stress and other symptoms of stress on sources of stress at work place. A regression analysis has been applied for the same to identify and explain the independent variables and its effect on dependent variables. The overall regression models and its ANOVA are summarized in the following table:

Table 6.38 b: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.724[a]	.524	.523	.63273

a. Predictors: (Constant), OSS, PSS, MSS

Table 6.38 c: ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	568.140	3	189.380	473.034	.000[a]
	Residual	515.252	1287	.400		
	Total	1083.392	1290			

a. Predictors: (Constant), OSS, PSS, MSS

b. Dependent Variable: WSSS

It is clear from the ANOVA test (Table 6.38 c) that the table significance value 0.05 is greater than the calculated significance value 0.000. It reflects the null hypothesis at 5% level of significance. It means that there was a significant correlation between Dependent and Independent variables. Therefore, sources of stress at work place among selected police personnel in Gujarat depends on the mental symptoms of stress, physical symptoms of stress and other symptoms of stress. But it does not mean that all three identified independent variables have a significant correlation with sources of stress at work place among selected police personnel in Gujarat.

The overall predictability of the model is shown in Table 6.38 b. The adjusted R^2 value of .523 indicates that model explains 52.3% of independent variables are responsible for sources of stress at work place among selected police personnel in the State of Gujarat. The ANOVA table shows the moderate F value, which implies that the model and data are appropriate in explaining sources of stress at work place. Based on the data found in Table 6.38 d, it can be interpreted that the independent variables Mental symptoms of stress have a strong impact on sources of stress at work place than the Physical and others symptoms of stress. All the three variables have significant positive contribution towards sources of stress of stress. Hence no variable has been dropped from the final analysis.

6.38 d: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.852	.049		17.455	.000
	MSS	.517	.031	.532	16.608	.000
	PSS	.140	.033	.133	4.189	.000
	OSS	.133	.023	.135	5.829	.000

a. Dependent Variable: WSSS

On the basis of the above data and its finding, the following regression model has been developed:

$$[SSWP = 0.852 + .517X_1 + .140X_2 + .133X_3]$$

Where,

SSWP = Sources of Stress at Work Place

X_1 = Mental symptoms of stress (MSS)

X_2 = Physical symptoms of stress (PSS)

X_3 = Other symptoms of stress (OSS)

Coefficient analysis shows the relationship between Dependent variable and each Independent variable. According to significance value of Mental Symptoms of Stress, Physical Symptoms of Stress and other symptoms of stress have Positive significant correlation with sources of stress at work place. The table significance value is 0.05 which is greater than the calculated significance value 0.000.

In the regression coefficient analysis (table 6.38 d) Beta value of X_1 (Mental Symptoms of Stress) is .532 which indicates that 100% variation in Mental symptoms of stress leads to 53.2% change in sources of stress at work place among selected police personnel in the State of Gujarat.

Beta value of X_2 (Physical Symptoms of Stress) is .133 which indicates that 100% variation in Physical Symptoms of Stress leads to 13.3% change in sources of stress at work place among selected police personnel in the State of Gujarat.

Beta value of X_3 (Other Symptoms of Stress) is .135 which indicates that 100% variation in Physical Symptoms of Stress leads to 13.5% change in the sources of stress at work place among selected police personnel in the State of Gujarat.

The study has considered recreational sources of stress as Dependent variable and three independent variables were used to check the influence of Independent variables on Dependent variable Mental symptoms of stress, Physical symptoms of stress and other symptoms of stress. To establish the relationship between dependent and independent variables, the study applied the OLS regression model to determine the significance level of the independent variables for recreational sources of stress among selected police personnel in the state of Gujarat.

The basic model is as follows:

Recreational Sources of Stress (RSS) = f [Mental symptoms of stress (MSS), Physical symptoms of stress (PSS) and Other symptoms of stress (OSS)]. Statistically Regression equation can be written as:

$$[RSS = \alpha + ß_1x_1 + ß_2x_2 + ß_3x_3 + e]$$

Where,

RSS = Recreational Sources of Stress

X_1 = Mental symptoms of stress (MSS)

X_2 = Physical symptoms of stress (PSS)

X_3 = Other symptoms of stress (OSS)

The α is constant while $ß_s$ are coefficients of estimates and e is the error term.

Table 6.39 a: Descriptive Statistics

	Mean	Std. Deviation	N
Recreational Sources of Stress	2.2318	.94968	1291
Mental Symptoms of Stress	2.2772	.94226	1291
Physical Symptoms of Stress	2.0565	.87167	1291
Other Symptoms of Stress	1.7281	.93133	1291

[Source: SPSS regression results of the primary data]

Table (6.39 a) shows the mean value depicting all the variables of stress for selected police personnel in the State of Gujarat. As far as the descriptive statistics of all the variables is concerned, the other symptoms of stress have the lowest mean value of

1.7281 on a 5 point Likert scale, while the mental and physical symptoms of stress have a mean value of 2.2772 and 2.0565 respectively. The respondents have shown a very low level of other symptoms of stress while the level of mental symptoms of stress is very high among the three variables. The study tried to find out the impact of mental symptoms of stress, physical symptoms of stress and other symptoms of stress on recreational sources of stress. A regression analysis has been applied for the same to identify and explain the independent variables and its effect on dependent variables. The overall regression models and its ANOVA are summarized in the following table:

Table 6.39 b: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.687[a]	.472	.470	.69120

a. Predictors: (Constant), OSS, PSS, MSS

Table 6.39 c: ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	548.581	3	182.860	382.753	.000[a]
	Residual	614.866	1287	.478		
	Total	1163.447	1290			

a. Predictors: (Constant), OSS, PSS, MSS

b. Dependent Variable: RSSS

It is clear from the ANOVA test (Table 6.39 c) that the table significance value 0.05 is greater than the calculated significance value 0.000. It reflects the null hypothesis at 5% level of significance. It means that there was a significant correlation between Dependent and Independent variables. Therefore, recreational sources of stress among selected police personnel in Gujarat depends on the mental symptoms of stress, physical symptoms of stress and other symptoms of stress. But it does not mean that all three identified independent variables have a significant correlation with recreational sources of stress among selected police personnel in Gujarat.

The overall predictability of the model is shown in Table 6.39 b. The adjusted R^2 value of .470 indicates that model explains that 47% of independent variables are responsible for sources of recreational stress among selected police personnel in the State of Gujarat. The ANOVA table shows the F value which implies that the model and data are useful in explaining sources of stress at work place. Based on the data found in the Table 6.39 d, it can be interpreted that the independent variables mental symptoms of stress have a strong impact on recreational sources of stress than the other and physical symptoms of stress respectively. All the three variables have significant positive contribution towards recreational sources of stress. Hence no variable has been dropped from the final analysis.

Table 6.39 d: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.600	.053		11.242	.000
	MSS	.378	.034	.376	11.130	.000
	PSS	.079	.036	.073	2.165	.031
	OSS	.352	.025	.345	14.148	.000

a. Dependent Variable: RSSS

On the basis of above data and its finding, the following regression model has been developed:

$$\mathbf{[RSS = 0.600 + .378X_1 + .079X_2 + .352X_3]}$$

Where,

RSS = Recreational Sources of Stress

X_1 = Mental symptoms of stress (MSS)

X_2 = Physical symptoms of stress (PSS)

X_3 = Other symptoms of stress (OSS)

Coefficient analysis shows the relationship between Dependent variable and each Independent variable. According to significance value Mental Symptoms of Stress, Physical Symptoms of Stress and other symptoms of stress have a significant Positive correlation with recreational sources of stress. The table significance value is 0.05 which is greater than the calculated significance value 0.000 except in Physical Symptoms of stress.

In regression coefficient analysis (table 6.39 d) Beta value of X_1 (Mental Symptoms of Stress) is .378 which indicates that 100% variation in the Mental symptoms of stress leads to 37.8% change in recreational sources of Stress among selected police personnel in the State of Gujarat.

Beta value of X_2 (Physical Symptoms of Stress) is .079 which indicates that 100% variation in Physical Symptoms of Stress leads to 7.9% change in recreational sources of stress among selected police personnel in the State of Gujarat.

Beta value of X_3 (Other Symptoms of Stress) is .352 which indicates that 100% variation in Physical Symptoms of Stress leads to 35.2% change in recreational sources of stress among selected police personnel in the State of Gujarat.

The study has considered Mental Symptoms of stress as dependent variable and four independent variables used to check the influence of independent variables on dependent variable personal sources of stress, interpersonal sources of stress, sources of stress at work place and recreational sources of stress. To establish the relationship between dependent and independent variables, the study has applied the OLS regression model to determine the significance level of the independent variables for mental symptoms of stress among selected police personnel in the state of Gujarat. The basic model is as follows:

Mental Symptoms of Stress (MSS) = f [Personal Sources of Stress (PSS), Inter Personal Sources of Stress (IPSS), Sources of Stress at Work Place (SSWP) and Recreational Sources of Stress (RSS)].

Statistically Regression equation can be written as:

$$[MSS = \alpha + ß_1x_1 + ß_2x_2 + ß_3x_3 + ß_4x_4 + e]$$

Where,

MSS = Mental Symptoms of Stress

X_1 = Personal Sources of Stress (PSS)

X_2 = Inter Personal Sources of Stress (IPSS)

X_3 = Sources of Stress at Work Place (SSWP)

X_4 = Recreational Sources of Stress (RSS)

The α is constant while $ß_s$ are coefficients of estimates and e is the error term.

Table 6.40 a: Descriptive Statistics

	Mean	Std. Deviation	N
Mental Symptoms of Stress	2.2772	.94226	1291
Personal Sources of Stress	2.3851	.86529	1291
Inter Personal Sources of Stress	2.3682	.88842	1291
Sources of Stress at Work Place	2.5466	.91643	1291
Recreational Sources of Stress	2.2318	.94968	1291

[Source: SPSS regression results of the primary data]

Table (6.40 a) shows the mean value depicting all the variables of stress for selected police personnel in the State of Gujarat. As far as the descriptive statistics of all variables is concerned, the Recreational Sources of Stress have a lowest mean value of 2.2318 on a 5 point Likert scale while the Sources of Stress at Work Place, Personal Sources of Stress and Inter Personal Sources of Stress have a mean value of 2.5466, 2.3851 and 2.3682 respectively. The study tries to find out the impact of Sources of Stress on mental symptoms of stress. A regression analysis has been applied for the same to identify and explain the independent variables and its effect on dependent variables. The overall regression models and its ANOVA are summarized in the following table.

Table 6.40 b: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.793[a]	.629	.628	.57507

a. Predictors: (Constant), RSSS,PSSS,WSSS,IPSSS

Table 6.40 c: ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	720.049	4	180.012	544.331	.000[a]
	Residual	425.285	1286	.331		
	Total	1145.334	1290			

a. Predictors: (Constant), RSSS,PSSS,WSSS,IPSSS

b. Dependent Variable: MSS

It is clear from the ANOVA test (Table 6.40 c) shows the table significance value 0.05 is greater than the calculated significance value 0.000. It reflects the null hypothesis at 5% level of significance. It means that there was a significant correlation between Dependent and Independent variables. Therefore Mental Symptoms of Stress among selected police personnel in Gujarat depends on the various Sources of Stress. But it does not mean that all four identified independent variables have a significant correlation with mental symptoms of stress among selected police personnel in Gujarat.

The overall predictability of the model is shown in Table 6.40 b. The adjusted R^2 value of .628 indicates that the model explains 62.8% of independent variables are responsible for various sources of stress among selected police personnel in the State of Gujarat. The ANOVA table shows the F value which implies that the model and data fit well to explain the Mental Symptoms of Stress. Based on the data found in Table 6.40 d, it can be interpreted that the independent variables Personal Sources of Stress have a strong impact on Mental Symptoms of Stress followed by Inter Personal Sources of Stress, Sources of Stress at Work Place and Recreational Sources of Stress respectively. All the four variables have significant positive contribution towards Mental Symptoms of Stress. Hence no variable has been dropped from the final analysis.

Table 6.40 d: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.034	.051		.670	.503
	PSSS	.366	.032	.336	11.461	.000
	IPSSS	.249	.032	.235	7.867	.000
	WSSS	.213	.031	.207	6.943	.000
	RSSS	.107	.025	.108	4.277	.000

a. Dependent Variable: MSS

On the basis of above data and its finding, the following regression model has been developed:

$$[MSS = 0.034 + .336X_1 + .235X_2 + .207X_3 + .108X_4]$$

Where,

MSS = Mental Symptoms of Stress

X_1 = Personal Sources of Stress (PSS)

X_2 = Inter Personal Sources of Stress (IPSS)

X_3 = Sources of Stress at Work Place (SSWP)

X_4 = Recreational Sources of Stress (RSS)

Coefficient analysis shows the relationship between Dependent variable and each Independent variable. According to significance value, personal sources of stress, interpersonal sources of stress, sources of stress at work place and recreational sources of stress have a positive significant correlation with mental symptoms of stress. The table significance value is 0.05 is greater than the calculated significance value 0.000.

In regression coefficient analysis (table 6.40 d) Beta value of X_1 (Personal Sources of Stress) is .336 which indicates that 100% variation in Personal Sources of stress leads to 33.6% change in mental symptoms of Stress among selected police personnel in the State of Gujarat.

Beta value of X_2 (Inter Personal Sources of Stress) is .235 which indicates that 100% variation in Inter Personal Sources of stress leads to 23.5% change in mental symptoms of Stress among selected police personnel in the State of Gujarat.

Beta value of X_3 (Sources of Stress at Work Place) is .207 which indicates that 100% variation in Sources of Stress at Work Place leads to 20.7% change in mental symptoms of Stress among selected police personnel in the State of Gujarat.

Beta value of X_4 (Recreational Sources of Stress) is .108 which indicates that 100% variation in Recreational Sources of Stress leads to 10.8% change in mental symptoms of Stress among selected police personnel in the State of Gujarat.

The study has considered Physical Symptoms of stress as Dependent variable and four independent variables were used to check the influence of independent variables on dependent variable: personal sources of stress, interpersonal sources of stress, sources of stress at work place and recreational sources of stress. To establish the relationship between dependent and independent variables, the study has applied the OLS regression model to determine the significance level of the independent variables for Physical symptoms of stress among selected police personnel in the State of Gujarat. The basic model is as follows:

Physical Symptoms of Stress (PSS) = f [Personal Sources of Stress (PSS), Inter Personal Sources of Stress (IPSS), Sources of Stress at Work Place (SSWP) and Recreational Sources of Stress (RSS)].

Statistically Regression equation can be written as:

$$[PSS = \alpha + ß_1x_1 + ß_2x_2 + ß_3x_3 + ß_4x_4 + e]$$

Where,

PSS = Physical Symptoms of Stress

X_1 = Personal Sources of Stress (PSS)

X_2 = Inter Personal Sources of Stress (IPSS)

X_3 = Sources of Stress at Work Place (SSWP)

X_4 = Recreational Sources of Stress (RSS)

The α is constant while $ß_s$ are coefficients of estimates and e is the error term.

Table 6.41 a: Descriptive Statistics

	Mean	Std. Deviation	N
Physical Symptoms of Stress	2.0565	.87167	1291
Personal Sources of Stress	2.3851	.86529	1291
Inter Personal Sources of Stress	2.3682	.88842	1291
Sources of Stress at Work Place	2.5466	.91643	1291
Recreational Sources of Stress	2.2318	.94968	1291

[Source: SPSS regression results of the primary data]

Table (6.41 a) shows the mean value depicting all the variables of stress for selected police personnel in the State of Gujarat. As far as the descriptive statistics of all variables is concerned, the Recreational Sources of Stress have a lowest mean value of 2.2318 on a 5 point Likert scale while the Sources of Stress at Work Place, Personal Sources of Stress and Inter Personal Sources of Stress have a mean value of 2.5466, 2.3851 and 2.3682 respectively. The study tries to find out the impact of Sources of Stress on physical symptoms of stress. A regression analysis has been applied for the same to identify and explain the independent variables and its effect on dependent variables. The overall regression models and its ANOVA are summarized in the following table:

Table 6.41 b: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.749[a]	.561	.560	.57823

a. Predictors: (Constant), RSSS,PSSS,WSSS,IPSSS

Table 6.41 c: ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	550.182	4	137.545	411.387	.000[a]
	Residual	429.968	1286	.334		
	Total	980.150	1290			

a. Predictors: (Constant), RSSS,PSSS,WSSS,IPSSS

b. Dependent Variable: PSS

It is clear from the ANOVA test (Table 43 c) that the table significance value 0.05 is greater than the calculated significance value 0.000. It reflects the null hypothesis at 5% level of significance. It means that there was a significant correlation between Dependent and Independent variables. Therefore Physical Symptoms of Stress among selected police personnel in Gujarat depends on the various Sources of Stress. But it does not mean that all the four identified independent variables have a significant correlation with physical symptoms of stress among selected police personnel in Gujarat.

The overall predictability of the model is shown in Table 6.41 b. The adjusted R^2 value of .560 indicates that the model explains 56% of independent variables as responsible for various sources of stress among selected police personnel in the State of Gujarat. The ANOVA table shows the F value which implies that the model and data are appropriate to explain the Physical Symptoms of Stress. Based on the data found in Table 6.41 d, it can be interpreted that the independent variables Personal Sources of Stress have a strong impact on Physical Symptoms of Stress followed by Inter Personal Sources of Stress, Sources of Stress at Work Place and Recreational Sources of Stress respectively. All the four variables have significant positive contribution towards Mental Symptoms of Stress. Hence no variable has been dropped from the final analysis.

Table 6.41 d: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.133	.051		2.608	.009
	PSSS	.398	.032	.395	12.419	.000
	IPSSS	.306	.032	.312	9.610	.000
	WSSS	.052	.031	.054	1.682	.093
	RSSS	.052	.025	.057	2.066	.039

a. Dependent Variable: PSS

On the basis of above data and its finding, the following regression model has been developed:

$$[PSS = 0.133 + .398X_1 + .306X_2 + .052X_3 + .052X_4]$$

Where,

PSS = Physical Symptoms of Stress

X_1 = Personal Sources of Stress (PSS)

X_2 = Inter Personal Sources of Stress (IPSS)

X_3 = Sources of Stress at Work Place (SSWP)

X_4 = Recreational Sources of Stress (RSS)

Coefficient analysis shows the relationship between Dependent variable and each Independent variable. According to significance value, personal sources of stress, interpersonal sources of stress, sources of stress at work place and recreational sources of stress have positive significant correlation with mental symptoms of stress. The table significance value is 0.05 which is greater than the calculated significance value 0.000 in Personal and Inter Personal Sources of Stress.

In regression coefficient analysis (Table 6.41 d) Beta value of X_1 (Personal Sources of Stress) is .395 which indicates that 100% variation in Personal Sources of stress leads to 39.5% change in physical symptoms of Stress among selected police personnel in the State of Gujarat.

Beta value of X_2 (Inter Personal Sources of Stress) is .312 which indicates that 100% variation in Inter Personal Sources of stress leads to 31.2% change in physical symptoms of Stress among selected police personnel in the State of Gujarat.

Beta value of X_3 (Sources of Stress at Work Place) is .054 which indicates that 100% variation in Sources of Stress at Work Place leads to 5.4% change in physical symptoms of Stress among selected police personnel in the State of Gujarat.

Beta value of X_4 (Recreational Sources of Stress) is .057 which indicates that 100% variation in Recreational Sources of Stress leads to 5.7% change in physical symptoms of Stress among selected police personnel in the State of Gujarat.

The study has considered Practicing of Coping Strategies of stress as a Dependent variable and four independent variables were used to check the influence of independent variables on dependent variable: personal sources of stress, interpersonal sources of stress, sources of stress at work place and recreational sources of stress. To establish the relationship between dependent and independent variables the study applied the OLS regression model to determine the significance level of the independent variables for Physical symptoms of stress among selected police personnel in the State of Gujarat. The basic model is as follows:

Practicing of Coping Strategies of Stress (PCSS) = f [Personal Sources of Stress (PSS), Inter Personal Sources of Stress (IPSS), Sources of Stress at Work Place (SSWP) and Recreational Sources of Stress (RSS)].

Statistically Regression equation can be written as:

$$\mathbf{[PCSS = \alpha + ß_1x_1 + ß_2x_2 + ß_3x_3 + ß_4x_4 + e]}$$

Where,

PCSS = Practicing Coping Strategies of Stress

X_1 = Personal Sources of Stress (PSS)

X_2 = Inter Personal Sources of Stress (IPSS)

X_3 = Sources of Stress at Work Place (SSWP)

X_4 = Recreational Sources of Stress (RSS)

The α is constant while $ß_s$ are coefficients of estimates and e is the error term.

Table 6.42 a: Descriptive Statistics

	Mean	Std. Deviation	N
Coping Strategies of Stress	2.5535	.79722	1180
Personal Sources of Stress	2.3600	.88014	1180
Inter Personal Sources of Stress	2.3427	.89354	1180
Sources of Stress at Work Place	2.4838	.90345	1180
Recreational Sources of Stress	2.1858	.93170	1180

[Source: SPSS regression results of the primary data]

Table (6.42 a) shows the mean value depicting all the variables of stress for selected police personnel in the State of Gujarat. As far as the descriptive statistics of all variables is concerned, the Recreational Sources of Stress have the lowest mean value of 2.1858 on a 5 point Likert scale while the Sources of Stress at Work Place, Personal Sources of Stress and Inter Personal Sources of Stress have a mean value of 2.4838, 2.3600 and 2.3427 respectively. The study tries to find out the impact of Sources of Stress on practicing coping strategies of stress. A regression analysis has been applied for the same to identify and explain the independent variables and its effect on dependent variables. The overall regression models and its ANOVA are summarized in the following table:

Table 6.42 b: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.578[a]	.334	.332	.65173

a. Predictors: (Constant), RSSS,PSSS,WSSS,IPSSS

Table 6.42 c: ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	250.250	4	62.562	147.293	.000[a]
	Residual	499.078	1175	.425		
	Total	749.328	1179			

a. Predictors: (Constant), RSSS,PSSS,WSSS,IPSSS

b. Dependent Variable: CS

It is clear from the ANOVA test (Table 6.42 c) that the table significance value 0.05 is greater than the calculated significance value 0.000. It reflects the null hypothesis at 5% level of significance. It means that there was a significant correlation between dependent and Independent variables. Therefore practicing coping strategies of Stress among selected police personnel in Gujarat depends on various Sources of Stress. But it does not mean that all the four identified independent variables have a significant correlation with practicing coping strategies of Stress among selected police personnel in Gujarat.

The overall predictability of the model is shown in Table 6.42 b. The adjusted R^2 value of .332 indicates that the model explains 33.2% of independent variables as responsible for various sources of stress among selected police personnel in the State of Gujarat. The ANOVA table shows the F value which implies that the model and data are appropriate in explaining practicing coping strategies of Stress. Based on the data found in Table 6.42 d, it can be interpreted that the independent variables Sources of Stress at work place has a strong impact on practicing coping strategies of Stress followed by personal sources of stress, inter personal sources of stress and Recreational Sources of Stress respectively. All the four variables have significant positive contribution towards practicing coping strategies of Stress. Hence no variable has been dropped from the final analysis.

Table 6.42 d: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.199	.059		20.268	.000
	PSSS	.217	.038	.239	5.654	.000
	IPSSS	.068	.038	.076	1.775	.076
	WSSS	.244	.037	.276	6.595	.000
	RSSS	.036	.030	.042	1.183	.237

a. Dependent Variable: CS

On the basis of above data and its finding, the following regression model has been developed:

$$\mathbf{[PCSS = 1.199 + .239X_1 + .076X_2 + .276X_3 + .042X_4]}$$

Where,

PCSS = Practicing Coping Strategies of Stress

X_1 = Personal Sources of Stress (PSS)

X_2 = Inter Personal Sources of Stress (IPSS)

X_3 = Sources of Stress at Work Place (SSWP)

X_4 = Recreational Sources of Stress (RSS)

Coefficient analysis shows the relationship between Dependent variable and each Independent variable. According to significance value, personal sources of stress, interpersonal sources of stress, sources of stress at work place and recreational sources of stress have positive significant correlation with practicing coping strategies of stress. The table significance value is 0.05 which is greater than the calculated significance value 0.000 in Personal and Sources of Stress at work place.

In regression coefficient analysis (table 6.42 d) Beta value of X_1 (Personal Sources of Stress) is .239 which indicates that 100% variation in Personal Sources of stress leads to 23.9% change in practicing coping strategies of Stress among selected police personnel in the State of Gujarat.

Beta value of X_2 (Inter Personal Sources of Stress) is .076 which indicates that 100% variation in Inter Personal Sources of stress leads to 7.6% change in practicing coping strategies of Stress among selected police personnel in the State of Gujarat.

Beta value of X_3 (Sources of Stress at Work Place) is .276 which indicates that 100% variation in Sources of Stress at Work Place leads to 27.6% change in practicing coping strategies of Stress among selected police personnel in the State of Gujarat.

Beta value of X_4 (Recreational Sources of Stress) is .042 which indicates that 100% variation in Recreational Sources of Stress leads to 4.2% change in practicing coping strategies of Stress among selected police personnel in the State of Gujarat.

The study has considered Practicing Coping Strategies of Stress as Dependent variable and three independent variables were used to check the influence of independent variables on dependent variable mental symptoms of stress, physical symptoms of stress and others symptoms of stress. To establish the relationship between dependent and independent variables, the study applied the OLS regression model to determine the significance level of the independent variables for the Practicing Coping Strategies of Stress among selected police personnel in the State of Gujarat. The basic model is as follows:

Practicing Coping Strategies of Stress (PCSS) = f [Mental symptoms of stress (MSS), Physical symptoms of stress (PSS) and Others symptoms of stress (OSS)]. Statistically Regression equation can be written as:

$$[PCSS = \alpha + ß_1x_1 + ß_2x_2 + ß_3x_3 + e]$$

Where,

PCSS = Practicing Coping Strategies of Stress

X_1 = Mental symptoms of stress (MSS)

X_2 = Physical symptoms of stress (PSS)

X_3 = Other symptoms of stress (OSS)

The α is constant while $ß_s$ are coefficients of estimates and e is the error term.

Table 6.43 a: Descriptive Statistics

	Mean	Std. Deviation	N
Coping Strategies of Stress	2.5535	.79722	1180
Mental Symptoms of Stress	2.2186	.94356	1180
Physical Symptoms of Stress	2.0573	.89600	1180
Other Symptoms of Stress	1.6582	.89582	1180

[Source: SPSS regression results of the primary data]

Table (6.43 a) shows the mean value depicting all the variables of stress for selected police personnel in the State of Gujarat. As far as the descriptive statistics of all variables is concerned, the other symptoms of stress have a lowest mean value of

1.6582 on a 5 point Likert scale, while the mental and physical symptoms of stress have a mean value of 2.2186 and 2.0573 respectively. The respondents have shown very low level of other symptoms of stress while the level of mental symptoms of stress is very high among the three variables. The study tries to find out the impact of mental symptoms of stress, physical symptoms of stress and other symptoms of stress on practicing coping strategies of stress. A regression analysis was applied for the same to identify and explain the independent variables and its effect on dependent variables. The overall regression models and its ANOVA are summarized in the following table:

Table 6.43 b: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.580[a]	.336	.334	.65047

a. Predictors: (Constant), OSS,MSS,PSS

Table 6.43 c: ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	251.748	3	83.916	198.330	.000[a]
	Residual	497.580	1176	.423		
	Total	749.328	1179			

a. Predictors: (Constant), OSS,MSS,PSS

b. Dependent Variable: CS

It is clear from the ANOVA test (Table 6.43 c) that the table significance value 0.05 is greater than the calculated significance value 0.000. It reflects the null hypothesis at 5% level of significance. It means that there was a significant correlation between Dependent and Independent variables. Therefore, practicing coping strategies of stress among selected police personnel in Gujarat depends on the mental symptoms of stress, physical symptoms of stress and others symptoms of stress. But it does not mean that all the three identified independent variables have a significant correlation with practicing coping strategies of stress among selected police personnel in Gujarat.

The overall predictability of the model is shown in Table 6.43 b. The adjusted R^2 value of .334 indicates that the model explains 33.4% of independent variables are responsible for practicing coping strategies of stress among selected police personnel in the State of Gujarat. The ANOVA table shows the F value which implies that the model and data are appropriate in explaining practicing coping strategies of stress. Based on the data found in Table 6.43 d, it can be interpreted that the independent variables Mental Symptoms of stress have a strong impact on the practicing coping strategies of stress than the Physical and Others Symptoms of stress.

The two variables (Mental & Physical Symptoms of stress) have a significant positive contribution towards practicing coping strategies of stress. Whereas one variable had negative value of Standardized Beta, so the same variable was dropped from the final Analysis.

Table 6.43 d: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.441	.051		28.186	.000
	MSS	.348	.036	.412	9.623	.000
	PSS	.178	.040	.200	4.476	.000
	OSS	-.016	.026	-.018	-.613	.540

a. Dependent Variable: CS

On the basis of above data and its finding, the following regression model has been developed:

$$[PCSS = 1.441 + .412X_1 + .200X_2]$$

Where,

PCSS = Practicing Coping Strategies of Stress

X_1 = Mental symptoms of stress (MSS)

X_2 = Physical symptoms of stress (PSS)

Coefficient analysis shows the relationship between Dependent variable and each Independent variable. According to the significance value Mental Symptoms of Stress and Physical Symptoms of Stress have Positive significant correlation with practicing coping strategies of stress. The table significance value is 0.05 which is greater than the calculated significance value 0.000.

In regression coefficient analysis (table 6.43 d) Beta value of X_1 (Mental Symptoms of Stress) is .412 which indicates that 100% variation in Mental symptoms of stress leads to 41.2% change in practicing coping strategies of stress among selected police personnel in the State of Gujarat.

Beta value of X_2 (Physical Symptoms of Stress) is .200 which indicates that 100% variation in Physical Symptoms of Stress leads to 20% change in practicing coping strategies of stress among selected police personnel in the State of Gujarat.

Table – 6.44: Pearson Chi-Square Tests												
		MSS	PSS	OSS	PSSS	IPSSS	WSSS	RSSS	CS	Post-retirement departmental issues	Do you know about Coping Strategy	Do you think this has helped you to reduce stress
Age	Chi-square	183.212	158.734	136.238	127.963	111.048	103.704	103.122	58.600	76.767	328.727	41.975
	Df	14	14	14	14	14	14	14	14	7	7	7
	Sig.	.000*	.000*	.000*	.000*	.000*	.000*	.000*	.000*,a	.000*,a	.000*,a	.000*,a
Gender	Chi-square	10.564	8.736	14.343	6.348	9.205	12.952	8.677	.467	.221	.012	1.350
	Df	2	2	2	2	2	2	2	2	1	1	1
	Sig.	.005*	.013*	.001*	.042*	.010*	.002*	.013*	.792	.638,a	.914b	.245
Qualification	Chi-square	176.951	281.223	46.948	181.246	126.331	147.609	86.843	162.107	24.924	6.839	10.957
	Df	6	6	6	6	6	6	6	6	3	3	3
	Sig.	.000*,a	.000*,a	.000*	.000*,a	.000*,a	.000*,a	.000*,a	.000*,b	.000*,a	.077,a	.012*
Religion	Chi-square	30.424	11.432	31.426	15.691	10.316	18.862	16.944	17.397	2.447	2.764	1.444
	Df	6	6	6	6	6	6	6	6	3	3	3
	Sig.	.000*,a	.076,a	.000*,a	.016*,a	.112,a	.004*,a	.009*,a	.008*,b	.485,a	.429,ab	.695b
Category	Chi-square	147.371	173.168	72.675	167.541	78.485	169.968	91.224	88.412	28.801	17.989	12.834
	Df	6	6	6	6	6	6	6	6	3	3	3
	Sig.	.000*	.000*	.000*	.000*	.000*	.000*	.000*	.000*	.000*,a	.000*	.005*
Place of Residence	Chi-square	52.271	18.730	74.974	39.017	10.613	62.935	48.097	5.428	64.672	137.415	4.415
	Df	4	4	4	4	4	4	4	4	2	2	2
	Sig.	.000*	.001*	.000*	.000*	.031*	.000*	.000*	.246	.000*,a	.000*	.110
Marital Status	Chi-square	40.487	28.799	49.780	20.508	23.500	23.252	36.027	15.006	12.733	38.781	12.968
	Df	6	6	6	6	6	6	6	6	3	3	3
	Sig.	.000*	.000*	.000*	.002*	.001*	.001*	.000*	.020*,b	.005*,a	.000*b	.005*

Number of Dependants	Chi-square	108.318	91.757	42.746	71.592	45.029	64.452	43.930	28.131	46.926	106.836	9.139
	Df	10	10	10	10	10	10	10	10	5	5	5
	Sig.	.000*	.000*	.000*	.000*	.000*	.000*	.000*	.002*	.000*,a	.000*	.104
Location of Police Station	Chi-square	74.196	78.761	93.382	41.855	38.497	120.231	96.808	36.011	74.176	328.903	5.536
	Df	6	6	6	6	6	6	6	6	3	3	3
	Sig.	.000*	.000*	.000*	.000*	.000*	.000*	.000*	.000*	.000*,a	.000*	.137
Unit of Current Posting	Chi-square	19.369	34.707	.703	7.629	12.028	11.126	11.153	29.894	.504	.077	14.413
	Df	2	2	2	2	2	2	2	2	1	1	1
	Sig.	.000*	.000*	.704	.022*	.002*	.004*	.004*	.000*	.478,a	.781	.000*
Rank in the Police Force	Chi-square	6.563	17.817	37.453	13.684	17.295	7.849	41.147	11.772	3.279	4.541	3.291
	Df	6	6	6	6	6	6	6	6	3	3	3
	Sig.	.363,a,b	.007*,a,b	.000*,a,b	.033*,a,b	.008*,a,b	.249,a,b	.000*,a,b	.067,a,b	.351,a,b	.209,ab	.349,ab
Experience	Chi-square	108.949	98.309	62.565	85.629	82.742	56.037	69.016	20.622	24.913	164.503	18.303
	Df	12	12	12	12	12	12	12	12	6	6	6
	Sig.	.000*	.000*	.000*	.000*	.000*	.000*	.000*	.056,a	.000*,a	.000*,ab	.006*,ab
Income in Rupees	Chi-square	58.715	75.358	57.756	43.446	35.462	83.527	34.480	13.963	31.254	214.778	10.005
	Df	8	8	8	8	8	8	8	8	4	4	4
	Sig.	.000*	.000*	.000*	.000*	.000*	.000*	.000*	.083	.000*,a	.000*	.040*
Number of Family Members In Police Department	Chi-square	34.750	34.886	14.390	21.410	31.399	18.746	42.601	24.208	6.809	9.365	8.516
	Df	10	10	10	10	10	10	10	10	5	5	5
	Sig.	.000*,a	.000*,a	.156,a	.018*,a	.001*,a	.044*,a	.000*,a	.007*,b	.235,a,b	.095,ab	.130b

Results are based on nonempty rows and columns in each innermost subtable.

*. The Chi-square statistic is significant at the 0.05 level.

a. More than 20% of cells in this sub table have expected cell counts less than 5. Chi-square results may be invalid.

b. The minimum expected cell count in this sub table is less than one. Chi-square results may be invalid.

Table 6.45: Testing of Hypothesis & Results							
Sr. No.	HYPOTHESIS	VARIABLES		Beta Value	T Value	P Value	Decision
		Independent	Dependent				
$H0_1$	Mental Symptoms of Stress are independent of Physical Symptoms of Stress	Mental Symptoms of Stress	Physical Symptoms of Stress	.787	45.770	.000	Reject
$H0_{1a}$	There is no significant relationship between age and Physical symptoms of stress.	Physical Symptoms of Stress	Age	.198	7.262	.000	Reject
$H0_{1b}$	There is no significant relationship between Smoking / Tobacco and level of stress.	Smoking / Tobacco	Level of Stress	-.098	-3.516	.000	Reject
$H0_{1c}$	There is no strong association between consumption of drug, alcohol and level of stress.	Consumption of drug & Alcohol	Level of Stress	.727	38.008	.000	Reject
$H0_2$	There is no significant relation between personal sphere and symptoms of stress.	Symptoms of Stress	Personal Sources of Stress	.737	39.129	.000	Reject
$H0_{2a}$	Practising Coping Strategies are independent of Rank in the Police Force	Practising Coping strategies	Rank in Police Force	.079	2.720	.000	Reject
$H0_{2b}$	Unresolved issues do not strengthen the level of stress among police personnel.	Unresolved Issues	Level of Stress among police personnel	.460	18.615	.000	Reject
$H0_{2c}$	There is no relationship between Depression and Stress.	Depression	Stress	.729	38.187	.000	Reject

$H0_3$	There is no significant relationship between Interpersonal sphere and Symptoms of Stress.	Symptoms of Stress	Interpersonal Sources of Stress	.742	39.748	.000	Reject
$H0_{3a}$	There is no correlation between level of stress and level of anger (short temper).	Level of Anger (Short Temper)	Level of Stress	.586	25.945	.000	Reject
$H0_{3b}$	Difficulties in communication are independent of the level of stress.	Difficulty in Communication	Level of Stress	.521	21.907	.000	Reject
$H0_4$	There is no significant relationship between Work sphere and symptoms of Stress.	Symptoms of Stress	Sources of Stress at Work Place	.703	35.494	.000	Reject
$H0_{4a}$	There is no association between overloaded with work and the level of stress.	Overloaded with Work	Level of Stress	.530	22.442	.000	Reject
$H0_{4b}$	Overloaded with work and working long hours are independent of each other.	Overloaded with Work	Working Long Hours	.576	25.302	.000	Reject
$H0_{4c}$	There is no association between boring or/and less challenging work and the level of stress.	Boring or/and Less Challenging Work	Level of Stress	.576	25.279	.000	Reject
$H0_{4d}$	Cordial relationship among superiors, subordinates and peers is independent of the level of stress.	Cordial Relationship among Superiors, Subordinates and Peers	Level of Stress	.544	23.295	.000	Reject

$H0_5$	There is no significant relationship between Recreational sphere and Stress among police personnel in Gujarat.	Recreational Sources of Stress	Level of Stress	.977	33.000	.000	Reject
$H0_6$	There is no significant relationship between gender and Stress among police personnel in Gujarat.	Gender	Level of Stress	-.054	1.960	.050	Accept
$H0_7$	Factors determining stress level of respondents are independent of their age.	Age	Level of Stress	0.253	9.375	.000	Reject
$H0_8$	Factors determining stress level of respondents are independent of their Education.	Educational Qualification	Level of Stress	-.224	-8.240	.000	Reject
$H0_9$	Factors determining stress level of respondents are independent of their rank/position.	Rank/Position in Police Force	Level of Stress	-.062	-2.227	.026	Reject
$H0_{10}$	There are no evidences that the number of dependents is positively correlated with the level of stress.	Number of Dependent	Level of Stress	.126	4.570	.000	Reject
$H0_{11}$	There is no association between personal sources of Stress and Sources of Stress at Work Place	Personal Sources of Stress	Sources of Stress at work Place	.754	41.243	.000	Reject
$H0_{12}$	Sources of Stress at Work Place are independent of	Dissatisfied with Salary	Sources of Stress Work Place	.680	33.339	.000	Reject

	Dissatisfaction with Salary						
$H0_{13}$	Level of Stress is Independent of Number of Cigarette Smoked	Number of Cigarette Smoke	Level of Stress	-0.096	-1.352	.178	Accept
$H0_{14}$	Level of Stress is independent regular of exercise	Exercise Regularly	Level of Stress	.262	9.326	.000	Reject
$H0_{15}$	There is no association between Level of Stress and Getting a Massage	Getting a Massage	Level of Stress	.325	11.778	.000	Reject
$H0_{16}$	Loss of Interest in Others is Independent of the Level of Stress	Lost Interest in Others	Level of Stress	.591	26.282	.000	Reject
$H0_{17}$	Post Retirement Departmental Issues are Independent of Level of Stress	Post Retirement Departmental Issues	Level of Stress	.620	16.458	.000	Reject
$H0_{18}$	Level of Stress is Independent of Marital Status of Respondents	Marital Status of Respondents	Level of Stress	.110	3.988	.000	Reject

CHAPTER – 7
FINDINGS, SUGGESTIONS, MANAGERIAL IMPLICATIONS & CONCLUSION

Introduction:

This chapter presents (i) Findings of the study (ii) Suggestions and Recommendations of the study (iii) Managerial Implication of the Study (iv) Scope for Future Research and (v) Conclusion. The evaluation of the result obtained after the analysis of data is discussed in this section.

7.1. FINDINGS:

The results are evaluated vis-à-vis the objectives and have been justified with the support of data. Therefore the objectives of the study are highlighted once again before the discussion of the results. The study has 15 objectives comprising of:

i. *To check whether the police personnel of Gujarat suffers from stress or not, if so then their level of stress and the possible ways to deal with it.*

Data was analyzed and it was found that police personnel of Gujarat suffer from stress as reported in Table 6.22 to 6.33 in Chapter 6. The average severity index of Mental Symptoms of stress is 7.22 out of 24 (Refer table6. 22) which indicates that 30% mental symptoms of stress were observed among the police personnel of Gujarat.

The average severity index of Physical Symptoms of Stress is 6.27 out of 26 (Refer table 6. 23) indicates that 24% physical symptoms of stress were observed among the police personnel of Gujarat.

The average severity index of Others Symptoms of Stress is 0.93 out of 6 (Refer table 6.24) which indicates that 15.5% other symptoms of stress have been observed among the police personnel of Gujarat.

Among the three categories of level of stress, Police personnel of Gujarat are more affected by Mental Symptoms of stress followed by Physical Symptoms of stress and others symptoms of stress.

The study identified 9 attributes for practicing coping strategies and found that police personnel in Gujarat, 35.5% of respondents practice (refer Table 6.25) coping strategies which seems to be very low. There is an acute need create awareness and educate the police personnel in Gujarat about the various methods of coping strategies of stress.

To deal with this situation, the policy makers in the government and police department have to come forward with various mechanisms with which they can increase the level of awareness about coping strategies amongst police personnel in Gujarat. Moreover, there is a trend in other sectors to enter into a partnership with Non Governmental Organizations (NGOs) to deal with larger social issues. Hence, the government and the police department could think about joint venture to improve the mental peace and quality of life among police personnel in Gujarat.

ii. *To identify the key sources of stress and the reasons of its occurrence and its impact on police personnel in Gujarat.*

It has been found that the average severity index of personal sources of stress is 4.36 out of 14 (refer Table – 6.26); it means 31% of personal sources of stress have been found amongst the police personnel of Gujarat.

The average severity index of inter personal sources of stress is 3.01 out of 10 (refer Table – 6.27) it means 30% of inter personal sources of stress were found among the police personnel of Gujarat.

The average severity index of sources of stress at work place is 7.14 out of 20 (refer Table – 6.28) it means 35.9% of the sources of stress at work place were found among the police personnel of Gujarat.

The average severity index of recreational sources of stress is 2.18 out of 08 (refer Table – 6.29) it means 27.3% of the recreational source of stress were found among the police personnel of Gujarat.

Of the four sources stress which have been considered in the study, sources of stress at work place has been found to be the key source of stress among the police personnel in Gujarat.

The mean factors for sources of stress at work place identified are dissatisfaction with the salary; feel overloaded with work, long working hours and no control over work schedule. These four factors contribute 58% in sources of stress at work place. Moreover, some other factors have also been noticed as sources of stress at work place like perfectionist in the execution of task, carry a lot of responsibilities and struggle to meet deadline.

The important impact of sources of stress on police personnel in Gujarat is low level of cordial relationship among superiors, subordinates and peers. Further, it detoriates the relationship with family, physical and mental health of the police personnel in Gujarat and hence it further adversely affects the work environment of the police personnel. If the same phenomenon continues over a longer period of time, it leads to a rise in the various sources and symptoms of stress.

iii. To study the level of stress and its relationship with the hierarchy level of the police personnel in organization.

It has been found that there is a very low, negative association among rank in police force and the level of stress among the police personnel in Gujarat which means police personnel at the lower designations like PSI, Jamadar, Head Constable and Constable have marginally higher level of stress than their next superior PI and the same trend continues in the higher ranks like DSP/DCP/Dy. SP/ACP and DG/Add. DG/IG/Spl. IG/DIG of police personnel in Gujarat. (Refer Table 6.45 Testing of hypothesis, $H0_9$).

iv. To study the personal issues of police personnel which include worry about health, burden with unresolved issues in the past, suffering from depression and suffering from low esteem.

Table - 7.1: Mean Score of Personal Sources of Stress		
Sr. No.	**Attributes for Personal sources of stress**	**Mean Score**
1	Struggle to make Decision	2.2
2	Worried about my health	2.51
3	Burdened with unresolved issue with past	2.36
4	Suffer from low self esteem	2.35
5	Suffer from Depression	2.37
6	Unmotivated to take up Challenge	2.44
7	Have to adapt a new life style	2.47

It has been found that most of the police personnel are affected by stress which resulted in a disturbance in their personal life. Among the factors considered in the study of personal sources of stress, worried about health has shown maximum impact on personal disturbance among police personnel of Gujarat, followed by adopt to a new life style, unmotivated to take up challenges and suffer from depression.

v. To find out the relationship between medications, smoking, consumption of alcohol with the stress level among police personnel in Gujarat. [table – 6.45 - Ho1b, Ho1c, H019]

There was a strong positive association found between the level of stress and the medication used by the police personnel in Gujarat. 100% variation in the level of stress leads to a 72% change in the habit of consuming medication. Smoking habits and the level of stress among police personnel in Gujarat are highly positively associated with each other. It has been found that 100% variation in the level of stress leads to 67% change in smoking habits among the police personnel in Gujarat. Consumption of Alcohol is high during the high level of stress and vise versa among the police personnel in Gujarat.

vi. To check the relationship between the personal sphere and the various symptoms of stress among police personnel of Gujarat.

It has been found that there is a strong positive association between the personal sphere and the various symptoms of stress among police personnel of Gujarat as shown in Table – 6.45 ($H0_2$), Chapter – 6. The high beta value shows that 100% change in personal sphere leads to 73.7% variation in the various symptoms of stress among police personnel of Gujarat.

vii. To check whether or not unresolved issues strengthen the level of stress among police personnel of Gujarat.

The finding of the study shows that there is a low positive association between unresolved issues and the level of stress among police personnel of Gujarat as shown in Table – 6.45 ($H0_{2b}$), Chapter - 6. A 100% change in unresolved issues leads to 46% variations in the level of stress among police personnel of Gujarat.

viii. To study the impact of depression if any on the level of stress among police personnel of Gujarat.

It was found that there is a strong positive association between depression and the level of stress among police personnel of Gujarat as shown in Table – 6.45 ($H0_{2c}$), Chapter – 6. A 100% change in the level of depression leads to 72.9% variation in the level of stress among police personnel of Gujarat.

ix. To study the impact of work sphere on symptoms of stress among police personnel of Gujarat.

The findings of the study show that there is a strong positive association between work sphere and the symptoms of stress among police personnel of Gujarat as shown in Table – 6.45 ($H0_4$), Chapter – 6. A 100% change in work sphere leads to 70.3% variation in symptoms of stress among police personnel of Gujarat.

x. To check the association between being overloaded with work and working long hours among police personnel of Gujarat.

The findings of the study shows that there is a moderate positive association between overloaded with work and the working long hours as shown in Table – 6.45 ($H0_{4b}$), Chapter – 6. A 100% variation in over loaded with work leads to 57.6% variation in working long hours.

xi. To study the impact of being overloaded with work on the level of stress among police personnel of Gujarat.

It was found that there is a moderate positively association between being overloaded with work and the level of stress as shown in Table – 6.45 ($H0_{4a}$), Chapter – 6. A 100% change in the condition of being overloaded with work leads to 53% variation in the level of stress among police personnel of Gujarat.

xii. To study the impact of dissatisfaction with salary on the sources of stress at work place among police personnel of Gujarat.

The finding of the study shows that there is strong positive association between sources of stress at work place and the dissatisfaction with salary among police personnel of Gujarat as shown in Table – 6.45 ($H0_{12}$), Chapter – 6. A 100% variation in dissatisfaction with salary leads to 68% variation in sources of stress at work place among police personnel of Gujarat.

xiii. To study the relationship between post retirements departmental issues and the level of stress among police personnel of Gujarat.

The finding of the study shows that there is a strong positive association between post retirement departmental issues and the level of stress among police personnel of Gujarat as shown in Table – 6.45 ($H0_{17}$), Chapter – 6. A 100% change in post retirement departmental issues leads to 62% variation in level of stress among police personnel of Gujarat.

xiv. To study the gap between Demand and Supply of qualified workforce leading to compelled excessive workload as well as pressure.

From the various sources examined, it was found that there is a huge disparity between the increase in the general population and the police personnel within the state. It has been noticed the former has grown much faster than the latter as shown in Appendix – III, Table - 9. On the other hand the percentage of allocated amount spent on police salary has been constant over the last 25 years which indicates that economic conditions of the police personnel have remain unchanged as shown in Appendix – III, Table - 10. The fund allocations for modernization of the police force are decreasing continuously from 2001 – 2002 to 2005 – 2006, while in 2006 – 2007 the

trend changed but it was lower than the one in 2001 – 2002. In 2007 – 2008 the allocation got increased but only marginally than 2001 – 2002 as shown in Appendix – III, Table - 10.

xv. To study the condition of "*what to do and what not to do*" especially when police personnel feel heavily stressed out.

The proper justification of this objective can be drawn from the overall analysis of the data and considering the following facts and realities:-

First, looking to the percentage of rises in population and changes in the population density of the state of Gujarat over period (in last 30-40 years) and against it the percentage of rise in the police strength in terms of numbers are disproportionate. Number of police and opining of new police chowcky and police stations are lesser than rise in population of that region. Second, considering other professions & jobs and there's pay scales and benefits at our country in comparison of police departments, police personnel are under or low paid. Even if we compare the police departments' pay scale & benefits of other country like Europe, America etc, and our police personnel's pay scale & benefits, our police personnel are paid much lesser.

To suggest "*what to do and what not to do*" when police personnel observes stress remedial work needs to carry out at various levels. Over and above already published Tools & Techniques (refer appendix – III) following tips should also be consider.

Government and Institutional Level:

- They should try to work-out some strategies to minimize the mismatch of rise in population and number of police personnel.

- They should also look in to the disparities of pay Scale & benefits between police departments and other profession of the country, police departments of our country and other countries like Europe, America, etc.

- Police department of Gujarat should organize, time to time, health awareness program, recreational activates, training program and consulting sessions for those who experiences stress or any health issues.

Individual Level:

- Try to prepare schedule of daily activities and also try to observe it.
- Must have nutritious food and as far as possible should follow the eating time & regularity in taking meals.
- Should not avoid or feel hesitate in communicating any problem / issue, if felt, to family members, friends and, if need arises, to higher authority in departments.
- Do go for regular medical checkup.
- Must spend quality time with family and children.
- If possible, try to avoid the situation which creates stress (walk away from stress) and if not than look for the reasons & components of stressful situations and try to improve up on.
- Laugh at stress.

7.2. SUGGESTIONS & RECOMMENDATIONS:

The results of the study provide detailed information about the various symptoms of stress, various sources of stress and coping strategies of stress among police personnel of Gujarat.

Table - 7.2: Mean Score of Mental Symptoms of Stress

Sr. No.	Attributes for Mental Symptoms of Stress	Mean Score
1	Anxious	2.16
2	Worry a lot	2.29
3	Irritability	2.27
4	Easily Frustrated	2.29
5	Aggressive Outbursts	2.36
6	Poor Concentration	2.38
7	Forgetfulness	2.27
8	Depression	2.33
9	Poor Motivation	2.32
10	Want to be alone always	2.28
11	Poor Self Esteem	2.20
12	Feel out of Control	2.17

The above table shows the mean score of mental symptoms of stress among the respondents. Out of the attributes of mental symptoms of stress, Poor Concentration having a high mean value indicates that the police personnel of Gujarat faces a severe problem of concentration during their jobs and assigned tasks. Poor concentration could be the cause of rise in aggressive outbursts, depression, poor motivation and worries which forced them to live alone.

In any organization, a prerequisite to achieving the objectives is that the employee should be highly focused on their assignments. Likewise, in police organizations, prevention and detection of the crime should be time bound and essential for police personnel to deal with it with total concentration and a highly focused attitude.

The study suggests that the policy makers and the police organization should take appropriate actions to improve the level of concentration among police personnel in Gujarat for their better, efficient and effective performance. The study has identified three levels of concentration among police personnel in Gujarat. Those police personnel who suffer low levels of poor concentration need to be taken care by suggesting to them to carry out activities of their choice and interests or with the help of minor environmental change like spending time with the family or friends at home or going out with them, taking proper rest during off/free hours from duty and having a proper, nutritious diet etc.

Those police personnel who are suffer from moderate levels of poor concentration are advised to do some kind of meditation and yoga in addition to the suggestions made for the low level of poor concentration.

But those who suffer from high levels of poor concentration need to be taken care of instantaneously by providing them proper counseling by experts, psychologist and medication in addition to the suggestions made for the low and moderate level of poor concentration.

Table - 7.3: Mean Score of Physical Symptoms of Stress

Sr. No.	Attributes for Physical Symptoms of Stress	Mean Score
1	Headaches	2.17
2	Spastic Colon	1.92
3	Indigestion	2.07
4	Ulcers	1.99
5	High Blood Pressure	2.12
6	Hyperventilation	2.09
7	Asthama	1.92
8	Stiff Sore Muscles	2.11
9	Trouble Sleeping	2.22
10	Decreased Immunity	2.05

11	Change in Marriage Life	2.00
12	Change in Appetite	2.08
13	Palpitation	2.01

The above table shows the mean score of the physical symptoms of stress among police personnel of Gujarat. Among the attributes, trouble sleeping shows the high level of mean value among the others, which is one of the main sources of high blood pressure, Headache, Stiff Sore Muscles, Indigestions and Change in Marital & Social Life. In general, the nature of the police job is uncertain and police personnel are expected to be prepared for the job any time during 24 hours. Even in the case of a critical situation they have to be on their toes 24 x 7.

The study suggests that the policy makers and the police organization should take appropriate action to improve the level of physical fitness of police personnel to reduce the physical symptoms of stress among police personnel in Gujarat. The study has identified three levels of trouble in sleeping which is one of the sources that causes physical symptoms of stress among police personnel in Gujarat.

The police personnel who suffer from low level of trouble, sleep could not be a regular phenomenon for them and hence could not be considered as an alarm for physical symptoms of stress, so it can be dealt individually i.e., case by case, to resolve the issue.

To take care of moderate and high level of physical symptoms of stress in general and trouble in sleeping in particular, the policy makers and police organizations should take instant action to improve the physical fitness of the police personnel. For better physical fitness, there is a need to create in-house facilities by providing sophisticated exercise equipments, swimming pool, organizing regular fitness camps and sports week etc.

The finding of the study shows that among the other symptoms of stress, medication is one of the most common practices followed by consumption of alcohol and smoking by the police personnel in Gujarat. Those who consume alcohol disproportionately and smoke terribly need to be checked properly because it might be the root cause for mental and physical symptoms of stress.

With a detailed investigation of various symptoms of stress and their resolution mechanisms, the study has attempted to find out the major source of stress among police personnel of Gujarat. As far as personal sources of stress are concerned, a worry about their health is one of the most important attributes among others as shown in Table – 6.5.

To control the personal sources of stress among police personnel, it is essential to deal with past unresolved issues which leads to a rise in depression and hence to individuals' demotivation to take up new challenges. It has been observed that there is a huge gap between assigning of the task and the selection of police personnel for that task. It has also been observed that many a times, task is not carried out properly due to interference from peers, superiors and external authorities. Sometimes problems may arise due to the unavailability of police force or skilled police force.

Policy makers and police organization need to restructure the job assignment mechanism and the distribution of work load keeping in mind (taking into consideration) the knowledge, skills and relevant experiences of the police personnel. There is a need to make a suitable, scientific and an appropriate selection procedure at the time of recruitment and conducting regular training and development programmes for a better performance of police personnel at work. They should also provide the necessary resources and support so that issues can be resolved on time.

Table - 7.4: Mean Score of Inter Personal Sources of Stress		
Sr. No.	**Attributes for Interpersonal Sources of Stress**	**Mean Score**
1	Difficulty in Communicating	2.13
2	Lose interest in others	2.36
3	Difficulty in Controlling my anger	2.43
4	Perfectionist in my expectations of others	2.52
5	See that other use me as a doormat	2.40

Among interpersonal sources of stress, the expectations for accurate and perfect discharge of duties are one of the major sources of stress. The lack due to non-fulfilling of this attribute, leads to the emotional instability like difficulty in controlling anger. This in turn affects and deteriorates the cordial environment of the personal and professional life of the police personnel. Due to upsets in the personal and professional life, a rise in symptoms and sources of a stress among police personnel is imminent. To overcome this phenomenon, there is an urgent need for proper counseling and it is also expected that superiors convey their expectations in advance.

Table - 7.5: Mean Score of Work Sphere Sources of Stress		
Sr. No.	**Attributes for Work Sphere Sources of Stress**	**Mean Score**
1	Feel Overloaded with work	2.46
2	Struggle to meet deadline	2.48
3	Carry a lot of responsibility	2.49
4	Struggle to get along with superior	2.42
5	Have to tolerate a lot of frustration	2.37
6	Work Long Hours	2.67
7	No Control over my work schedule	2.62
8	Dissatisfied with my salary	3.01
9	My work is boring and not challenging	2.39
10	Perfectionist in the execution of my task	2.55
11	Post retirement departmental issues	2.44

The above table shows the mean score of work sphere sources of stress. Among the attributes, dissatisfied with salary is one of the most important reasons of sources of stress at work place among others. Dissatisfaction with salary leads to unwillingness to work and indulgence into malpractices. Unwillingness towards job may be the cause of working long hours and the struggle to meet deadlines. Keeping in mind the rising general inflation and the cost of living the police department and the policy makers should restructure the pay scales of the police personnel. They should also keep in mind while restructuring the pay scale, the salary structure of other corporate, other countries' pay scale of police personnel and the risks attached with the duties.

There is a general observation that police department hire new work force on temporary and daily wages basis and that wages are not competitive. There is a lack of commitment towards their jobs because of the temporary nature of the assignment or job. Due to this, they are either unmotivated or less motivated to perform their assignments and accept new assignments too. Policy makers should think about converting daily wagers into pay role systems and provide social security.

The finding of the study shows that no control over work schedule is another important source of stress at work place among police personnel in Gujarat. Uncontrolled work scheduled situation arises due to the demand supply gap of police personnel and/or mismatch between allotment of the work and the skill of the police personnel. This could be the reason working long hours. To tackle this situation, policy makers and the police organization should asses the need of the police personnel required, considering quantum of work, population of the area and the geographic locations. The same phenomenon can be wiped out with the help of reallocation of work among the police personnel of Gujarat.

Table 7.6: Mean Score of Coping Strategies of Stress		
Sr. No.	**Attributes for Coping Strategies of Stress**	**Mean Score**
1	Maintain a Sense of Humour	2.55
2	Meditate	2.42
3	Get a Massage	2.68
4	Exercise Regularly	2.82
5	Eat more Sensibly	2.68
6	Limit Intake of Alcohol	2.44
7	Take refuge in family and Friend	2.53
8	Delegate responsibility	2.52
9	Quit	2.35

The police personnel who suffer from stress practice some kind of coping strategies among the identified attributes as shown in the above table. It has been observed that some police personnel are totally unaware about the coping strategies, while sizeable proportions practice irregularly, whereas very few police personnel exercise coping strategies on a regular basis. To fight stress, it is necessary to make the police personnel aware about the various coping strategies. To do so, the policy makers and the police organization should institutionalize learning and training of coping strategies among police personnel in Gujarat.

7.3. MANAGERIAL IMPLICATIONS:

Managerial implication of this study is divided into two parts namely (i) theoretical and (ii) practical.

The most important theoretical contribution of this study is the development of Smith and Venter (1996) model in the police organization in the context of Gujarat. The model used in this study, initially developed and used by Smith and Venter in 1996 to study the Symptoms and Sources of stress among police personnel. Prior to

this study, there is little evidence of the use of this model in the Indian context in general and particularly in Gujarat.

Another theoretical contribution of the study is that hardly any detailed study has been found on the police stress across the Gujarat state. So this might be a benchmark for torch bearer the policy makers of Gujarat police departments. The same literature can be further used by the researchers, academicians and policy makers.

Police plays an important and vital role in protecting the citizens and their properties, properties of the nation and maintaining law and order in the city, states and country. They are referred to as peace makers. Looking at the crucial role they play, as academicians and researcher it's our moral responsibility to address and highlight their burning issues and provide an insight by which these issues can be resolved. This study might be instrumental in focusing on those issues and their various causes confronting the police organization policy makers and in suggesting remedial measures to overcome them.

This study is useful for police organizations as well as policy makers (Government) to identify the various areas through which they can increase the effectiveness, efficiency and the quality of police work. This will also help them to know the critical areas which could be addressed when, where and how.

Police organization and the policy makers can use this study to identify the major sources of stress and prevailing symptoms of stress among police personnel of Gujarat. The suggestions put forward by the researcher can be utilized as a tool to develop their strategies to combat and overcome the police stress.

The outcome of the study certainly helps the police organization and the policy makers in general but it is equally important for the police personnel in particular. This study helps the police personnel to asses and identifies themselves in appropriate contexts to the sources of stress and the symptoms of stress.

The findings of the study suggests that the symptoms are lower than the sources of stress and hence sources of stress among police personnel have been tackle very seriously on an immediate basis by the appropriate authority, planner and policy makers to control the future outburst.

The outcome of this study will also be helpful in improving the quality of life, organizational climate & culture and environment of the police personnel of Gujarat.

The outcome will also enable them to know about various coping strategies of stress which can be practiced by the police personnel to overcome stressful situations.

7.4. SCOPE FOR FURTHER RESEARCH:

Research on the Gujarat police is itself a unique area which requires continuous improvement in its literature. Change is the only unchanged phenomena of the worlds so the Gujarat police and its systems are also changing with the passage of time.

Due to the changes among the role of police, expectations by the police and of the police, the advancement in the technology used, cultural exchange and the general development of the nation demands a rigorous ongoing research so that changes would be identified and updated from time to time for the betterment of the police personnel, police organizations, service to the citizens and the nation. Apart from this, future research can be extended in the following manner:

i. The researcher may undertake the research by limiting the respondents on employed in a certain position, a single position among the police personnel of Gujarat. It might be possible that this perspective may lead to some new knowledge about stress experience by the police personnel in Gujarat. It may open a new horizon of knowledge.

ii. Researcher and academician may conduct research by taking a probability sampling with the help of police organization or the published police report in the area of study etc.

iii. The researcher proposes that conducting surveys in different parts of the country will improve the credibility and applicability of the findings. This is possible through web based survey throughout the country.

iv. Further study could also be carried out with the use of some other models or to develop some new models which could throw more light to understand stress in the Indian context.

v. By considering a different culture prevailing in India, a cross cultural study and its impact on police stress would lead to newer areas of research.

vi. This model can be used to study the symptoms and sources of stress in Indian Armed Force and/or other public and private sectors.

7.5. CONCLUSIONS:

The study had examined the various sources as well as symptoms of stress among police personnel of Gujarat state. There is an ongoing debate that symptoms require more cure than sources of stress and vice versa. But the study tried to examine both the aspects among police personnel in Gujarat state assuming that sources is the root

cause of the various symptoms of stress. The conclusions of the study have been highlighted as follows:

i. As far as symptoms of stress are concern, it has been concluded that, there is a positive symptoms of stress among police personnel of Gujarat state.

ii. The study had found that Percentage of sources of stress is higher than the percentage of symptoms of stress. The low level of symptoms of stress indicates that stress level among police personnel are in nascent stage especially in Gujarat state.

iii. The study had also found that the police personnel of Gujarat have been suffering from the stress irrespective of their designations and ranks in police organizations.

iv. The study had also concluded with the fact that larger the unresolved issues from the past leads to the higher level of stress among police personnel of Gujarat state.

v. Over loaded with work have a greater influence on the level of stress among police personnel of Gujarat state but the fact is that overloaded with work arises due to so many reasons like shortage of manpower and necessary infrastructure, mismatch of profile, insufficient incentives, job safety & security etc.

vi. One of the findings of the study indicated that police personnel are normally working long hours due to unresolved issues from the past which could be one of the causes of various sources of stress.

In a concluding remark it has been pointed out that police personnel of Gujarat state have been found stressful with varying level of stress. Low level of symptoms of stress indicates that stress among the police personnel is not matured enough and has not reach to a critical level. Whereas the sources of stress is higher than the symptoms of stress, it means if sources will not be controlled on a war footing, it leads to the symptoms of stress into a critical situation which might create a very difficult situations for appropriate authorities to handle it on a mass level.

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APPENDIX – I

Section - A

Name: ……
Contact Number:……..
Email ID:……

1. Age in Years:
   1. Below 25
   2. 25 – 30
   3. 31 – 35
   4. 36 – 40
   5. 41 – 45
   6. 46 – 50
   7. 51 - 58
   8. 58 and above (Ret.)
2. Gender:
   1. Male
   2. Female
3. Qualification:
   1. Up to HSC
   2. Graduate
   3. Post Graduate
   4. Others (Please Specify)…
4. Religion:
   1. Hindu
   2. Muslim
   3. Sikh
   4. Christian
5. Category:
   1. General
   2. SEBC
   3. SC
   4. ST
6. Place of Residence:
   1. Urban (City)
   2. Semi Urban (Town)
   3. Rural (Village)
7. Marital Status:
   1. Married
   2. Unmarried
   3. Divorced
   4. Others (Widows)
8. Number of dependents:
   1. Nil
   2. One
   3. Two
   4. Three
   5. Four
   6. Five and Above

9. Location of Police Station:

1. Urban
2. Semi Urban
3. Rural
4. Remote Area (Out Post)

10. Unit of Current Posting:

1. Police Station
2. Police Chowki

11. Rank in the Police Force:

1. DG, ADG, IG, SPL. IG, DIG,
2. DSP/DCP, Dy. SP/ACP
3. PI
4. PSI, JAMADAR, HEAD CONSTABLE, POLICE CONSTABLE.

12. Experience:

1. 0 – 5
2. 6 – 10
3. 11 – 15
4. 16 – 20
5. 21 – 25
6. 26 – 30
7. 30 and above

13. Income in Rupees (Per Annum)

1. Below 1,00,000
2. 1,00,001 – 2,25,000
3. 2,25,001 – 3,00,000
4. 3,00,000 – 5,00,000
5. 5,00,000 - Above

14. Number of family members in police department:

1. Nil
2. One
3. Two
4. Three
5. Four
6. Five & Above

Section – B

Below is the list of items that describe the symptoms of stress. The main areas are mental symptoms, physical symptoms and other symptoms including increased smoking, alcohol intake and medication. The participants will have to decide to what degree they considered the nature and extent of their symptoms of stress on a 5 point Likert Scale. There are 12 mental symptoms items, 13 physical symptoms and 3 other symptoms concerning smoking, alcohol and medication.

Very Low	Low	Moderate	High	Very High
1	2	3	4	5

Mental symptoms of stress

1.	Anxious	1	2	3	4	5
2.	Worry A Lot	1	2	3	4	5
3.	Irritability	1	2	3	4	5
4.	Easily Frustrated	1	2	3	4	5
5.	Aggressive Outbursts	1	2	3	4	5
6.	Poor Concentration	1	2	3	4	5
7.	Forgetfulness	1	2	3	4	5
8.	Depression	1	2	3	4	5
9.	Poor motivation	1	2	3	4	5
10	Want to be alone always	1	2	3	4	5
11	Poor Self-esteem	1	2	3	4	5
12	Feel out-of-control	1	2	3	4	5

Physical symptoms of stress

1.	Headaches	1	2	3	4	5
2.	Spastic Colon	1	2	3	4	5
3.	Indigestion	1	2	3	4	5
4.	Ulcers	1	2	3	4	5
5.	High Blood Pressure	1	2	3	4	5
6.	Hyperventilation	1	2	3	4	5
7.	Asthma	1	2	3	4	5
8.	Stiff, Sore Muscles	1	2	3	4	5
9.	Trouble Sleeping	1	2	3	4	5
10	Decreased Immunity	1	2	3	4	5
11	Change in Marriage life	1	2	3	4	5
12	Change in Appetite	1	2	3	4	5
13	Palpitation	1	2	3	4	5

Other symptoms of stress

1.	Smoking	1	2	3	4	5
2.	Medication	1	2	3	4	5
3.	Alcohol Consumption	1	2	3	4	5

Section – C

Below is the list of items that describe the Sources of Stress. The sources of stress covered were the personal sphere (07 items); interpersonal sphere (5 items); work sphere (11 items) and recreational sphere (4 items). The participants had to decide to what degree they considered themselves stressed on a 5 – point Likert scale.

Very Low	Low	Moderate	High	Very High
1	2	3	4	5

Sources of stress [Personal Sphere]

1.	Struggle to make decisions	1	2	3	4	5
2.	Worried about my health	1	2	3	4	5
3.	Burdened with unresolved issues of the past	1	2	3	4	5
4.	Suffer from low self-esteem	1	2	3	4	5
5.	Suffer from depression	1	2	3	4	5
6.	Unmotivated to take up challenges	1	2	3	4	5
7.	Have to adapt to a new lifestyle	1	2	3	4	5

Sources of stress [Interpersonal Sphere]

1.	Difficulty in Communicating	1	2	3	4	5
2.	Lost Interest in others	1	2	3	4	5
3.	Difficulty in Controlling my anger	1	2	3	4	5
4.	Am a perfectionist in my expectations of others	1	2	3	4	5
5.	See that others use me as a doormat	1	2	3	4	5

Sources of stress [Work Sphere]

1.	Feel overloaded with work	1	2	3	4	5
2.	Struggle to meet deadlines	1	2	3	4	5
3.	Carry a lot of responsibilities	1	2	3	4	5
4.	Struggle to get along with superiors, subordinates, and peers	1	2	3	4	5
5.	Have to tolerate a lot of frustration	1	2	3	4	5
6.	work long hours	1	2	3	4	5
7.	No control over my work schedule	1	2	3	4	5
8.	Dissatisfied with my salary	1	2	3	4	5
9.	My work is boring and not challenging	1	2	3	4	5
10	Perfectionist in the execution of my task	1	2	3	4	5
11	Because of Post-Retirement departmental issues	1	2	3	4	5

Sources of stress [Recreational Sphere]

1.	Spend a lot of time under the influence of drugs and alcohol	1	2	3	4	5
2.	Do not have any free time	1	2	3	4	5
3.	Too tired to use my free time constructively	1	2	3	4	5
4.	Have free time but no interests/activities to fill it with	1	2	3	4	5

Do you know about copying strategies?

1. Yes **2.** No

If **Yes,** answer **section - D**

Section – D

Below is the list of items that describe the Coping Strategies Questionnaire (Miller, 1988) will be used. A participant has to decide to what extent they considered themselves to be coping with stressful events on a 5 – point Likert scale. The items included maintaining a sense of humour, medicating, getting a message, exercising regularly, eating more sensibly, and limiting their intake etc.

Very Low	Low	Moderate	High	Very High
1	2	3	4	5

Coping Strategies

1.	Maintain a sense of humor	1	2	3	4	5
2.	Medicate	1	2	3	4	5
3.	Get a message	1	2	3	4	5
4.	Exercise regularly	1	2	3	4	5
5.	Eat more Sensibly	1	2	3	4	5
6.	Limit intake of alcohol	1	2	3	4	5
7.	Take refuge in family and friend	1	2	3	4	5
8.	Delegate responsibility	1	2	3	4	5
9.	Quit	1	2	3	4	5

- Do you think these have helped you to reduce stress?

  1. Yes **2.** No

If **NO**, answer the following:-

- It did not help because; do not hold proper knowledge of various coping strategies?

  1. Yes **2.** No

Section E

1. Do you smoke a Cigarette?

1. Yes
2. No

If your response is yes kindly answer the following questions, other wise skip this part.

1. A: You have started smoking at the age [Years] of:

I. Below 25
II. 26 -30
III. 31 – 35
IV. 36 – 40
V. 41 - Above

1. B: How many Cigarette do you smoke in a day?

i. One
ii. Two
iii. Three
iv. Four
v. Five & Above

1. C: In which categories you rate your self as a Cigarette smoker

I. Occasionally
II. Regular
III. Chain Smoker

1. D: Which of the following factor forces you to smoke cigarette?

I. Work Pressure
II. Tension
III. Headache
IV. To be fresh

1. E: What you feel after smoking a Cigarette

I. Nothing
II. Met Ego
III. Relieved from Tension
IV. Feel Energetic

2. Do you chew a Tobacco product? {Gutkha, Pariki, Panmasal, etc}

1. Yes 2. No

If your response is yes kindly answer the following questions, other wise skip this part.

2. A: I have started chewing at the age [Years] of:

I. Below 25
II. 26 -30
III. 31 – 35
IV. 36 – 40
V. 41 - Above

2. B: How many Tobacco Products do you consume in a day?

I. One
II. Two
III. Three
IV. Four
V. Five & Above

2. C: In which categories you rate your self as Consumer of Tobacco products?

I. Occasionally
II. Regular
III. Very Frequently

2. D: Which of the following factor forces you to Consume Tobacco Products?

I. Work Pressure
II. Tension
III. Headache
IV. To be fresh

2. E: What you feel after consumption of Tobacco products?

I. Nothing
II. Met Ego
III. Relieved from Tension
IV. Feel Energetic

APPENDIX – II

Table –1 : Cross Tabulation [Post Retirement Departmental Issues as a Source of Stress Vs. Demographic Profile]									
		PCC11							
		LOW		MODERATE		HIGH		Total	
		N	%	N	%	N	%	N	%
Age	Below 25	63	79.7	0	.0	16	20.3	79	100.0
	25 -30	111	65.7	0	.0	58	34.3	169	100.0
	31 -35	34	57.6	0	.0	25	42.4	59	100.0
	36 – 40	12	28.6	0	.0	30	71.4	42	100.0
	41 -45	5	13.9	0	.0	31	86.1	36	100.0
	46 – 50	8	24.2	0	.0	25	75.8	33	100.0
	51 -58	8	57.1	0	.0	6	42.9	14	100.0
	58 & abaove Retd.	2	50.0	0	.0	2	50.0	4	100.0
Gender	Male	235	56.0	0	.0	185	44.0	420	100.0
	Female	8	50.0	0	.0	8	50.0	16	100.0
Qualification	up to HSC	16	32.0	0	.0	34	68.0	50	100.0
	Graduate	180	64.1	0	.0	101	35.9	281	100.0
	Post graduate	44	44.0	0	.0	56	56.0	100	100.0
	Others	3	60.0	0	.0	2	40.0	5	100.0
Religion	Hindu	223	55.5	0	.0	179	44.5	402	100.0
	Muslim	15	55.6	0	.0	12	44.4	27	100.0
	Sikh	3	100.0	0	.0	0	.0	3	100.0
	Christian	2	50.0	0	.0	2	50.0	4	100.0
Category	General	81	46.0	0	.0	95	54.0	176	100.0
	SEBC	69	52.7	0	.0	62	47.3	131	100.0
	SC	70	80.5	0	.0	17	19.5	87	100.0
	ST	23	54.8	0	.0	19	45.2	42	100.0
Place of Residence	Urban	153	73.6	0	.0	55	26.4	208	100.0
	Town	46	55.4	0	.0	37	44.6	83	100.0
	Rurral-Village	44	30.3	0	.0	101	69.7	145	100.0
Marital Status	Married	176	52.7	0	.0	158	47.3	334	100.0
	Unmarried	64	70.3	0	.0	27	29.7	91	100.0
	Divorced	2	28.6	0	.0	5	71.4	7	100.0
	Others	1	25.0	0	.0	3	75.0	4	100.0
Number of Dependant	Nil	133	73.5	0	.0	48	26.5	181	100.0
	0ne	39	35.8	0	.0	70	64.2	109	100.0
	Two	35	43.8	0	.0	45	56.3	80	100.0

	Three	14	46.7	0	.0	16	53.3	30	100.0
	Four	17	63.0	0	.0	10	37.0	27	100.0
	Five & above	5	55.6	0	.0	4	44.4	9	100.0
Location of Police Station	Urban	178	67.7	0	.0	85	32.3	263	100.0
	Town	41	60.3	0	.0	27	39.7	68	100.0
	Village	16	17.0	0	.0	78	83.0	94	100.0
	Out post	8	72.7	0	.0	3	27.3	11	100.0
Unit of Current Posting	Police Station	218	55.2	0	.0	177	44.8	395	100.0
	Police Chowk	25	61.0	0	.0	16	39.0	41	100.0
Rank in the Police Force	DG, ADG, IG, SPL, IG, DIG	1	100.0	0	.0	0	.0	1	100.0
	DSP/DCP, DYSP/ACP	18	62.1	0	.0	11	37.9	29	100.0
	PI	19	67.9	0	.0	9	32.1	28	100.0
	PSI, JAMADAR, HEAD CONSTABLE, CONSTABLE	205	54.2	0	.0	173	45.8	378	100.0
Experience	UP TO 5	131	65.2	0	.0	70	34.8	201	100.0
	6 -10	71	52.2	0	.0	65	47.8	136	100.0
	11 - 15	22	33.3	0	.0	44	66.7	66	100.0
	16 - 20	9	69.2	0	.0	4	30.8	13	100.0
	21 - 25	5	71.4	0	.0	2	28.6	7	100.0
	26 -30	3	33.3	0	.0	6	66.7	9	100.0
	Abavoe 30	2	50.0	0	.0	2	50.0	4	100.0
Income in Rupees	Below 1,00,000	141	62.9	0	.0	83	37.1	224	100.0
	1,00,001 - 2,25,000	50	68.5	0	.0	23	31.5	73	100.0
	2,25,001 - 3,00,000	26	38.2	0	.0	42	61.8	68	100.0
	3,00,000 - 5,00,000	19	32.2	0	.0	40	67.8	59	100.0
	Above 5,00,000	7	58.3	0	.0	5	41.7	12	100.0
Number of Family Members in Police Department	Nil	181	56.0	0	.0	142	44.0	323	100.0
	One	42	63.6	0	.0	24	36.4	66	100.0
	Two	13	46.4	0	.0	15	53.6	28	100.0
	Three	5	38.5	0	.0	8	61.5	13	100.0
	Four	2	50.0	0	.0	2	50.0	4	100.0
	Five & above	0	.0	0	.0	2	100.0	2	100.0
	Total	243	55.7	0	.0	193	44.3	436	100.0

Table – 2 : Cross Tabulation [Awareness About Coping of Stress Vs. Demographic Profile]							
		Do you know about Coping Strategy?					
		yes		no		Total	
		N	%	N	%	N	%
Age	Below 25	320	99.7	1	.3	321	100.0
	25 -30	457	99.1	4	.9	461	100.0
	31 -35	176	95.7	8	4.3	184	100.0
	36 – 40	82	71.9	32	28.1	114	100.0
	41 -45	36	51.4	34	48.6	70	100.0
	46 – 50	56	72.7	21	27.3	77	100.0
	51 -58	50	89.3	6	10.7	56	100.0
	58 & abaove Retd.	3	37.5	5	62.5	8	100.0
Gender	Male	1146	91.4	108	8.6	1254	100.0
	Femal	34	91.9	3	8.1	37	100.0
Qualification	up to HSC	321	94.7	18	5.3	339	100.0
	Graduate	654	90.6	68	9.4	722	100.0
	post graduate	195	89.0	24	11.0	219	100.0
	Others	10	90.9	1	9.1	11	100.0
Religion	Hindu	1077	91.0	106	9.0	1183	100.0
	Muslim	85	95.5	4	4.5	89	100.0
	Sikh	7	100.0	0	.0	7	100.0
	Christian	11	91.7	1	8.3	12	100.0
Category	General	460	88.0	63	12.0	523	100.0
	SEBC	394	91.8	35	8.2	429	100.0
	SC	224	95.7	10	4.3	234	100.0
	ST	102	97.1	3	2.9	105	100.0
Place of Residence	Urban	740	96.7	25	3.3	765	100.0
	Town	230	94.7	13	5.3	243	100.0
	Rurral-Village	210	74.2	73	25.8	283	100.0
Marital Status	Married	843	89.0	104	11.0	947	100.0
	Unmarried	288	99.7	1	.3	289	100.0
	Divorced	38	95.0	2	5.0	40	100.0
	Others	11	73.3	4	26.7	15	100.0
Number of Dependant	Nil	574	99.1	5	.9	579	100.0
	0ne	177	78.7	48	21.3	225	100.0
	Two	185	86.0	30	14.0	215	100.0
	Three	125	92.6	10	7.4	135	100.0
	Four	90	90.0	10	10.0	100	100.0
	five & above	29	78.4	8	21.6	37	100.0
Location of Police Station	Urban	834	97.1	25	2.9	859	100.0
	Town	212	96.4	8	3.6	220	100.0
	Village	99	55.9	78	44.1	177	100.0

	out post	35	100.0	0	.0	35	100.0
Unit of Current Posting	police Station	1031	91.3	98	8.7	1129	100.0
	Police Chowk	149	92.0	13	8.0	162	100.0
Rank in the Police Force	DG, ADG, IG, SPL, IG, DIG	3	100.0	0	.0	3	100.0
	DSP/DCP, DYSP/ACP	66	93.0	5	7.0	71	100.0
	PI	121	96.0	5	4.0	126	100.0
	PSI, JAMADAR, HEAD CONSTABLE, CONSTABLE	990	90.7	101	9.3	1091	100.0
Experience	UP TO 5	631	98.4	10	1.6	641	100.0
	6 -10	320	88.9	40	11.1	360	100.0
	11 – 15	127	80.4	31	19.6	158	100.0
	16 – 20	56	88.9	7	11.1	63	100.0
	21 – 25	21	70.0	9	30.0	30	100.0
	26 -30	24	80.0	6	20.0	30	100.0
	abavoe 30	1	11.1	8	88.9	9	100.0
Income in Rupees	below 1,00,000	723	99.6	3	.4	726	100.0
	1,00,001 - 2,25,000	213	88.0	29	12.0	242	100.0
	2,25,001 - 3,00,000	149	78.8	40	21.2	189	100.0
	3,00,000 - 5,00,000	62	62.0	38	38.0	100	100.0
	above 5,00,000	33	97.1	1	2.9	34	100.0
Number of Family Members in Police Department	Nil	884	90.2	96	9.8	980	100.0
	One	182	94.8	10	5.2	192	100.0
	Two	71	97.3	2	2.7	73	100.0
	Three	29	96.7	1	3.3	30	100.0
	Four	9	90.0	1	10.0	10	100.0
	five & above	5	83.3	1	16.7	6	100.0
	Total	1180	91.4	111	8.6	1291	100.0

Table – 3: Cross Tabulation [Coping Strategies Helped in Reducing Stress Vs. Demographic Profile]							
		Do you think this have helped you to reduce stress?					
		yes		no		Total	
		N	%	N	%	N	%
Age	Below 25	264	82.5	56	17.5	320	100.0
	25 -30	321	70.2	136	29.8	457	100.0
	31 -35	127	72.2	49	27.8	176	100.0
	36 – 40	71	86.6	11	13.4	82	100.0
	41 -45	28	77.8	8	22.2	36	100.0
	46 – 50	48	85.7	8	14.3	56	100.0
	51 -58	49	98.0	1	2.0	50	100.0
	58 & abaove Retd.	1	33.3	2	66.7	3	100.0
Gender	Male	880	76.8	266	23.2	1146	100.0
	Femal	29	85.3	5	14.7	34	100.0
Qualification	up to HSC	264	82.2	57	17.8	321	100.0
	Graduate	501	76.6	153	23.4	654	100.0
	post graduate	138	70.8	57	29.2	195	100.0
	Others	6	60.0	4	40.0	10	100.0
Religion	Hindu	833	77.3	244	22.7	1077	100.0
	Muslim	64	75.3	21	24.7	85	100.0
	Sikh	5	71.4	2	28.6	7	100.0
	Christian	7	63.6	4	36.4	11	100.0
Category	General	379	82.4	81	17.6	460	100.0
	SEBC	287	72.8	107	27.2	394	100.0
	SC	165	73.7	59	26.3	224	100.0
	ST	78	76.5	24	23.5	102	100.0
Place of Residence	Urban	584	78.9	156	21.1	740	100.0
	Town	167	72.6	63	27.4	230	100.0
	Rurral-Village	158	75.2	52	24.8	210	100.0
Marital Status	Married	655	77.7	188	22.3	843	100.0
	Unmarried	210	72.9	78	27.1	288	100.0
	Divorced	37	97.4	1	2.6	38	100.0
	Others	7	63.6	4	36.4	11	100.0
Number of Dependant	Nil	453	78.9	121	21.1	574	100.0
	0ne	142	80.2	35	19.8	177	100.0
	Two	140	75.7	45	24.3	185	100.0
	Three	94	75.2	31	24.8	125	100.0
	Four	60	66.7	30	33.3	90	100.0
	five & above	20	69.0	9	31.0	29	100.0
Location of Police Station	Urban	634	76.0	200	24.0	834	100.0
	Town	161	75.9	51	24.1	212	100.0
	Village	84	84.8	15	15.2	99	100.0

	out post	30	85.7	5	14.3	35	100.0
Unit of Current Posting	police Station	776	75.3	255	24.7	1031	100.0
	Police Chowk	133	89.3	16	10.7	149	100.0
Rank in the Police Force	DG, ADG, IG, SPL, IG, DIG	2	66.7	1	33.3	3	100.0
	DSP/DCP, DYSP/ACP	56	84.8	10	15.2	66	100.0
	PI	89	73.6	32	26.4	121	100.0
	PSI, JAMADAR, HEAD CONSTABLE, CONSTABLE	762	77.0	228	23.0	990	100.0
Experience	UP TO 5	460	72.9	171	27.1	631	100.0
	6 -10	259	80.9	61	19.1	320	100.0
	11 – 15	101	79.5	26	20.5	127	100.0
	16 – 20	48	85.7	8	14.3	56	100.0
	21 – 25	21	100.0	0	.0	21	100.0
	26 -30	19	79.2	5	20.8	24	100.0
	abavoe 30	1	100.0	0	.0	1	100.0
Income in Rupees	below 1,00,000	560	77.5	163	22.5	723	100.0
	1,00,001 - 2,25,000	152	71.4	61	28.6	213	100.0
	2,25,001 - 3,00,000	119	79.9	30	20.1	149	100.0
	3,00,000 - 5,00,000	47	75.8	15	24.2	62	100.0
	above 5,00,000	31	93.9	2	6.1	33	100.0
Number of Family Members in Police Department	Nil	688	77.8	196	22.2	884	100.0
	One	141	77.5	41	22.5	182	100.0
	Two	48	67.6	23	32.4	71	100.0
	Three	22	75.9	7	24.1	29	100.0
	Four	8	88.9	1	11.1	9	100.0
	five & above	2	40.0	3	60.0	5	100.0
	Total	909	77.0	271	23.0	1180	100.0

APPENDIX – III

TABLE – 1: POLICE PERSONAL POSTED IN GUJARAT (CLASS – 1 OFFICER) PUBLISHED DATA BY GOVT. OF GUJARAT

DGP (Director General of Police) Police Chief-Director

No.	Name	Designation
1.	Shri P. C. Pandey	D.G. and I.G. of Police

ADGP (Additional Director General of Police)
Additional Police Chief-Director

2.	Shri Amitabh Pathak (Additional Charge)	Administration
3.	Shri O. P. Mathur	Police Commissioner, Ahmedabad City
4.	Shri S.S.Khandwawala	Armed Unit, Gandhinagar
5.	Shri S.S.Khandwawala	Director, State Academy, Karai, Gandhinagar (Additional Charge)
6.	Shri S. K. Saikiya	Communication, Gandhinagar
7.	Shri R.M.S. Brar	Police Commissioner, Surat City
8.	Shri Sudhir Sinha	Police Commissioner, Rajkot City
9.	Shri Chitaranjansinh	A.Po. Chief-Director State Human Rights Commission, Gandhinagar
10.	Shir Deepak Swaroop	A.Po.Chief-Director, (SC/ST Out-rage Gandhinagar
11.	Shri K. Nitanandm	Managing Director, Guj. Po. Ho. Co. Gandhinagar
12.	Shri P. P. Pandey	Additional Chief-Director, CID (Intelligence, Gandhinagar)
13.	Shri Rakesh Asthana	Police Commissioner, Vadodara

IGP (Inspector General of Police)
Police Chief-Inspector

1.	Shri Amitabh Pathak	I.G.P. (L & O.) Gandhinagar
2.	Shri Shivanand Jha	I.G.P. Surat Range
3.	Shri P. K. Jha	I.G.P., C.I.D. Crime, Gandhinagar
4.	Shri S. P. Chituri	I.G.P.(Investigation) Gujarat State, Gandhinagar
5.	Shri H. P. Singh	Joint C.P. (Administration), Ahmedabad
6.	Shri F. M. Guard	Joint Director of Police, Gujarat Acedamy, Karai, Gandinagar
7.	Shri Keshavkumar	C.I.D. (Crime), Gandhinagar
8.	Shri Ashish Bhatia	Joint C.P. (Crime), Ahmedabad
9.	Shri Mohan Jha	Joint C.P., Sector 1, Ahmedabad
10.	Shri G. K. Parmar	Joint C.P., Sector 2, Ahmedabad
11.	Shri Pramod Kumar	I.G.P. Vadodara Range
12.	Shri V. V. Rabari	I.G.P. Rajkot Range
13.	Shri Satish Sharma	Administrative (Supervision) Director, S.T. Board
14.	Shri Pramod Kumar	I.G.P. Vadodara Range
15.	Shri P. C. Thakur	Principal, PTS, Vadodara
16.	Shri Satish Varma	Administrative Director, Gujarat PO.Ho.Co.,Gandhinagar
17.	Shri C. R. Parmar	I.G.P. C.I.D. I.B., Gandhinagar
18.	Shri Vipul Vijoy	I.G.P. Border Range
19.	Shri V. K, Malla	I.B., Gandhinagar
20.	Shri K. Kumar Swamy	I.G. State Computer Bureau
21.	Ms. Geeta Johari	I.G.(Crime), C.I.D., Crime
22.	Shri Tirthraj	I.G. (Law and Order)
24.	Shri Atul Karwal	I.G.P. (Traffic), Ahmedabad
25.	Shri R.P. Priydarshi	I.G.-jails, Ahmedabad
26.	Shri U.D. Joshi	I.G.P. Ahmedabad Range, Ahmedabad
27.	Shri A. K. Sharma	I.G.P., C.I.D. (Intelligence) Ghandinagar
28.	Shri Sanjay Srivastav	Director, Power Development Board, Gandhinagar

D.I.G.P. (Deputy Inspector General of Police)
Deputy Police Chief-Director

1.	Shri Mira Ram Nivas	D.I.G.P.-C.I.D. Women Cell, Gandhinagar
2.	Shri V. J. Gautam	D.I.G.P. (Intelligence) Gandhinagar
3.	Shri G. S. Malik	D.I.G.P., C.I.D. Crime, Gandhinagar
4.	Shri M.D.Antani	Regional Passport Office, Ahmedabad
5.	Shri V. M. Parghi	Joint C.P. (Surat City)
6.	Shri Vikas Sahay	Additional C.P., Surat City-2
7.	Shri Ajaykumar Tomar	D.I.G.P., A.T.S.
8.	Shri Rajneeshkumar Rai	D.I.G.P. P.T.C. Sorath Choky
9.	Shri J. K. Bhatt	D.I.G.P. Gandhinagar Range
10.	Shri I. M. Desai	D.I.G.P. Junagadh Range
11.	Shri K.K. Oza	D.I.G.P. State Record Bureau com Computer Centre, Gandhinagar
12.	Shri Anil Pratham	Principal, PTC, Junagarh
13.	Shri Arunkumar Sharma	C.I.D. (I.B.) Gandhinagar
14.	Shri S. R. Bhatt	Joint Director, Civil Defense Organization, Ahmedabad
15.	Shri Manoj Agrawal	Joint Director (A.C.B.) Ahmedabad
16.	Shri Hasmukh Patel	D.I.G.P.(P & M) G.S. Gandhinagar
17.	Shri V.D. Waghela	D.I.G.P.(AQ) Gandhinagar
18.	Shri P.B. Gondiya	D.I.G.P., Joint C.P. Special Branch
19.	Shri K.D.Patadia	D.I.G.P., C.I.D., Crime

AHMEDABAD CITY

1.	Shri O. P. Mathur	Commissioner of Police
2.	Shri H. P. Singh	Joint C.P. Administrative
3.	Shri Ashish Bhatia	Joint C.P. Crime
4.	Shri J. K. Parmar	Joint C.P. Sector-2
5.	Shri M.A.M.H. Anarwala	D.C.P. Traffic
6.	Shri P.B. Gondiya	Joint C.P. Special Branch
7.	Shri Mohan Jha	Joint C.P. Sector-1
8.	Shri Atul Karwal	Joint C.P. (Traffic)
9.	Shri Abhy Chudasama	D.C.P. Crime

10.	Shri D.B.Waghela	D.C.P. Control
11.	Shri B. K. Jha	D.C.P. Zone-1
12.	Shri S. M. Katara	D.C.P. Zone-2
13.	Shri Dr.K.L.M.N.Rao	D.C.P. Zone-3
14.	Shri Anupam Singh Gahlot	D.C.P. Zone-4
15.	Shri Ajay Kumar Chaudary	D.C.P. Zone-5
16.	Shri A.V. Vasava	D.C.P. Zone-6

VADODARA CITY

1.	Shri Rakesh Asthana	Commissioner of Police
2.	Shri Pramod Kumar	I.G.P. Vadodara Range
3.	Shri P. K. Roshan	D.C.P. Zone-3
4.	Ms Gagandeep Gambhir	D.C.P. Zone-1
5.	Shri B. K. Srimali	D.C.P. Zone-2
6.	Shri Pravin Sinha	Joint C.P. (Administration)

SURAT CITY

1.	Shri R.M.S. Brar	Commissioner of Police
2.	Shri V. M. Parghi	Joint C.P. Administration
3.	Shri Vikas Sahay	Additional C.P.
4.	Shri Shivanand Jha	I.G.P. Surat Range
5.	Shri S. M. Khatri	D.C.P. (East) Zone-1
6.	Shri D. R. Patel	D.C.P. (West) Zone-2
7.	Shri V. Chandrashekhar	D.C.P. Zone-3
8.	Shri	D.C.P. Zone-4

RAJKOT CITY

1.	Shri Sudhir Sinha	Commissioner of Police
2.	Shri S. K. Dave	D.C.P.

TABLE 2: RANGE AND POLICE STRUCTURE IN GUJARAT

RANGE AND DISTRICT

1. Ahmedabad Range

Ahmedabad Range – I.G.P. – Shri U. D. Joshi

Ahmedabad Rural	Anand	Kheda
Shri. S.S.Trivedi	Shri A. K. Jadeja	Shri M.D. Jani

2. Gandhinagar Range

Gandhinagar Range – D.I.G.P. – Shri J. K. Bhatt

Gandhinagar	Sabarkantha	Mahesana
Shri Piyush Patel	Shri R. B. Brahambhatt	Shri Raju Bhargav

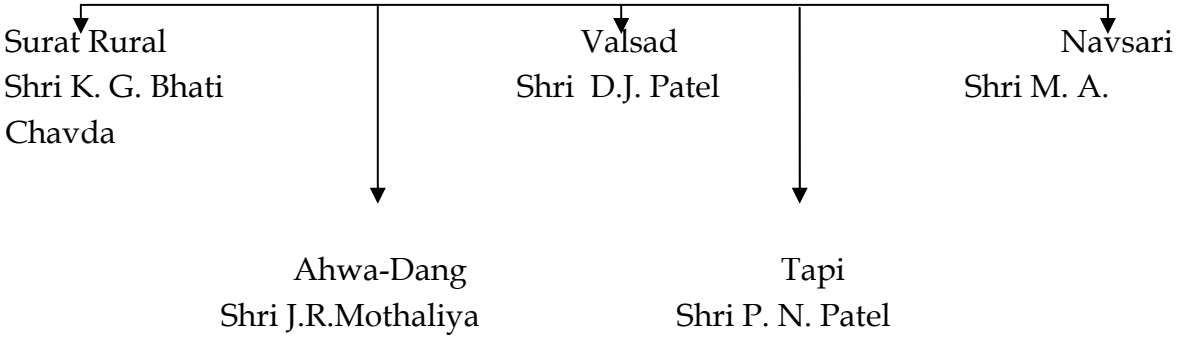
3. Vadodara Range

Vadodara Range – I.G.P. – Shri Pramod Kumar

Vadodara Rural	Bharuch	Narmada	Panchmahal-Godhara	Dahod
Shri S.K.Gadhavi	Shri S.G.Trivedi	Shri Khurshid Ahemad	Shri J.R.Mothaliya	Shri Vipul Agrawal

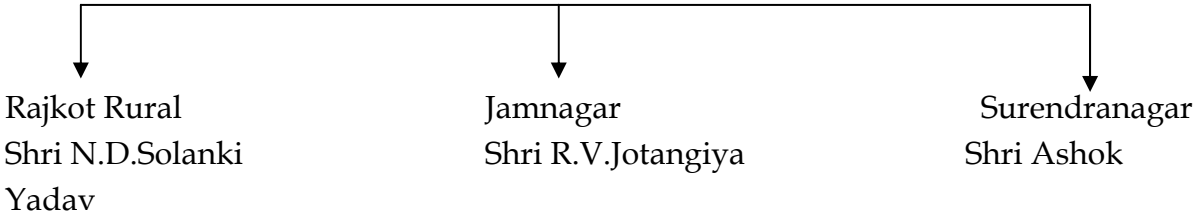
4. Surat Range

Surat Range – I.G.P. – Shri Shivanand Jha



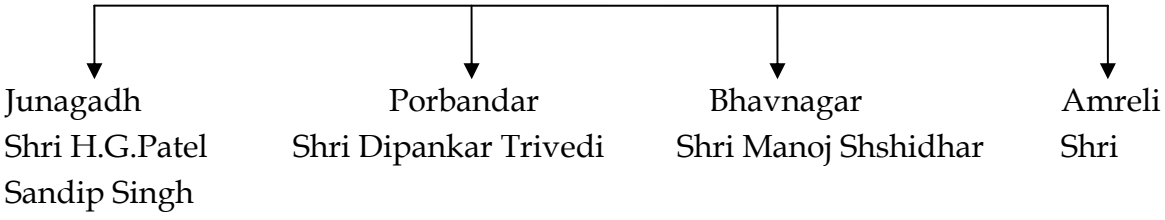
5. Rajkot Range

Rajkot Range – I.G.P. – Shri V. V. Rabari



6. Junagarh Range

Junagarh Range – I.G.P. – Shri I. M. Desai



7. Border Range – Bhuj

Border Range – I.G.P. – Shri Vipul Vojoy

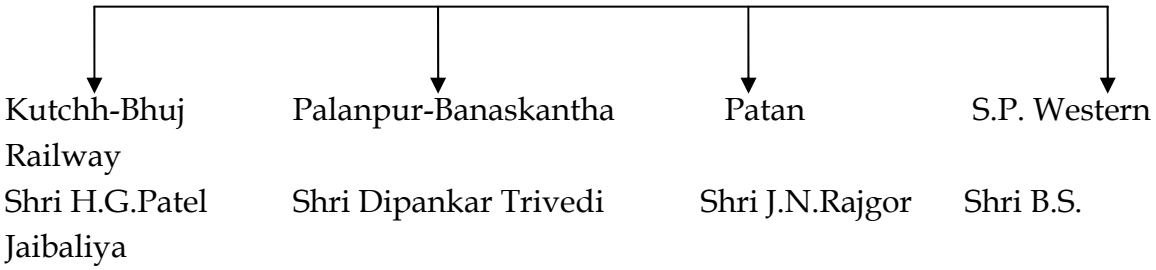


TABLE : 3: URBAN POPULATION IN GUJARAT (1971 TO 2021)						
City/ Urban Agg.	**Population (Million)**					
	1971	**1981**	**1991**	**2001**	**2011**	**2021**
Municipal Corporation Agg.	3.45	5.27	7.39	10.55	15.02	21.21
Class-A Municipalities	0.75	1.02	1.39	1.88	2.55	3.49
Class-B Municipalities	1.26	1.66	2.46	3.39	4.68	6.48
Class-C Municipalities	0.74	0.94	1.16	1.5	1.92	2.54
Class-D Municipalities	0.46	0.61	0.69	0.89	1.12	1.48
Others	0.63	0.91	1.43	2.07	3.01	4.29
Total	**7.31**	**10.42**	**14.55**	**20.3**	**28.32**	**39.51**

Source : Department of Urban Development and Urban Housing, Govt. of Gujarat.

Year: Period of fiscal year in India is April to March, e.g. year shown as 1990-91 relates to April 1990 to March 1991.
Units: (a) 1 Lakh (or Lac) = 100000.
(b) 1 Crore (or Cr.) = 10000000.

TABLE : 4: DISTRICT/CITY/URBAN AGGLOMERATION-WISE POPULATION IN GUJARAT- PART I (2001)

UA/City/Town	Districts	Population 2001 (P)			Growth Rate 1991-2001
		Total	Male	Female	
Class-I (100000 and Above)					
(UAs-22, Cities-3)					
Ahmedabad (UA)	Ahmedabad	4519278	2397728	2121550	36.44
Ahmedabad (MC)	Ahmedabad	3515361	1863886	1651475	18.98
Surat (UA)	Surat	2811464	1597093	1214371	85.09
Surat (MC)	Surat	2433787	1372307	1061480	61.62
Vadodara (UA)	Vadodara	1492398	783237	709161	32.44
Vadodara (MC)	Vadodara	1306035	684130	621905	23.03
Rajkot (UA)	Rajkot	1002160	525797	476363	53.12
Rajkot (MC)	Rajkot	966642	506915	459727	57.83
Jamnagar (UA)	Jamnagar	558462	292954	265508	46.33
Jamnagar (MC)	Jamnagar	447734	235093	212641	31.06
Bhavnagar (UA)	Bhavnagar	517578	370458	247120	27.73
Bhavnagar (MC)	Bhavnagar	510958	267019	243939	26.09
Junagadh (UA)	Junagadh	525138	130318	121820	50.88
Junagadh (M)	Junagadh	168686	86935	81751	11.56
Navsari (UA)	Valsad	232420	122233	110187	21.72
Navsari (M)	Valsad	134009	69766	64243	N.A.
Wadhavan (UA)	Surendranagar	219828	114217	105611	32.06
Wadhavan (M)	Surendranagar	61739	31923	29816	23.24
Anand (UA)	Kheda	218064	115183	102881	24.98
Anand (M)	Kheda	130462	68032	62430	N.A.
Porbandar (UA)	Junagadh	197414	101882	95532	23.26
Porbandar (M)	Junagadh	133083	68261	64822	-0.79
Nadiad (UA)	Kheda	196679	102469	94210	15.55
Nadiad (M)	Kheda	192799	100452	92347	13.27
Gandhinagar (NA)	Gandhinagar	195891	103814	92077	58.80
Bharuch (UA)	Bharuch	176531	91273	85258	26.97
Bharuch (M)	Bharuch	148391	76568	71823	0.79
Veraval (UA)	Junagadh	57869	80813	77056	N.A.
Veraval (M)	Junagadh	141207	72074	69133	N.A.
Valsad (UA)	Valsad	145650	75322	70328	107.14
Valsad (M)	Valsad	68825	35128	33697	N.A.
Mehsana (UA)	Mehsana	141367	74928	66439	28.57

Mehsana (M)	Mehsana	98987	52280	46707	N.A.
Godhra (UA)	Panchmahals	131144	67933	63211	30.28
Godhra (M)	Panchmahals	121852	63143	58709	21.05
Palanpur (UA)	Banaskantha	122279	64343	57936	35.46
Palanpur (M)	Banaskantha	110383	58019	52364	122.28
Patan (UA)	Patan	113568	59889	53679	N.A.
Patan (M)	Patan	112038	59031	53007	417.19
Anklesvar (UA)	Bharuch	112648	60265	52383	44.24
Anklesvar (M)	Bharuch	67952	35874	32078	N.A.
Dohad (UA)	Panchmahals	112087	57765	54322	15.99
Dohad (M)	Panchmahals	79185	40824	38361	1.18
Kalol (UA)	Gandhinagar	112025	59532	52493	21.04
Kalol (M)	Gandhinagar	100021	53098	46923	21.77
Jetpur-Navagadh (M)	Rajkot	104311	54772	49539	9.46
Botad (M)	Bhavnagar	100059	52668	47391	54.88

Abbr. : M : Municipality.
: P : Provisional.
: UA : Urban Agglomerations.
: M.C. : Municipal Committee
: N.A. : Not Available.

Compiled from the statistics released by: Statistical Abstract, 2003, Directorate of Economics and Statistics, Govt. of Gujarat.

Year: Period of fiscal year in India is April to March, e.g. year shown as 1990-91 relates to April 1990 to March 1991.

Units: (a) 1 Lakh (or Lac) = 100000.
(b) 1 Crore (or Cr.) = 10000000.

TABLE : 5: CENTRAL FUNDS RELEASED UNDER SCHEME FOR MODERNISATION OF STATE POLICE FORCES IN GUJARAT (2001-2002 TO 2007-2008)	
	(Rs. in Crore)
Year	**Amount Released**
2001-02	50.00
2002-03	50.00
2003-04	42.21
2004-05	39.54
2005-06	39.84
2006-07	45.52
2007-08	51.90
Total	**319.01**

Source: Rajya Sabha Unstarred Question No. 2543, dated on 16.04.2008.

TABLE 6: DISTRICT-WISE POPULATION DENSITY IN GUJARAT (2001)		
District	**T/R/U**	**Density Population per sq. km.**
Kachchh	Total	35
	Rural	24
	Urban	1723
Banas Kantha	Total	233
	Rural	210
	Urban	2266
Patan	Total	206
	Rural	168
	Urban	1935
Mahesana	Total	420
	Rural	339
	Urban	2582
Sabar Kantha	Total	282
	Rural	256
	Urban	1832
Gandhinagar	Total	616
	Rural	437
	Urban	2577
Ahmadabad	Total	719
	Rural	154
	Urban	8023
Surendranagar	Total	144
	Rural	108
	Urban	1914
Rajkot	Total	283
	Rural	145
	Urban	3028
Jamnagar	Total	135
	Rural	77
	Urban	2539
Porbandar	Total	234
	Rural	130
	Urban	1479
Junagadh	Total	277
	Rural	205
	Urban	1856
Amreli	Total	188
	Rural	151

	Urban	1332
Bhavnagar	Total	247
	Rural	159
	Urban	2901
Anand	Total	631
	Rural	504
	Urban	1919
Kheda	Total	480
	Rural	399
	Urban	2532
Panch Mahals	Total	389
	Rural	346
	Urban	3072
Dohad	Total	448
	Rural	410
	Urban	3452
Vadodara	Total	482
	Rural	274
	Urban	6071
Narmada	Total	187
	Rural	169
	Urban	3667
Bharuch	Total	210
	Rural	158
	Urban	4295
Surat	Total	652
	Rural	274
	Urban	8292
The Dangs	Total	106
	Rural	106
	Urban	-
Navsari	Total	557
	Rural	416
	Urban	5467
Valsad	Total	465
	Rural	354
	Urban	3049
Gujarat	**Total**	**258**
	Rural	**166**
	Urban	**3621**

Note: Density has been worked out on Comparable data. Compiled from the statistics released by: Census of India 2001.

TABLE 7: DISTRICT/CIRCLE-WISE NUMBER OF POLICE STATION, POLICE CHOWKY AND OUT POSTS IN GUJARAT (2002*)

Districts	Police Station	Police Chowky	Out Post	Total
Ahmedabad Rural	17	10	12	39
A – Gandhinagar	10	26	14	50
Sabarkantha	19	2	38	59
Banaskantha	22	6	39	67
A – Mehsana	14	19	30	63
B – Patan	11	12	18	41
A - Kheda-North Kheda	18	25	27	70
B - Kheda-South Anand	18	18	18	54
Panchmahals-Godhra	13	16	31	60
Vadodara City	13	40	0	53
Vadodara Rural	18	8	39	65
Bharuch	18	22	25	65
Surat City	15	79	0	94
Surat Rural	15	2	29	46
Valsad	9	9	11	29
Kachchh-Bhuj	23	6	56	85
Jamnagar	17	8	19	44
Rajkot City	7	19	3	29
Rajkot Rural	22	24	27	73
Surendranagar	17	4	19	40
Junagadh	23	21	14	58
Porbandar	7	8	4	19
Amreli	17	3	20	40
Bhavnagar	25	24	23	72
Western Railway Vadodara	22	0	55	77
Ahmedabad City	31	116	0	147
Navsari	7	10	10	27
Dohad	9	6	23	38
Dang-Ahwa	2	0	4	6
Narmada	6	5	14	25

Note : * : As on 31st December.

Compiled from the statistics released by: Statistical Abstract, 2003, Directorate of Economics and Statistics, Govt. of Gujarat.

Year: Period of fiscal year in India is April to March, e.g. year shown as 1990-91 relates to April 1990 to March 1991.

Units: (a) 1 Lakh (or Lac) = 100000. (b) 1 Crore (or Cr.) = 10000000.

TABLE 8: NUMBER OF POLICE STATION, POLICE CHOWKY AND OUT POSTS IN GUJARAT (1996 TO 2008)*				
Year	**Police Station**	**Police Chowky**	**Out Post**	**Total**
1996	456	439	614	1509
1997	457	442	560	1459
1998	457	457	589	1503
1999	469	623	460	1552
2000	461	513	625	1599
2001	463	534	625	1622
2002	465	548	622	1635
2003	465	548	622	1635
2004	467	559	622	1648
2005	468	568	615	1651
2006	469	568	615	1652
2007	477	575	618	1670
2008	497	575	616	1688

Note : * : As on 31st December.
Source : Directorate of Economics and Statistics, Govt. of Gujarat. (ON104)
Year: Period of fiscal year in India is April to March, e.g. year shown as 1990-91 relates to April 1990 to March 1991.

TABLE 9: STRENGTH OF CIVIL POLICE IN GUJARAT (1961, 1971, 1981, 1991, 1995, 1999 TO 2008*)

Items	1961	1971	1981	1991	1995	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Inspector-General, Additional General & Deputy Inspector-General	5	8	13	29	44	55	52	57	57	57	44	64	64	64	74
Superintendents, Asstt. Superintendents & Deputy Superintendents	85	143	182	245	286	307	259	323	323	332	271	271	271	271	307
Inspector & Sub-Inspectors Sergeants & Asstt. Sub-Inspectors	883	1643	2441	3097	3579	3720	12032	12032	12032	12428	10089	10089	10089	10419	10645
Head Constables Including Mounted Head Constables	6514	8603	11021	14643	18185	18722	10591	10591	10591	10591	9485	9485	9485	9490	10734
Mounted Constables	145	224	315	375	170	161	161	161	161	161	161	161	161	161	161
Foot Constables	20990	31047	33143	43438	43180	42733	42731	42731	42731	42731	33282	33282	33282	34742	36185
Total	**28622**	**41668**	**47115**	**61827**	**65444**	**65698**	**65826**	**65895**	**65895**	**66300**	**53332**	**53352**	**53352**	**55147**	**58106**

Note : * : As on 1st April.

: Major increase/decrease in data is due to change in Designation i.e. first grade head constable is now named as assistant sub-inspector.

Source: Directorate of Economics and Statistics, Govt. of Gujarat. (11001)

TABLE 10: TOTAL STATE BUDGET, POLICE BUDGET AND PERCENTAGE OF POLICE BUDGET SPENT ON SALARIES IN GUJARAT (1987-1988 TO 2003-2004)				
				(Rs. in Lakhs)
Years	**Total State Budget**	**Total Police Budget**	**Police Budget Spent on Salaries**	**Percentage of Police Budget Spent on Salaries**
1987-88	365284	13888	10416	75
1988-89	510351	16695	11687	70
1989-90	497873	18316	15241	81
1990-91	620775	20515	16617	81
1991-92	619976	24437	20038	82
1992-93	742886	26753	22473	84
1993-94	906364	30461	25283	83
1994-95	960955	34958	27966	80
1995-96	1037546	39579	32059	81
1996-97	1150024	41475	34010	82
1997-98	1397833	50272	41223	82
1998-99	1642011	64258	53334	83
1999-2000	1956810	65140	52763	81
2000-01	2341767	64767	55128	85
2001-02	3646671	69170	52480	76
2002-03	2972471	70879	52758	74
2003-04	3077127	71086	52566	74

Source: Data on Police Organisations in India (As on 1.1.2003),
Ministry of Home Affairs, Government of India.
Year: Period of fiscal year in India is April to March, e.g. year shown
as 1990-91 relates to April 1990 to March 1991.
Units: (a) 1 Lakh (or Lac) = 100000.
(b) 1 Crore (or Cr.) = 10000000.

Table 11: DOs & DONs

- Look at lifestyle and see what can be changed in your work situation, your family situation, or your schedule.
- Use relaxation techniques – Yoga, Meditation, Deep breathing or massage.
- Exercise – Physical activity one of the most effective stress remedies around.
- Time management – Do essential task and prioritize the others. Consider those who be affected by your decisions, such as family and friends. Use a check list so you will receive satisfaction as you check off each job as it is done.
- Watch your diet – Alcohol, sugar, fats and tobacco all put a strain on individual body's ability to cope with stress. A diet with a balance of fruit, vegetables, whole grains and foods high in protein but low in fat will create optimum health.
- Get enough rest and sleep.
- Talk with others – talk with friends, profession counselors, support groups or relatives.
- Help others – volunteer work can be an effective and satisfying stress reducer.
- Get away for awhile – Read a book, watch a movie, play a game, listen to music or go on vacations. Leave yourself some time that's just for you.
- Work off your anger – get physically active, dig in the garden, start a project, get your spring cleaning done.
- Give in occasionally – Avoid quarrels whenever possible.
- Tackle on thing at time – Don't try to do too much at once.
- Don't try to be perfect always.
- Ease up on criticism of others.
- Don't be too competitive.
- Make the first move to be friendly.
- Have some fun and be with people you enjoy.

"Coping with Stress" publish by Gujarat Safety Council