CHAPTER I

1.1. Introduction

The role of stressful life events in the etiology of various disorders has been a fertile field for researchers for the last three decades. In modern psychiatry, the pendulum has swung from biological to psychosocial factors in the study of the onset of illness. In recent times, mental illness is not defined in the strict sense of medical nosology (Deshpande, et al 2001). On the other hand, they are understood as the end result of the interaction between biological, psychological and social factors of which, stressful life events is primary.

Life events can be defined as major occurrences in a person’s life that require psychological adjustment to some degree (Sarafino, 1994b). Previous studies have investigated major life events judged as undesirable, uncontrollable or life threatening, as risk factors for mental illness. Stressful life events are found to be associated with headaches (Kohler and, Haimeri, 1990), rheumatoid arthritis (Anderson et al, 1985), cancer (Haney, 1997), coronary heart disease (CHD) (Singh and Misra, 1987; Esler, 1998) and hypertension (Fredrickson & Mathews, 1990; Ahmed, 2002). It is increasingly recognized that stress is one of the components of any disease, not just those labeled ‘psychosomatic’. In fact researchers like Holmes and Rahe (1967), and Engel, (1976) have established beyond doubt that there exists a positive relationship between stressful life events and subsequent illness. The current understanding is that there is no disease without emotional, behavioral and social components both in cause and in effect, where stress is a part of life. A number of studies have suggested a positive relationship between stressful life events and subsequent illness (Pestonjee, 1992, Schnall et al, 1998, Srivastava and Sinha, 1989).
A similar, though less, consistent relationship between the onset of psychiatric illness and life events has been reported (Kessler, 1997).

The life stress model is gradually influencing other formulations, even though it offers little direct guidance to therapeutic interventions. For example, depression is found to be preceded by more than the usual number of stressful events, especially those representing losses and exits (Paykel, 1984). Kendler et al. (1999) discovered a substantial causal relationship between stressful life events and the onset of an episode of major depression, but one third of the association between these phenomena was non-causal, as the effect of stressful life events also depend on a number of other variables.

1.2. Stress research in historical perspective

Life events research and the assessment of stress can be traced back to diverse sources from the first half of the twentieth century such as concept of emotional antecedents to physical changes, use of life chart procedure in medical diagnosis, and numerous studies on the reaction of victims of natural or man-made disorders. Many investigations pursued the idea that discrete, time limited events requiring change or adoption are associated with and may cause a wide range of human disorders. The best known researchers have been Holmes and Rahe and their colleagues (Deshpande, et al., 2001).

There has been an enormous increase in interest in psychological aspects of the stress concept since the 1940’s that has been attributed to the recognition that soldiers’ involvement in conflict and battle during World Wars I and II often had a huge and devastating psychological impact (Lazarus, 1999). Widespread concerns about the impact of stress on psychological health and well-being have led to the
production of an enormous array of self-help and popular psychology texts, and these being widely available and read. In spite of the high degree of interest in the area of stress and health, the concept of psychological stress has been difficult to define and measure.

1.2.1. Stress as a stimulus

Lazarus and Folkman (1984) noted that in psychological terms, stress is usually defined as a stimulus i.e., a stressful event elicits a coping response. Lazarus (1999) suggested that this is an attractive way to think because it externalizes the cause of distress, allowing the individual to ignore or minimize the contribution of their own actions to how they feel (for example, ‘I feel terrible because my boss sacked me’). Three categories of stressful stimuli have been defined (Lazarus & Cohen, 1977). They are: i) major changes usually occurring which is not in control of any single individual and has an impact on a large number of people (such as natural disasters or war); ii) major life events that may or may not be within the control of the individual but result in a significant level of change in an individual’s life such as the birth of a child, illness of a friend or moving house; and iii) daily hassles or less dramatic stressful experiences that nevertheless are irritating or may involve some change to routine. Other ways of categorizing stressors include whether they are acute or chronic, positive or negative and the degree of impact they have on the individual (Lazarus & Folkman, 1984).

Wheaton (1999) wrote of a continuum along which he placed the various type or classes of stressors that are most commonly described. Placement along the continuum depends on how continuous or discrete the event is. Consequently ‘sudden trauma’ and ‘chronic stressors’ are at the extreme ends of the scale, and ‘life events’
and ‘daily hassles’ are in the middle. Wheaton also included ‘non-events’ (events that are desired but do not occur) as a source of distress. Although this model is easily understood, what differentiates major events, minor events, intermittent events and chronic difficulties from each other is yet to be clear. The main problem with defining stress simply as a stimulus is that it assumes that all individuals will respond in the same way to a given stressor.

1.2.2. Stress as a response

Stress has also been viewed as a response to events and an individual can describe feeling ‘stressed’ or ‘distressed’. Although it is often important to identify when an individual feels upset or distraught, focusing solely on a response makes it difficult to identify what will elicit this response and what will not (Lazarus & Folkman, 1984). A ‘stress response’ may occur in reaction to events that are not normally themselves stress provoking. For example, an individual may react to a piece of beautiful music with tears, behaviour that in other circumstances indicates distress (Lazarus, 1999). Lazarus and Folkman (1984) wrote: “The response cannot be reliably judged as a psychological stress reaction without reference to the stressor” (p. 15).

Lazarus, (1999) and Lazarus and Folkman (1984) are of the view that stimulus and response definitions of stress are circular. A stressful stimulus is defined primarily by the fact that there is a stress response and there cannot be a stress response without a stressful stimulus. They further observed that these models fail to indicate what characteristics of the stressor induce the response or what characteristics of the response indicate the impact of a particular stressor. To paraphrase Lazarus and
Folkman (1984), it is the stimulus-response relationship that defines stress, not one of these components in isolation.

Both the response and stimulus definitions of stress are set conceptually within a relatively simple stimulus-response paradigm. It is now recognized that they largely ignore individual differences and the perceptual and cognitive processes that might underpin these differences (Cox, 1990; Sutherland and Cooper, 1990). In short these approaches have proved to be taxonomic in nature, providing researchers with little opportunity to establish what essentially are responses and situations (or events) that may fall under each heading. Nevertheless, as research into stress has advanced, it is being increasingly felt that approaches to defining stress have often failed because they are unable to provide a comprehensive theory of stress or a context for considering the nature of the stress experience itself. Specifically three criticisms are leveled at stimulus/response-based approaches:

The first is that they reflect only one component of the stress process itself. Embedded within this criticism are concerns that, in an attempt to explore the range of situations and responses that may give rise to stress, little attention (at least at the empirical level) is given to the inherent properties of different stimuli and responses (Sutherland and cooper, 1990). Much the same can be said for the response-based approach. Almost any response can be classified as a stress response. Responses are often regarded as homogenous and little consideration is given to the duration of the response or its pattern. Also, little attention is paid to the idea that certain events may give rise to very specific responses (Lazarus, 1999). Therefore, to suggest that an event is not stressful may overlook the fact that attention must be paid more to the specificity of responses and their nature rather than simply concluding that no stress is present in such an encounter. Because the stimulus and the response approaches
respectively focus on a single aspect of the relationship, it is never possible to conclude that an event has the potential to be stressful or that a response may be a stress response. It is only when both the components are considered in relation to each other and the impact of one on the other can be determined that we can say anything definitely.

The second problem is that these frameworks fail to account for individual differences. This criticism stems from the argument that knowledge of a stimulus condition does not necessarily allow exact prediction of a response, because whether a stimulus is likely to produce a response depends on the moderating influences of individual differences (personality attributes, expectations, values, goals) and the context (level of social support, control and appraisal). What is stressful for one individual may not be stressful for another. (Cox, 1990; Sutherland and Cooper, 1990).

The third criticism is directed more toward the impact that such approaches have on understanding of the stress process. This criticism is best expressed by the view that arbitrarily limiting the definition of stress to only one dimension of a process draws attention away from the nature of the process itself. Stress involves both a stimulus and a response in relation to one another, and it is the relational nature of stress that should be the focus of any definition (Lazarus and Launier, 1978). When considered in these terms, the aim points toward the processes that link the individual with the environment. To accept that stress resides not in any one component but in the nature of the relationship itself, is the integrating point of any definition. Early efforts to examine this relationship built upon the notion of interaction between environmental stimuli and individuals’ response.
1.2.3. Stimulus-Organism-Response models

Recognition of the role that individual characteristics play in determining the response to stressful stimuli led to the development of the Stimulus-Organism-Response (SOR) model of stress (Lazarus, 1993). Factors such as personality type were thought to influence an individual’s response to a given situation (Frydenberg, 1997; Lazarus, 1993). Although this model recognizes the important role of individual differences it is a static model, which does not explain why an individual responds differently to similar stressful situations at different times (Lazarus, 1999).

1.2.4. Transactional model of stress

Lazarus and Folkman (1984) defined psychological stress as “a particular relationship between the person and the environment that is appraised by the person as taxing and exceeding his or her resources and endangering his or her well-being” (p. 19). According to this model, psychological stress influences the intensity, duration and type of psychological and physiological responses to experiences or events (DeLongis, Folkman, & Lazarus, 1988). This model emphasizes that a “stressful encounter should be viewed as a dynamic, unfolding process, not as a static, unitary event” (Folkman & Lazarus, 1985). Thus, a transactional model of stress has been developed (Lazarus & Folkman, 1984; Lazarus, 1999).

Evaluation of the meaning and potential impact of events is implicit in this model which influences the response. Lazarus and colleagues referred to this process as cognitive appraisal (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Lazarus & Folkman, 1984). As the way in which an individual attempts to
manage the demands of a situation and the environment, coping, is central to the transactional model of psychological stress.

There are other three models for the association between life events and possible outcomes: the *victimization model* (sufficiently severe or numerous events cause illness), *additive burden model* (independent background variable moderates the outcome of the event) and *proneness model* (illness causes life events that in turn cause relapses) (Mazure 1998).

Further, two possible explanations have been offered. First is the *diathesis-stress* model, which suggests that some people are more inherently vulnerable to the effects of stress. Second, the *personality model*, which holds that psychologically healthy individuals are buffered against the harmful effects of stress. The diathesis-stress model suggests that some individuals are vulnerable to stress-related disease because either genetic weakness or biochemical imbalance inherently predisposes them to diseases (Gathchel, 1993). The converse of the diathesis-stress model holds that psychologically healthy people are buffered against levels of stress that might lead to an illness in less healthy individuals. Kobasa & Maddi (1982) used the term *hardiness* to describe those people who were able to withstand stress and not succumb to disease (Brannon & Fiest, 2000).

However, the relationship between stress and illness is far from perfect and it is found that some high-stress individuals become sick while others remain healthy. It is also found that some low stress people develop a disease while others don’t. This raises a basic question why do some people fall ill from stress while other people stay well? Researches with reference to a number of variables that are found to moderate the stress-illness/health relation have answered this question. They include stress
vulnerability, stress situations, and stress symptoms (Miller & Smith, 1987); stress appraisal, stable and situational coping dispositions, coping styles and strategies, personality variables and coping responses (Scheier & Carver, 1987; Terry, 1994). An understanding of the mechanisms through which our experiences of stress are given meaning is just as important as an understanding of the stressors themselves. To be comprehensive, the concept of stress must include the factors which moderate our experience of stress as well as the strains in our lives through which stress expresses itself.

One way the stressor can affect a person is by being filtered through one of these factors. This is known as mediation and implies that a stimulus would have no effect on the person unless it is transmitted through the mediating variable. Stressors can also have a direct effect on the individual while one of these factors can serve to alter that existing relationship. This is known as moderation. In this case variables that serve this purpose can be seen to increase a person’s vulnerability to stress or to buffer him or her from it (Benjamin, 2003). The experience of stress, as a psychological phenomenon, can be seen to involve a complex system of interactions across a number of psychological dimensions. For this reason, comprehensive models of the stress experience often must examine a combination of mediating and moderating variables, their effects on each other, and their effects on each others’ relationship with the direct stimulus response connection.

Another moderator that influences our subjective experience of a stressful event is our perceived stress to it. This factor itself is mediated through our personality dimensions. The perceived stress can be separated into our appraisal of the stressor and our method of coping with it. The method of coping is partially dependent on the manner in which a stressor is appraised. During stress appraisal we
make an assessment of the meaning the stressful situation actually has in our lives. When faced with this environmental challenge the individual undergoes the activation of a cognitive network of associations and perceived implications which locate the stressor in a more easily digestible framework.

Perez and Reicherts (1992) identified six dimensions against which a stressor is referenced in order to determine the manner in which it will be handled. The six subjective dimensions of a stressor are: valence, controllability, changeability, ambiguity, recurrence, and familiarity. It should be noted that all of these subjective dimensions of a stressor also could be seen as having an objective component. That is, although a subjective impression of the stressor is being made, it can be argued that each of these evaluations is made based on some inherent property of the stressor. Lazarus and Folkman’s (1984) transactional definition of stress focuses on the appraisal of the individual. In light of this understanding, it would be the case that stress is not experienced if a stressor is never appraised as being stressful. Understanding the appraisal of stress across Perrez and Reicherts’ six dimensions allows the researcher greater insight into coping intentions that are specific to a situation, the ways in which these intentions are linked to coping goals and preferences, and the actual choice of coping strategies.

A final factor that determines how we will experience a stressor is the coping strategy that we choose. Although there is some evidence that both stable (personality) and situational factors influence people’s coping responses to stress situations the role of personality factors in the determination of coping strategies that a person employs to deal with a specific situation is not studied adequately.
Many psychologists argue that the concept of specific personality traits determining our behavior is an outdated one in our field (Lazarus and Folkman, 1984; Hobfoll, 1998). These researchers argue in favor of understanding a person’s behavior in terms of the multiple dynamic contexts, which give behaviors meaning. However, to the extent that we can identify specific trends of behavior in a group of people consistent across multiple situations, it is useful to employ the construct of personality. This is functionally useful in the present study because, when referenced against some personality models, we can develop an understanding of patterns of stress and coping that might otherwise escape us.

Thus, in the formulation of revised etiological model of illness, the onset of an illness is generally associated with a number of variables: genetic predisposition to a disease, the presence of disease agent, a number of stressful environmental conditions, perception by the individual that such conditions are stressful, and the relative ability to cope or adapt to these conditions (Rabkin & Struening, 1976). Researchers from both the person and the situational point of view have investigated this issue. These studies show that all these aspects interact in intricate ways to moderate the relation between stress and illness. Coping resources and dispositional strategies play significant role in determining the coping responses to a situation in addition to vulnerability.

In this study it is proposed that personality traits serve as coping resources and together with dispositional coping strategies will predict how one responds to life event stress and whether one will develop an illness or not. To examine the role of personality traits one particular combination of traits that is claimed to be comprehensive and labeled as “Five factor” model or “big five” as they are called will be considered. Further, study will examine the role of other variables like perceived
stress and vulnerability to experience stress, which are found to be important as predictors of health.

Among the many health predictions for the new millennium, the most alarming is that of cardiovascular disease. Current projectors suggest that by the year 2020 India will have largest number of persons with cardiovascular disease and will account for one third of all deaths from all causes in India. The worst part is that many of these Indians will be young because heart disease in India occurs 10-15 years earlier than in west. These dramatic statistics underscore the importance of early identification and treatment of CHD (Sethi, 2003).

Research over the past two decades has shown that people with heart disease are more likely to suffer from depression than otherwise healthy people, and conversely, that people with depression are at greater risk for developing heart disease (Musselman, Evans and Nemeroff, 1998). Furthermore, people with heart disease who are depressed have an increased risk of death after a heart attack compared to those who are not depressed (Frasure-Smith, Lesperance, and Talajic, 1995). Depression may make it harder to take the medications needed and to carry out the treatment for heart disease. Treatment for depression helps people manage both diseases, thus enhancing survival and quality of life.

Some of the psychological risk factors, considered to be prominent in the aetiopathogenesis of coronary heart disease (CHD) are stress and depression. These may antedate heart attacks and even persist after myocardial infarction. The precipitation of myocardial infarction by psychological stress is well recognized. A frequent observation is that some emotionally stressful situation precedes such infarctions. Persistent emotional arousal may have been an adverse direct or indirect
effect on physical and mental health. In fact worry and strain of modern life and the high pressure under which people live have led to an increase in the incidence of coronary disease. In addition to stressful life events preceding sudden cardiac death (Rahe and Lind, 1971) several other factors like severe fatigue, anxiety, anger, hopelessness, and loneliness have also been proposed to be precursors of sudden cardiac death (Engel, 1976;Dimsdale 1977; Kullen 1978). Hence, it was decided to focus on depressed and coronary heart disease patients in this study and to understand them in the context of stress-illness relationship.