REVIEW OF LITERATURE

- PERSONALITY AND CARDIOVASCULAR DISEASES.
- STRESS, STRAIN, DAILY HASSLES, WAYS OF COPING AND CARDIOVASCULAR DISEASES.
- ANGER, ANGER EXPRESSION STYLES, HOSTILITY, IRRITABILITY AND CARDIOVASCULAR DISEASES.
- NEGATIVE AFFECT AND CARDIOVASCULAR DISEASES.
- SOCIAL SUPPORT AND CARDIOVASCULAR DISEASES.
- PSYCHOLOGICAL WELLBEING AND CARDIOVASCULAR DISEASES.
PERSONALITY
AND
CARDIOVASCULAR DISEASES
The review of literature focuses on only those studies which have relevance and relations with the theme, objectives and aims of the present study. Since the main thrust of the present study is on the role of psychosocial factors in Coronary Heart Disease (CHD) and Hypertension (EHT), it would therefore, be proper to begin with a brief description of the psychosocial variables selected for the present investigation.

PERSONALITY AND CARDIOVASCULAR DISEASES

A large number of studies have found consistent relationships between different dimensions of personality and cardiovascular diseases (CVD).

PERSONALITY

Personality has been recognized as a very important determiner of human behavior. The study of personality in health has a long history (Friedman, 1990). The term “personality” is a complex concept much older than the term psychology. From the ancient days, civilized people have tried to develop an insight into the nature of man. Personality as a concept has been defined in so many ways.
Personality refers to **certain enduring dispositions** in the constitution of an individual and it is the basic reality underlying important individual differences in behavior. Mischel (1976) defines personality as the distinctive patterns of behavior (including thoughts and emotions) that characterize each individual's adaptation to the situations of his life.

Cattell (1950) stated that "**Personality is that which permits prediction of what a person will do in a given situation**". Guilford (1959) regarded an individual's personality as a **unique structure of traits**. According to Pervin (1980) "**Personality represents those characteristics of the person or of the people that generally account for consistent patterns of response to situations**". Eysenck (1960) proposed a definition of personality as "**more or less stable and enduring organization of person's character and temperament, intellect and physique** which determine his unique adjustment to the environment.

Modern social and behavioral sciences in general and psychology in particular aim at utilizing and controlling personality to the full development and progress of the individual and society (Mohan, 1985). In their personality structure, some individuals possess "core" characteristics (either inherited or developed under influence of certain situations) which make them more vulnerable than others to certain kinds of interhuman conflicts which threaten their emotional security. **Kobasa et al., (1982) suggests that persons who remain healthy after**
experiencing high degree of life stress have constellation of personality that differs them from those who fell ill. This is labeled “hardy personality”.

**EYSENCK’S PERSONALITY THEORY**

Eysenck on the basis of research and factor analysis (1947, 1960, 1963, 1967, 1969, 1970 and 1980) put forth a dimensional system of personality which posits three major independent dimensions viz. **Extraversion/Introversion (E/I)**, **Neuroticism/Stability (N)** and **Psychoticism (P)**. He also proposed a psychobiological model to parallel these three dimensions (Eysenck, 1967, 1981 and Eysenck and Eysenck 1985). The model is a hierarchical one which conceptualizes that each of the three broad dimensions are subdivided at a lower level into narrower and more specific traits.

Eysenck and Eysenck (1985) reported that each of these personality dimensions includes certain subtraits. The **subtraits of Extraversion** were as follows: sociable, lively, active, assertive, sensation seeking, carefree, dominant, surgent and venturesome. The **subtraits of Neuroticism** were as follows: anxious, depressed, guilty, low self esteem, tense, irrational, shy, moody and emotional. The **subtraits of Psychoticism** were as follows: aggressive, cold, accentric, impersonal, impulsive, antisocial, unempathic, creative, tough minded and refers to a person who does fit in anywhere. In addition, the revised
Eysenck Personality Questionnaire (EPQ-R) also contains a Lie Scale (Social Desirability) which was first incorporated in Eysenck Personality Inventory (EPI) to measure a tendency on the part of the subjects to fake 'good' responses. Now it measures an independent stable factor which possibly denotes some degree of social naivette (Eysenck and Eysenck 1975). Using both the child and the adult versions of the EPQ, Eysenck and Eysenck (1975) have shown that supertraits of Extraversion, Neuroticism and Psychoticism are replicable across cultures. (Eysenck and Eysenck 1982, 1983; Barrett and Eysenck, 1984; Eysenck and Long 1986: Mohan et al., 1987).

PERSONALITY – STRESS DIMENSION

Several prospective studies by Eysenck and Grossarth-Maticek (Eysenck 1987 a, 1987b, 1988a, 1988b; Grossarth – Maticek et al., 1986) have demonstrated that different behavior types are related to cancer, coronary heart disease and endogenous depression. In the course of last six years six behavior types have been elaborated and personality-stress inventory has been developed to assess these 6 behavior types (Grossarth-Maticek and Eysenck 1990).

Type 1 is defined by a conformist dependency on a withdrawing object. A Type 1 person tries permanently and intensively to approach highly valued targets. He is prone to Cancer.
Type II individual in contrast is defined by a conformist dependency on a disturbing object. He tries fruitlessly to escape or emancipate himself from a person or an object which is emotionally important to him. He or she is very rigid and often depressive. This type is prone to Coronary Heart Disease.

Type III is described by a non-conformist dependency on an object is both withdrawing and disturbing. Eysenck believed that this type may be related to hysterical behavior.

Type IV person is characterized by autonomy and self regulation which brings independence in the satisfaction of needs. Such persons enjoy good health status.

Type V person shows rational and anti-emotional tendencies. It is predicted that this type would be prone to endogenous depression.

Type VI is characterized by anti-social and possibly psychopathic behavior. Persons belonging to this category are prone to criminal behavior and drug addiction.

ANXIETY

Anxiety is defined as a complex state that includes cognitive emotional behavioral and bodily reactions. Worry refers to the cognitive aspect of anxiety where as Anxiety refers to awareness.
The Dictionary of psychology and psychiatry defines anxiety as a pervasive feeling of dread, apprehension and impending disaster. Anxiety should be distinguished from fear. Fear is response to a clear and present danger while an anxiety is a response to an undefined a unknown threat which in many cases stems from unconscious conflicts, feelings of insecurity or forbidden impulses within ourselves. In both, the body mobilizes itself to meet the threats and muscle become tense, breathing is faster and heart beats more rapidly.

The importance of fear (anxiety) and rage (anger) as scientific constructs is reflected in the writings of Darwin who considered these emotions to be adaptive characteristics of both humans and animals that had evolved over countless generations through a process of natural selection. Noting that both fear and rage varied in intensity, Darwin observed that fear increased from mild apprehension or surprise to an extreme “agony of terror,” and that manifestations of fear included: trembling, dilation of the pupils, increased perspiration, changes in voice quality, erection of the hair, and peculiar facial expression.

For Freud (1924), fear and anxiety both referred to “something felt”- a specific unpleasant emotional state or condition that included experiential, physiological, and behavioral components. Fear, which Freud equated with objective anxiety, implied an emotional reaction that was proportional in intensity to a real danger in the external
world. In contrast, Freud used the term neurotic anxiety to describe emotional reactions that were greater in intensity than would be expected on the basis of the objective danger because the source of the danger was the individual’s won unacceptable (repressed) sexual or aggressive impulses.

Freud regarded anxiety as the “fundamental phenomenon and the central problem of neurosis” (Freud, 1936).

A considerable body of research has been developed in the area of State-Trait anxiety (Spielberger, 1966, 1972). The essence of this conceptualization of anxiety is that there is a distinction between anxiety as transitory emotional state which varies in intensity across time and situations (A-State) and the relatively stable personality dimension reflecting individual differences in anxiety proneness (A-Trait).

**A-State** is characterized by feelings of tension, apprehension, worry and autonomic arousal occurring in response to perceptions of either threats to personal adequacy or objective physical danger. A-Trait specifically refers to the tendency of individuals to respond with A-State elevations to situations which are perceived as potentially threatening to self-esteem.

**TYPE A BEHAVIOR PATTERN (TABP)**

Friedman and Rosenman (1959) gave the following definition
of Type A behavior, "an action-emotion complex that can be observed in any person who is aggressively involved in a chronic incessant struggle to achieve more and more in less and less time and if required to do so, against the opposing effects of other things or persons". This definition indicates that what is designated as Type A behavior is a rather broad cognitive, emotional, personal style of functioning. It is characterized by a tendency towards drive, competitiveness, time urgency, impatience, irritability and speed of activity. A converse Type B individuals were seen as the relative absence of TABP because they were seen to be more relaxed, easygoing, readily satisfied and less concerned with achievement.

Glass (1977) viewed TABP as characteristic style of response to environmental stressors that threaten an individual’s control over the environment in which Type A behavior appears to be enhanced performance to assert and maintain control over the environment when he is challenged or threatened.

HEALTH LOCUS OF CONTROL

Health Locus of Control Scale which was first published in Journal of consulting and clinical psychology in 1976. It is one of the many areas in which there have been significant amount of interest especially its relationship with an illness. Rotter (1954) conceptualized locus of control orientation as an individual’s generalized expectancy regarding the degree to which one’s own behavior is a controlling factor in
securing reinforcements in general. It has been observed that individuals differ in their perceptions of Locus of Control. Rotter (1966) postulated that consistent individual differences exist with response to person’s belief in the way his/her behavior will affect the control of events. These beliefs originated from Rotter’s Social Leaving Theory. An individual who perceives his or her illness as consequence of one’s own behavior is said to have Internal locus of control. Such person is likely to recover soon but an External person tends to perceive his behavior as determined by external events beyond his control such as fate, powerful others etc. This is negative expectancy and he/she is unlikely to progress.

OPTIMISM

Optimism is an important psychological construct. Scheier and Carver (1985) have regarded dispositional optimism as a stable coping resource.

The Comprehensive dictionary of Psychology defined Optimism as “a highly general attitude or personality trait that sees good in most objects and events and expects outcomes to be favorable”. Most people perceive their chances of having a happy life, a stable marriage, talented children and a satisfying job as higher than those of the average person and their chances of being fired, getting divorced, becoming depressed or having some major disease as lower than those of the average person. Theoretically, accounts of this unrealistic optimism
have differed d in terms of whether it is regarded as fundamentally adaptive or maladaptive.

**SELF ESTEEM**

Self Esteem is defined as the way one feels about oneself including the degree to which one possesses self regard and self acceptance. In other words, it is an attitude of self approval.

According to Maslow (1954), all people have a need for desire for a stable, firmly based sense of self regard or self respect and they need the self esteem for themselves and from others. The first set of self esteem includes desire for strength, for achievement for adequacy, for mastery, for competence, self confidence, for degree of independence and for freedom. The second category includes the desire for prestige, status, recognition, attention, dignity and appreciation all of which are characteristics of esteem based on others view of the person.

**REVIEW OF RELATED STUDIES**

Of the many personality variables related to Cardiovascular Disease (CVD), TABP is the most powerful predictor of CVD.

Review of literature reveals innumerable studies related Type A behaviour pattern (TABP) and Cardiovascular Disease (CVD).
The TABP is one of the most extensively researched topics in the field of Behavioural Medicine and it is perhaps the most valid example of the personality view of Psychosomatics. This point of view was articulated by such early psychoanalysts as Dunber (1943) and Alexander (1950). The suspected pathogenic relationship of excessive stress to cardiovascular disorders was first documented in the late 18th century. More than a hundred years later, Osler (1892) reported his observation that a preponderance of coronary patients exhibited certain specific overt behaviors apparently related to excessive stress. Indeed, the mannerism he observed were specific enough to aid him in diagnosing suspected heart disease. Osler (1892) described the coronary prone individual as a "Keen and ambitious man", the indicator of whose engines are set at full speed ahead. About half a century later, a more general interest in this subject began to emerge and attributes such as compulsive, restless, hardworking, striving, needful of authority and passively hostile were added to Osler description by Dunbar (1943).

Burke's (1983) review described Type As as exhibiting unbridled ambition, competitiveness, free floating, high need for achievement, impatience, time urgency and polyphasic function (doing many tasks at the same time).

Matthews et al., (1982) presented evidence that Type A children are more likely to be encouraged to strive for achievement of
goals in excess of their performance where as Type B children tend to be reinforced for their actual performance level in their children.

The Type A behavior pattern (TABP), a term coined by Friedman and Rosenman in the 1950’s has received more attention than any other behavior or psychological variable as a risk factor for CHD or EHT. Individuals who exhibit personality, with persistent time urgency and easily evoked hostility and over commitment to professional activities. A relative absence of this sort of behavior characterizes the Type B behavior pattern. According to Friedman and Rosenman observations. Type A behavior pattern was exhibited by most patients suffering from coronary heart disease (CHD).

Epidemiological evidence suggesting this behavior pattern as a precursor of CHD was first collected in the Western Collaborative Group Study, an eight and half year longitudinal investigation of 3500 males (Rosenman, Brand, Jenkins, Friedman, Straus and Worn 1975). Those subjects judged Type A at the onset of the study showed twice as much incidence of CHD at eight and half year follow up as those with the reverse pattern, labeled Type B. This relationship was found to be independent of other risk factors.

According to Friedman and Rosenman (1979) "A person risks an early heart attack, if his personality pattern belongs to type A
and is characterized by the following way: he cannot live without a clock, speaks in a hasty and abrupt manner, unable to listen.

Matthews (1977) while rescoring interviews from the WCGS in a manner that allowed separate components of the Type A pattern observed that components reflected speed of activity, job involvement and past achievements were not associated with CHD, while attributes reflecting potential for hostility, competitiveness and impatience were significantly related to CHD. Dembroski, et al. (1979, 1989) found these same attributes to be most predictive of arousal in a variety of challenging situations. Williams et al. (1980) have shown that the potential for hostility predicted arteriographically documented severity of atherosclerosis. It thus appears that high hostile Type A's tend to be at higher risk for CHD than low-hostile Type A's and that both of these groups tend to be at higher risk than Type B's.

Glass, (1977) observed that Type A's differ in the nature of their behavioral responses to environmental challenges. One consequent of this differential pattern of response is the possibility that Type A's may induce greater stress into a situation by heightening conflict or tension of by assuming excessive amounts of work and responsibility excessive amounts of work and responsibility. Particularly relevant in this regard in research in business and industry which has suggested that A's in comparison with B's report greater levels of work involvement and a
greater number of work related achievements (Howard et al. 1976, 1977). Type A’s also have been shown to be promoted to higher-level positions more often than Type B’s (Jenkins 1976). However, the same type of research reveal that Type A’s suffer a greater number of minor illnesses and accidents both on and off job that resulted in absenteeism (Jenkins et al. 1977) and that they are somewhat more prone to alcohol abuse (Glass, 1977).

Hick and Campbell (1983) while studying the role of psychosocial factors in predisposing CHD and EHT in women observed that the assumption that Type A behavior is pertinent to the psychology of women must be questioned since there is limited amount of data on women. He further found that Type A behavior is related to angina pain while anxiety, depression and neuroticism have not been seen as related to coronary heart disease in women.

In view of the dominant role of the autonomic nervous system in cardiovascular regulation, it might be anticipated that Type A behavior would influence the level of the blood pressure. However, Rosenman et al. (1976, 1982) and Howard et al. (1976) found that Type A behavior pattern has not been sufficiently found to be associated either with higher blood pressure or with a higher prevalence of essential hypertension. Rime et al. (1989) found that children with Type A behavior exhibit higher blood pressure than their Type B counterparts.
Schmitz et al. (1992) while studying Type A behavior pattern in patients with coronary heart disease in a hospital in Japan found that Type A behavior pattern was associated with coronary prone behavior. Out of 300 patients with new onset of CHD (243 cases of acute myocardial infarction (MI) and 57 cases of unstable angina pectoris) between 1981 and 1987 analyzed from the standpoint of behavior pattern and using Jenkins Activity Survey (JAS), Type A was found in 64.6 percent of subjects and in 43.0 percent of healthy controls. Type A behavior was also found to correlate with traditional risk factors like smoking, hypertension etc. A follow up of post CHD patients whose occupational load did not decrease after CHD illness shows that modification of Type A behavior plays an important role in the development of CHD.

Although several failures to replicate the findings of Type A studies, the results of a meta-analytic review conducted by Booth-Kewley and Friedman (1987) led to the conclusion that the association between Type A and CHD is highly reliable and nontrivial. Similarly, Manuck et al. (1986) concluded that the Type A behavior pattern has been found predictive of new CHD in nearly all prospective studies of initially healthy individuals and therapeutic modification of Type A has been shown to reduce risk of recurrent non fatal myocardial infarction (MI). Despite the negative studies, there does appear to be something of pathogenic significance within the heterogeneous cluster of characteristics that together make up the global Type A behavior.
Apart from Type A behaviour pattern, other personality variables related to cardiovascular diseases include Neuroticism (N) (Cramer 1991 b), Introversion and Low Sensation Seeking (SS) (Siegel, 1986).

Several other investigators have accumulated evidence linking TABP to CHD (e.g. Friedman et al. (1968), Friedman et al. (1970), Rosenman et al. (1970), Rosenman and Friedman (1974), Blumenthal et al. (1975), Rosenmen et al. (1975), Theorell et al. (1975), Jenkins (1976), Shekelle et al. (1976), Glass (1977), Brand (1978), Haynes et al. (1978), Zyzanski et al (1976) and Orth-Gorner and Ahlbom et al. (1979).

Following a 1978 conference on the TABP sponsored by National Heart, Lung and Blood Institute U.S.A., a report was released which stated “The Review Panel accepts the available body of scientific evidence as demonstrating that Type A behavior pattern is associated with an increased risk of clinically apparent CHD in employed, middle aged U.S. citizens” (Review Panel on Coronary Prone Behavior and Coronary Heart Disease 1981). Scientists in the Netherlands, China, Australia, Cuba and India have confirmed this relationship (Dembroski, et al. 1978; Cassel 1973, Mohan and Sehgal, (1999). This view has long been supplemented by the fact that heart diseases have been found more frequently in those with high ambition, compulsive, striving, extreme competitiveness and preoccupation with deadlines.
and drive for achievement in a competitive society. Studies have shown heart diseases were five times more frequent in business or professional executives than others.

Ostfeld (1991) found three MMPI variables – hostility, neuroticism and somatic complaints were positively associated with incidence of myocardial infarction and coronary death in a ten year cohort study of 2003 employed middle aged men. All three were negatively associated with risk of coronary death after diagnosis of uncomplicated again had been established.

The Health Locus of Control is another personality variable that seemed to have to do with health. People who score more toward the “Internal” direction seem to more achievement-oriented and less conforming and compliant, more intelligent, to support political positions that stress individual responsibility and to take more reasonable risks (Strickland, 1977). People who are more internally-oriented handle threatening situations effectively. On the other hand, externally-oriented people may be sensitive to factors in a situation that might interfere or block their efforts. Such people may be first to perceive obstacle and may be better able to cope effectively with them (Phares, 1976).

Evidence suggests that Locus of control acts as a mediator influencing the relation between life stressors and impairment of mental
and physical well-being (Denney and Frisch, 1981; Husaini and Neff, 1981; Johnson and Sarason, 1978; Lefcourt et al. 1984). The common finding of these studies is that External locus of control subjects show a stronger positive relations between measures of life events and symptomatology than do internals. Further evidence for the mediational role of locus control comes from a recent prospective study in which it was found that the personality disposition of "hardiness" (one component which is internal locus of control) acted to buffer the effects of life stress on illness (Kobasa, et al. 1982). Studies of individuals exposed to severe real-life stressors suggest that internals not only experience less distress than externals but also achieve better outcomes (Anderson, 1977; Bulman and Wortman, 1977; Poll and Kaplan De-Nour, 1980).

Strickland (1978) has reported on significant implications of locus of control in both physical and emotional wellbeing. Seeman and Evans (1962) reported that hospitalized patients with internal locus of control orientation possessed more information about their physical condition, asking both doctors and nurses more, and showing less satisfaction with amount of information they are getting about their condition from the hospital personnel than do the external patients. Strickland (1978) observed that I-E seems to be linked to prophylactic dental behavior, participation in physical fitness activity, preventive medical shots, use of seat belts to autos, ability to influence post-operative
care, and patient behavior in a variety of kidney, ulcers and cardiovascular conditions.

Wallston and Wallston (1982) observed locus of control orientation as an individual difference variable that could be related to information exchanges between patients and health care professional. Wallston et al. (1987) reported three important uses of health locus of control (a) as an independent variable to predict health behavior, either alone or in combination with other relevant belief and attitude variable (Wallston, et al. 1987; Krantz et al. 1980; Strickland, 1978) (b) as an independent variable, in combination with different treatment conditions, such that treatment outcome may vary with locus of control belief (Howard et al. 1976) and (c) as independent variable to measure treatment outcome (Wallston and Wallston 1982; Lewinsohn and Amerson 1978).

Some studies have also been conducted relating optimism with Health. Substantial research suggests that people are overly optimistic about the likelihood that they will experience a wide variety of positive life events and successfully avoid a wide variety of adverse events (Markus and Nurius, 1986, Weinberger, 1987).

Diener et al. (1985) suggested that unrealistic optimism about the future is generally adaptive in that it promotes the criteria normally associated with the mentally healthy personality, including feelings of
self worth, the ability to care for others, persistence and creativity in the pursuit of goals and the ability to cope effectively with stress. In their examinations of optimism as a dispositional construct, Scheier, and Carver (1985), Scheier et al. (1989) found an optimistic nature to be associated with more effective coping with stress. In their study of undergraduates, they found that optimism was associated with greater use of problem focused coping, seeking of social support and emphasizing the positive aspects of stressful situations. Pessimism in contrast was associated with denial and distancing from the event, with focussing directly on stressful feelings, and with disengagement from the goal with which the stressor avoidance coping strategies are generally associated with a less effective response to stress especially to chronic stressors (Holohan and Moos, 1987 and Suls and Fletcher 1985).

Some theories have generated conflicting predictions regarding the relationship of optimism to health behaviors with some researchers suggesting that optimism may facilitate such constructive behavior (Scheier and Carver, 1985; Diener et al. 1985) and others suggesting that unrealistic optimism may compromise self-protective behavior (Weinsten, 1984). In the case of self reported health behaviors, this prediction was directly disconfirmed. In terms of certain of behaviors e.g. sexual behavior, there was no evidence that optimism was associated with sexual behavior related risks (Folkman, 1984). Thus, the suggestion
made by Weinsten that optimism may undermine effective health behaviors is not supported by data.

Past research in the West has shown that self esteem is a strong predictor of life satisfaction. Campbell (1976) found that self esteem was the strongest predictor of life satisfaction in a national sample of adults in U.S. The way people feel about themselves is an important aspect of psychological life. Lay people and professionals refer to these feelings as indicative of a person's self esteem. Through the years, self esteem has been linked to a wide variety of social psychological outcomes including conformity (Brockner 1984), persuasion (Rhodes and Wood 1992), cognitine dissonance (Steele et al. 1993), subjective wellbeing (Diener and Diener, 1995), and social comparison processes (Aspinwall and Taylor, 1993; Wood et al. 1994). All these behaviour have implications for a person's health status.

Self esteem also appears to influence people's reactions to valenced outcomes. High self esteem (HSE) people make more self deserving attributions to performances outcomes (Blaine and Crocker, 1993) and suffer less emotional distress when they fail than low self esteem (LSE) people (Brown and Dutton, 1995). This implies that people with high self esteem can cope with stress better.
Coopersmith (1968) found that people low in self esteem face frequent problems for example destructiveness, feelings of discouragement towards themselves and insecurity in social interaction. This makes them more disease prone.

Pearling and Schooler (1978) described self esteem as a psychosocial resource that influences stress and coping processes. Pearling et al. (1981) found that persons with high self esteem reported less depression in the face of job loss than do persons with low self esteem. There appears to be a significant relationship between self esteem and certain basic behavioral aspects including health behavior. The above review clearly highlights the need to explore the role of personality dimensions in Cardiovascular Diseases.