CHAPTER I
INTRODUCTION

1.1 MENTAL HEALTH

Health is an indispensable quality in human being. It is a broad concept as defined by the Preamble of the WHO charter – a state of complete physical, mental and social well being, not merely the absence of disease or infirmity.

In general terms, mental health is the full and harmonious functioning of the whole personality. Meninger (1945) writers, “Let us define mental health as the adjustment of human beings to the world and to each other with a maximum of effectiveness and happiness. It is the ability to maintain an even temper, an alert intelligence, socially considerate behaviour and a happy disposition”.

Jahoda (1958), an advocate of the concept of positive mental health said that it means a successful synthesis of the factors, who the people are, where he is and what he wishes to be. Behaviour of a person is determined by concepts unifying look on, life, possessions of long range of goals, and appropriate connections with the past are the characteristics of a healthy person.

Jahoda (1958) has noted following six aspects of positive mental health:
1. Attitudes of an individual towards his own self: the accessibility of the self to consciousness, the correctness of the self-concept, and its relation to the sense of identity and the acceptance by the individual of his own self.

2. Growth, development, or self-actualisation.

3. Integration.

4. Autonomy.

5. Perception of reality.


Maslow and Mittelmann (1951) have suggested the following criteria for normal psychological health:

1. Adequate feeling of security.


3. Adequate spontaneity and emotionality.

4. Efficient conduce with reality.

5. Adequate bodily desire and the ability to gratify them.


7. Integration and consistency of personality.

8. Adequate life goals.

9. Ability to learn from experience.

10. Ability to satisfy the requirements of the group.

11. Adequate emancipation from the group or culture.
1.1.1 Mental health is more than the absence of mental illness

Mental health implies fitness rather than freedom from illness. In 2003, George Vaillant in the USA commented that mental health is too important to be ignored and needs to be defined. As Vaillant pointed out, this is a complex task. “Average mental health” is not the same as “healthy”, for averaging always includes mixing in with the healthy the prevailing amount of psychopathology. What is healthy sometimes depends on geography, culture and the historical moment. Whether one is discussing state or trait also needs to be clear – is an athlete who is temporarily disabled with a fractured ankle healthy or unhealthy? Similarly, is an asymptomatic person with a history of bipolar affective disorder healthy or unhealthy? There is also “the two-fold danger of contamination by values” (Vaillant, 2003, p. 1374) – a given culture’s definition of mental health can be parochial, and, even if mental health is “good”, what is it good for? The self or the society? For fitting in or for creativity? For happiness or for survival? Even so, Vaillant advocates that common sense should prevail and that certain elements have a universal importance to mental health; just as despite every culture having its own diet, the importance of vitamins and the five basic food groups is universal.
1.1.2 No health without mental health: mental health and behaviour

Physical health and mental health are closely associated through various mechanisms, as studies of the links between depression and heart and vascular disease are demonstrating. Many studies since the 1950s support the idea that medically ill patients with negative attitudes have worse outcomes than those with more positive attitudes. Now studies demonstrate that healthy people who are optimistic have lower death rates from heart disease than those who are pessimistic, even taking other risk factors into account (Giltay et al., 2004). The relevance of emotional status to the maintenance of good physical health and recovery from physical illness is now well substantiated, as is the converse. Physical ill-health is detrimental to mental health as much as poor mental health contributes to poor physical health (Herrman & Jané-Llopis, in press). For example, malnourishment in infants can increase the risks of cognitive and motor deficits, and heart disease and cancer can increase the risk of depression (Blane et al., 1996; Marmot & Wilkinson, 1999). Strong evidence establishes depression as a risk factor for heart disease, and some national health policies now assert that the causal link is undeniable. The importance of short-term mental stress as a trigger for the development of myocardial infarction and sudden death in people with heart disease is no longer questioned. The notion that hypertension may arise through psychological stress, in turn related
to occupational and other adverse factors in the environment, remains contentious, but the idea is an old one (Esler & Parati, 2004). Low control at work and poor social support has important influences on both physical health (e.g. cardiovascular morbidity) and psychological health (e.g. depression) (Kopp, Skrabski & Szedmák, 2000). Many of the people living with HIV/AIDS and their families experience stigma and discrimination as well as depression and anxiety and other mental illnesses (WHO, 2001c). Persistent pain is linked with suffering and lost productivity around the world. A WHO study across 15 centers in Asia, Africa, Europe and the Americas examined the relationship between pain and well-being in over 5000 individuals. Those with persistent pain were over four times more likely to have an anxiety or depressive disorder than those without pain (Gureje et al., 1998).

Research has pointed to two main pathways through which a person’s mental and physical health and functioning mutually influence each other over time (WHO, 2001c), interacting with social and environmental influences on health. The first pathway is directly through physiological systems, such as neuroendocrine and immune functioning. The second pathway is through health behaviour. The term health behaviour covers a range of activities, such as eating sensibly, getting regular exercise and adequate sleep, avoiding smoking, engaging in safe sexual practices, wearing safety belts in vehicles and adhering to medical therapies. The physiological and
behavioural pathways are distinct yet interact with one another and the social environment: health behavior can affect physiology (for example, smoking and sedentary lifestyle decrease immune functioning) and physiological functioning can influence health behaviour (for example, tiredness leads to accidents). In an integrated and evidence-based model of health, mental health (including emotions and thought patterns) emerges as a key determinant of overall health. Anxious and depressed moods, for example, initiate a cascade of adverse changes in endocrine and immune functioning and increase susceptibility to a range of physical illnesses. For instance, stress is related to the development of the common cold (Cohen, Tyrrell & Smith, 1991) and delays wound healing (Kielcot-Glaser et al., 1999).

While many questions remain concerning the specific mechanisms of these relationships, it is clear that poor mental health plays a significant role in diminished immune functioning, the development of certain illnesses and premature death. As WHO points out: Understanding the determinants of health behaviour is particularly important because of the role that health behaviour plays in shaping overall health status. Non communicable diseases such as cardiovascular disease and cancer are strongly linked to unhealthy behaviour such as alcohol and tobacco use, poor diet and sedentary lifestyle. Health behaviour is also a prime determinant of the spread of communicable diseases such as AIDS, through unsafe sexual
practices and needle sharing. The health behaviour of an individual is highly dependent on that person’s mental health. Thus, for example, mental illness or psychological stress affects health behavior (WHO, 2001c, and p.9). In young people, depression and low self-esteem are linked with smoking, binge drinking, eating disorders and unsafe sex, putting them at risk of a range of diseases including sexually transmitted diseases such as AIDS (Patton et al., 1998; Ranrakha et al., 2000). Depression in other age groups is linked with social isolation, alcohol and drug abuse and smoking (Hemenway, Solnick & Colditz, 1993). Mood disorders can lead to an increased risk of accidents and injuries and poor physical and role function (Wells et al., 1989). Other factors such as learning through experience or observation also have an effect on health behaviour. For example, it has been established that drug use before the age of 15 years is highly associated with the development of drug and alcohol abuse in adulthood (Jaffe, 1995). Environmental influences, such as poverty or societal and cultural norms, also affect health behaviour (WHO, 2001c).

There are complex interactions between the determinants of health, behaviours and mental health at all stages of life. A body of evidence indicates that the social factors associated with mental ill-health are also associated with alcohol and drug use, crime and dropout from school. An absence of the determinants of health and the presence of noxious factors also appears to have a major role in other risk [7]
behaviours, such as unsafe sexual behaviour, road trauma and physical inactivity. For example, a lack of meaningful employment may be associated with depression and alcohol and drug use. This may in turn result in road trauma, the consequences of which are physical disability and loss of employment (Walker, Moodie & Herrman, 2004). Kleinman (1999) describes the clustering of mental and social health problems in “broken communities” in shantytowns and slums and among vulnerable and marginal migrant populations: civil violence, domestic violence, suicide, substance abuse, depression and post-traumatic disorder cluster and coalesce. He calls for a research agenda and innovative policies and programmes “that can prevent the simply enormous burden that mental illness has on the health of societies resulting from the variety of forms of social violence in our era” (Kleinman, 1999, p. 979). The corollary is the need for the development and evaluation of programmes that on the one hand control and reduce such clusters and on the other hand assist people and families to cope in these circumstances.

A life-course approach helps in understanding social variations in health and mental health. Exposure to experiences and environments accumulate throughout life, increasing the risk of adult morbidity and premature death if they are disadvantageous. Exposure to health-damaging environments during adulthood may accumulate on top of health disadvantage during childhood (Holland et al., 2000). This approach takes into account the complex ways in which biological,
economic, social and psychological factors interact in the development of health and disease. Such an approach reveals biological and social “critical periods” during which policies that will defend individuals against an accumulation of risk are particularly important. The policies of modern “welfare states” can be seen to contribute in many ways to present-day high standards of health overall in developed countries (Bartley, Blane & Montgomery, 1997). The evidence is clear: mental health is fundamentally linked to physical health outcomes. Mental health status is a key consideration in changing the health status of a community. Health and behaviour are influenced by factors at multiple levels, including biological, psychological and social. Interventions that involve only the individual, such as training in social skills or self-control, are unlikely to change long-term behaviour unless family, work and broader social factors are aligned to support a change (Institute of Medicine, 2001).

1.1.3 Self-Concept and Significant others in relation to Mental-Health

Davidson and Land (1960) found significant correlations between the self-concept of children and their perceptions of their teacher’s feelings towards them.

Dorothy Kipnis (1961) stressed the importance of friends in self-concepts. He tested students living in a dormitory and found that those who perceived their best friends to be relatively unlike
themselves tended to change their self-evaluations during the six-weeks of the study so that the differences between themselves and their friends were smaller.

According to Purkey W.W. (1970) self-concept first emerges in the context of the family as the ground child learns to view him-or herself as his or her parents view him of her. He stressed that the importance of parents for self-concepts continuous through adolescence rather than declining markedly.

1.1.4 Implications of Self-Concept in determining Mental-Health

An analysis of 104 hospitalized psychotics by Witten Born (1951) revealed that extremely high levels of self-esteem (exaggeration of ability and well being and grandiose notions of oneself) as well as extremely low levels of self-esteem (self-derogation, feeling of helplessness) were clearly factors associated with psychosis.

A group of 79 well-acquainted college students took a series of personality tests designed to measure each subjects self-concept, and a series of sociometric tests designed to yield a consensual group rating for each subject, from which the real self was inferred. According to the experiments, Calvin and Holtzman (1953), subjects who showed the best personal adjustment included those who showed
the greatest accuracy of self-perception and those who showed moderate tendencies towards self-enhancement.

In a study by Brassard (1964), normal adults took the Tennessee self-concept scale in which subjects are instructed to describe a socially desirable person, as well as oneself, in terms of 100 self-reference statements. A lack of significant difference between the two measures, indicating a tendency difference between the two measures, indicating a tendency respond in a socially desirable manner, was observed at the individual level of assessment.

Perkins and Shannon (1965) in a study on pre-adolescent boys concluded that the greater the agreement between the boys self-concept (measured obtained by self-ratings, projective drawings and multiple choice picture identification tasks) and his teacher's ratings of him, the more adequate his personal psychological adjustment.

In a study by Srivastava and Singh (1982) self-discrepancy correlated positively with Psychoticism scores in undergraduate students.

Looking to the above review of literature, it reveals that self-concept was studied and reviewed but efforts have not been made to study self-concept as a predictor of Mental-health. Further it is also noticed that self-concept with respect to mental-health has not been methodologically researched with reference to Teenagers and Adults. These aspects are very important in channelising the human resource
potential of the going blood of the country in the present era of competitiveness and materialism.

1.1.5 **Determinates Of Mental Health –**

➢ **Social Determinants of Mental Health and Mental Disorders**

The famous astronomer Carl Sagan often used the crisply enunciated phrase “billions and billions” to convey our universe’s vast macroscopic scale and the numerous celestial objects of study in astronomy. Over the course of the 20th century we have learned that this same phrase applies just as well to the vast microscopic scale of the human brain and central nervous system. With respect to mental health and mental disorders, the numbers of controlling neurons, synaptic connections and elements in pre-synaptic and post-synaptic signaling pathways readily match the numbers of the celestial objects Sagan had in mind.

Concurrent with advances in the brain sciences and neuroscience, there has been an evolution of ideas about the social determinants of mental health and mental disorders. For example, at the start of the 20th century, there was great enthusiasm for eugenics and accompanying ideas about the use of social institutions to breed humans selectively in order to cull defective germ lines and to enhance the successful adaptation of the most fit (see table 1.1).
In 1916–17, psychiatrist Aaron J Rosanoff designed and conducted a detailed house-to-house survey of the inhabitants of Nassau County, New York, in the USA. One of the focal points of inquiry was the intergenerational transmission of mental disorders. The survey aimed to identify households and families that were breeding mental disorders and associated socially maladaptive behaviour, including criminal acts. A prominent motif in Rosanoff’s introduction and description of the study is eugenics (Rosanoff, 1917).

Eugenics lost favour, however, particularly after World War II. Towards the end of the 20th century we returned to a position of widespread enthusiasm about our genetic endowment and social shaping of its expression. At present, the predominant motif is not from “eugenics” as practiced at the population level via the now-rejected modes of ethnic cleansing and selective sterilization, but that gene expression can be shaped by exogenous agents and may be affected by social experience. Some of the newest transdisciplinary bridges between genetics, neuroscience, the social sciences, psychiatry and the other mental health disciplines involve elaborations of ideas about the use of social institutions to control exposure to exogenous agents and to influence social experience in order to promote mental health and prevent and control the occurrence of mental disorders. It will be important for the lay public
and for societal leaders to grasp these ideas as they emerge and are
developed during the new decades of the 21st century. Perhaps the
most important reason for science education on these topics is that
social mobilization of resources depends more upon shared consensus
about values than on the quality of scientific evidence. The mandate
for mobilization of resources in order to prevent or control occurrence
of mental disorders or other health problems depends upon our
capacity to predict the occurrence of harm and upon our benefit–risk
analysis with respect to deployment of individual or societal resources
(Table 1.2).

**Table 1.2**

**Making decisions to mobilize resources**

The mandate for societal response and action is a function of two
values: the accuracy of our scientific predictions of whether serious
harm will occur, and an evaluation of the benefit-to-risk ratio of acting
versus not acting to prevent or control the occurrence of the serious
harm.

For example, psychiatric epidemiologists now are improving the
accuracy of our prediction of who will make repeat suicide attempts
and who will complete suicide after one or more suicide attempts (e.g.,
Chitsabesan et al., 2003). Via RCTs, investigators are refining
interventions that have clear benefit in reducing risk of completed
suicide among suicide attempters. Some of these interventions have
considerable costs (e.g., civil commitment and involuntary
hospitalization after the suicide attempt). Other apparently effective interventions are less intrusive and cost very little to deploy once we identify individuals who have made a suicide attempt but who show no immediate threat of self-harm to complete the suicidal act (e.g. Motto & Bostrom, 2001). As our prediction of serious harm increases, and as the evaluation of the benefit–risk ratio becomes more favourable, there is an increasing mandate for societal response and action to prevent and control the occurrence of the harm.

Although the accuracy of our predictions is disclosed in the evidence and is more or less objective, the benefit–risk evaluation and the choice of interventions depend upon an expression of shared consensus about values. During occasions of social response to prevent or control the occurrence of serious harm, we see manifestations of social interconnectedness between members of society and the expression of this shared consensus about values. Consider the tragic instance of a mother and father returning home from work to find their house on fire and progressively burning to the ground, surrounded by a fire brigade that is struggling to bring the fire under control. Under most circumstances, the fire brigade will restrain the parents and not allow them to enter the household – even if there is a chance that children, grandparents or other household members still are alive inside and might be rescued. Social interconnectedness between members of the society is manifest not only in the appearance of an organized fire brigade in response to the
fire, but also in the fire brigade’s actions to inhibit the parent’s expression of an intent to act individually in order to control the harm to children or others still in the burning household. For more than 150 years, social and behavioural scientists have speculated about this type of social interconnectedness, as well as other aspects of the importance of society and social institutions in the promotion of mental health and the prevention and control of mental disorders. For over a century there have been empirical investigations on these topics. A central theme in this research has been a belief that societies have an impact on human life over and above the sum of the impact of their individual members. From sociologist Emile Durkheim’s work between 1893 and 1912 we have the idea that humans together direct their own fortunes through a spirit of social collectivity and solidarity and must be studied at a level above the level of the individual (Durkheim 1895, 1897).

Durkheim described social structures and functions in organic terms, using concepts such as the “cerebrospinal system of the social organism” and the “social brain”. He discouraged the idea that suicide and suicidal acts should be understood as the behaviour of disturbed individuals and was an especially strong advocate of a social interpretation for increasing suicide rates during the 19th century. According to this interpretation, the increasing numbers and rates of suicide should be understood as a manifestation of the weakening of social solidarity and the institutions that bind the individual within
the social collective: family, religion and political states. Consistent with his belief that the social sciences should offer remedies to promote health, Durkheim pointed towards the possibility that social solidarity might be found and cultivated within the occupational groups or corporations of society that were gaining increased prominence relative to family, church and state. A century later, one of the most promising recent suicide prevention programmes has been implemented within the US Air Force. Within this programme, which is intended to reverse an upward trend in suicide rates of pilots, mental health promotion and the prevention of suicide have been made an explicit social role expectation at multiple levels within the organization – from top-rank generals down to individual pilots and peers. The suicide prevention programme not only calls for individualized intervention services for individual pilots as needed, but also calls for interventions at the level of collectives within the Air Force (e.g. at the level of divisions and battalions). The upward trend in suicide rates for Air Force pilots has been reversed in the years since first implementation of this programme (Knox et al., 2003) and there is a widely held enthusiasm for the idea that this type of multilevel intervention can be deployed effectively in other occupational groups and corporations where suicide is of special concern (e.g. within school systems and schools or within colleges and college dormitories, where suicide rates of adolescents and young adults are of special concern).
Whereas Durkheim looked towards social collectivity and solidarity as he tried to understand and illuminate the functions of social institutions and structures of an “organic” society, social scientists and epidemiologists of the late 20th and early 21st century have introduced a new vocabulary and concepts in their own efforts to prescribe remedies that might promote health. In this renaissance of thinking about social collectivity and health promotion, the concept of social capital, has been prominent. At present, social capital is in a shake-down period, with theorists and empirical researchers seeking a general consensus about how it might be transformed from a somewhat metaphysical concept and made operational without reduction to the individual level.

Notwithstanding uncertainty about whether and how social capital might be conceptualized, measured and manipulated for lasting improvements in mental health or in health generally, there have been some remarkable research advances at the interface of genetics and the behavioural and social sciences. Some of the most noteworthy recent advances have come from genetic-epidemiological studies of twins. To the surprise of many observers, most twin studies of mental health and mental disorders indicate that the heritability of these conditions is in a range from 30% to 70% or lower (100% is the theoretical maximum level of heritability when genetic influence is at peak penetrance). This indicates an influence of social and other environmental conditions and processes. Twin studies also indicate
that some of the similarities of monozygotic twins can be attributed to environmental conditions and processes that are present in utero, as disclosed in recent research comparing monozygotic twins who had different embryonic sacs during gestation (dichorionic twins) with monozygotic twins who shared the same embryonic sac (monochorionic twins) (Jacobs et al., 2001). As such, the twin studies are teaching us that there is ample room to promote mental health and to prevent and control the occurrence of mental disorders once we develop more definitive evidence about these influential social environmental conditions and processes.

Laboratory experiments with non-human primates also have been illuminating the social determinants of mental health and the occurrence of mental disorders. The theoretical advances and evidence from these experiments have started to guide more probing research with humans in social environments (e.g. Caspi et al., 2003) and opened up some new lines of public health research to find out whether these discoveries can be applied in human mental health promotion and prevention activities.

In consideration of the above, this chapter on social determinants of mental health and mental morbidity has three themes. The first of these concerns social mobilization of resources to prevent, reduce and ameliorate the suffering associated with departures from mental health and to promote mental health. The second concerns the uncertainty of presently available evidence on social determinants of
mental health and mental morbidity. The third theme involves next steps in research on this front, especially the bridging across scientific disciplines that can shed light on the uncertainties we see at present.

➢ **Social mobilization of resources to prevent, reduce and ameliorate suffering**

As implied by the introduction, an immediate challenge for the public at large and society’s leaders is to create or refine the social structures and processes we use to evaluate the available evidence and to mobilize resources that can prevent, reduce or ameliorate the suffering associated with departures from mental health and to promote mental health (Jenkins, 2001). Some critics of the available evidence may assert that we first need more research because we do not yet have enough knowledge about the social determinants of mental health to be able to do anything along these lines (e.g. Thisted, 2003). Psychiatrist and epidemiologist Benjamin Pasamanick was quick to contradict such critics. His reply was this: “Why do you want to do more research? We have not yet begun to apply what we already know about the prevention of mental disorders and the promotion of mental health!”

Pasamanick’s remark was one that placed social mobilization of resources within the domain of social determinants of mental health, consistent with more general perspectives about collective “mental hygiene” activities in the community (Lemkau, 1949; Table 10.3).
Table 1.3

A mental hygiene approach

Public health has developed until its field includes all ill-health in the population so severe or so widespread that management at other than governmental level is economically and sociologically unsound or impossible. Mental hygiene has grown so that its aims include the prevention of mental illness by a contribution to the mental health of the population and by the prevention of major illnesses through the early treatment of cases.

It has developed techniques that can be the basis for public health programmes. The opportunity for development of programmes would appear to be open, though there remains much experimental work to be done, both on the mental hygiene techniques offered and in their administration. Some experiments already are underway, and more are being undertaken constantly. It is important to keep in mind, however, that all programmes are experimental, techniques being tried out to see how they will work and what contribution they can make to the improvement of the health of the public (Lemkau, 1949, p. 14).

According to this perspective, new discoveries and increasingly definitive evidence about the determinants of mental health are of limited value unless there are social structures and processes to put the new discoveries and evidence into action. It follows that the first mental health promotion priority is to ensure that social structures and processes are in place for evaluation of available evidence and for
social mobilization of resources once the predicted probability of serious harm and the evaluation of benefits and risks intersect to create a mandate for collective action. In the face of uncertainty, WHO and the public health authorities of individual nations (for example, the Medical Research Council in the UK and the National Institutes of Health in the USA) can create consensus conferences to weigh the evidence, evaluate the benefit–risk ratios for each intervention and issue prescriptions for choosing among interventions in the face of uncertainty.

On this basis, there is a general recommendation for collective intervention actions and social mobilization of resources in relation to activities such as: prevention of mental retardation and developmental disabilities secondary to iodine deficiencies via iodinization of dietary sodium chloride (salt); vitamin A supplementation to ensure that newborn infants will not face increased risks of premature mortality, blindness and associated mental impairments and deficiencies; neonatal screening for phenylketonuria (PKU) and subsequent phenylalanine adjustments and changes in dietary practices whenever the PKU defect is identified; and programmes to encourage childbearing during the first 35 years of a woman’s life, prior to the later years when there is increased risk of chromosomal anomalies such as a trisomy (e.g. Down Syndrome of trisomy 21).

Adolescence, young adulthood, middle years and later life. It is well known also that the organization and timely delivery of treatment
interventions to control and ameliorate the suffering of people affected by mental disorders can yield a lasting benefit in terms of promotion of mental health of these affected cases and can help prevent associated serious secondary harms and disabling conditions. The ultimate social determinant of mental health involves social mobilization of resources to evaluate evidence on these interventions as it is developed and refined and to apply interventions based on the evidence.

➢ **Uncertainty of presently available evidence**

As the 20th century ended, there was an increasingly acidic critique of risk factor epidemiology, by which is meant a selectively narrow research focus on individual level characteristics and behaviours that signal increased risk of mental disorders or general medical conditions (e.g. Susser & Susser, 1996). There developed a considerable pessimism about how little was being gained when prevention programmes were focused upon individual level behavioural change (e.g. Syme, 2003). This type of critique was not new: it was voiced more than 25 years ago by Claus Bahne Bahnson and others: In the past, psychosocial researchers often have introduced sociological data only for control purposes, rather than including them in an open system matrix which allows for multilevel integration of all relevant material [emphasis added]. It is hoped that, in the future, more of us will be involved in research designs which accommodate multidimensional theoretical models, brushing aside old controversies
about the greater or lesser significance of given process levels (e.g., physiological, sociological) and integrating these several levels in a larger matrix expressing the total process (Bahnson, 1974, p. 1038).

To the extent that disturbances in mental health such as suicide-related behaviour may be regarded as social phenomena, the critique is more than a century old: “Every time that a social phenomenon is directly explained by an [individual level] psychic phenomenon, one may be sure that the explanation is false” (Durkheim, 1895, p.129).

Social capital is one of the most prominent concepts invoked to reframe previously individualized lines of research on the social determinants of health generally and mental health in particular. Public policy analyst Robert Putnam of Harvard University is widely credited for stimulating a renaissance of interest in the social capital concept (Putnam, 1995, 2000), by which he means “the connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them” (p. 19). Extending beyond the tools and training that enhance individual productivity (“physical capital” and “human capital”), this type of social capital “refers to features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit” (Putnam, 1995, p. 67). A “bonding” form of social capital can be created when groups of similar people get together and create and sustain the social solidarity of the group, with social solidity defined much as Durkheim envisioned it in 19th century sociology. A
separable “bridging” form of social capital arises when there are between-group ties between dissimilar people (that is, bridges between people who do not belong to the same social groups). Putnam asserts that social capital is manifest at the level of nations in the levels of social trust and the degree of civic engagement. Here, social trust is measured by surveying neighborhood residents with questionnaire or interview items such as true/false evaluation of the statement, “most people can be trusted”. Civic engagement is also measured by survey responses, with items about regency of attendance at a “public meeting on town or school affairs”. According to this metric, social trust and civic engagement in the USA have declined markedly over the past several decades. Based upon results from the 35 countries surveyed in the 1991 World Values Survey, the social capital values of South Korea, Belgium, Estonia and the USA are roughly equivalent; Chile, Portugal and Slovenia have lower social capital values (Putnam, 1995).

Concurrent with the evolution of the concept of social capital and its importance for general health and the promotion of mental health, a concept of “natural capital” has emerged as part of the discussion of sustainable development. Elaborated in Our Common Future, the Brundtland Commission oriented itself to sustainable development that meets present needs without jeopardizing the future needs of humankind. In this sense, sustainable development uses bonding social capital as it exists in the “here and now” in order to create
bridging social capital that might link the present generation with future generations. In this context, the notion of natural capital can be extended to encompass social ties that will sustain transgenerational availability of fresh water, clean air, forests and other natural resources (Fenech et al., 2003).

Sampson (2003) has introduced the concept of “collective efficacy” into the discussion of social determinants of general medical conditions, mental health and behavioural acts, with a focus on violent events such as suicides and homicides. He conceptualizes and measures collective efficacy as a characteristic of neighbourhoods and social groups. He has measured neighbourhood levels of collective efficacy in various ways, including surveys of neighbours about a social control aspect and a separate social cohesion and trust aspect. The social control aspect is measured by asking whether neighbours would take action in response to specified stimulus conditions: if local children were observed spray-painting graffiti on a building, if the local fire station were to be closed due to budget cuts or if a fight broke out in front of the neighbour’s home. The cohesion and trust dimension is measured by asking whether neighbours trust one another, have shared values and are willing to help one another. Aggregated across individuals within each neighbourhood, Sampson found the level of collective efficacy to be associated not only with occurrence of recent and past violent events but also with future occurrences of these events, even with statistical control for the past level of violence. This
statistical control is important: without control, the prior violence might be the cause of low levels of collective efficacy rather than vice versa (Sampson, 2003).

Buoyed by supportive theory and empirical research results such as these, Sampson and others have raised the idea that it might be possible to prevent violence and violent events via community level efforts to change social environments. Shonkoff and Phillips (2000), Singer and Ryff (2001) and Kawachi and Berkman (2000), among others, have advanced the idea that there is much to be gained in the promotion of health, mental health and well-being by social mobilization of resources to increase social capital and related community level characteristics such as collective efficacy (see Table 1.4).

| Table 1.4 |
| Changing places and social environments rather than people: optimism about Promotion and prevention |

Traditional thinking about health and disease has emphasized behavioural change among individuals as a means to reduce disease risk: for example, smoking interventions that have targeted smokers have included hypnosis, smoking cessation programmes and nicotine patches.

Environmental approaches look instead to macro level factors such as taxation policies, regulation of smoking in public places and restriction of advertising in places frequented by adolescents.
In sum, community level efforts to change places and social environments rather than people may yield pay-offs that complement the traditional individual and disease-specific approaches typical of the National Institutes of Health. A recent report of the National Academy of Sciences recommends exactly this sort of community level augmentation (Singer & Ryff, 2001). Basic research in science also appears to be moving in a direction that integrates the rigorous study of community contexts with individual development (Shonkoff & Phillips, 2000). Such integrated study of health in the neighbourhood context promises a greater pay-off than the conceptual separation that has dominated past thinking on research and intervention. Source: Sampson, 2003, p. S62.

In counterbalance, some observers judge the available evidence as premature and uncertain (e.g. Henderson & Whiteford, 2003). To some extent, the evaluation of uncertainty is based upon still unresolved questions about conceptualization and measurement of community level concepts such as social capital, with special concern when the measurement is based upon the neighbourhood residents’ self-reports about community characteristics and well-being. To some extent, these uncertainties can be removed in the future by not resorting to such reports. For example, MacIntyre and Ellaway (2000) have described a programme of research in the west of Scotland that has a focus on five features of local areas that might be health promoting or health damaging and that can be measured without relying on self-
reports. Information is collected on physical features shared by all residents in the locality, such as quality of air and water, latitude and climate; availability of health environments at home, work and play, including whether decent housing, safe playgrounds and non-hazardous work environments are available; availability of community services such as education, transport, street cleaning and policing; sociocultural aspects of the community, such as the occurrence of uncivil behaviour and being a victim of a crime; and each area’s reputation as perceived by banks, investors, area planners and service providers who are not residents of the area. As noted by MacIntyre and Ellaway (2000, p. 343):

These [five] categories are not mutually exclusive and may well interact with one another, and their health effects may vary by people’s personal resources. More broadly, we conceptualize features such as these as opportunity structures, that is, socially constructed and socially patterned features of the physical and social environment which may promote or damage health either directly or indirectly through the possibilities they provide for people to live healthy lives.

The MacIntyre-Ellaway conceptualization represents the union of the concepts of social capital and natural capital as applied to local areas and communities, in that the natural resources such as fresh air and clean water are joined with the bonding and bridging forms of social capital outlined earlier. When there is reliance upon self-report methods to measure both the social determinants and the responses
in terms of well-being or mental health, one may expect some degree of association in the resulting evidence. The situation is made even more complex in the context of longitudinal or other over-time studies. This is due to the impact of in-migration and out-migration patterns that can change the character of the neighbourhood and the observed linkages between prior social capital levels and subsequent occurrence of mentally healthy behaviour or rates of mental disorders. For example, a neighbourhood with declining social capital values might have subsequently higher levels of mental health disturbances, not because the declining social capital has caused decrements in mental health, but because the mentally healthier community residents have moved out to neighbourhoods with stable or increasing social capital values. In some sense, this selective out-migration actually would be an instance of social capital levels influencing later levels of mental health, but it is not clear that a quick infusion of social capital would alter trajectories of selective out-migration from the declining area. Instability in the social capital levels and the residents’ uncertainty about future social capital levels in the neighbourhood might prove to be more powerful determinants of selective out-migration.

Indeed, there are many open questions about how to build social capital to promote mental health and to prevent and control the occurrence of mental disorders. To answer these questions, it is necessary to acknowledge the existing uncertainties in the evidence
about the social determinants of mental health and to make deliberate investments in research that can constrain the uncertainties and yield more definitive evidence than presently exists.

➤ **Family Environment affects mental health** *(Michael Rutter; 2005)*

For many years there was an assumption that the extensive documentation of statistical associations between risky environments and mental disorders necessarily represented the operation of environmentally mediated causal mechanisms. Three considerations challenged that assumption. First, psychosocial researchers recognized the need to differentiate between risk indicators (features that indexed risks but did not themselves provide the risk) and risk mediators (features involved in the actual risk processes leading to mental disorders). Thus, in the 1970s it became apparent that the main risk for antisocial behaviour associated with ‘broken homes’ was a function of family discord and conflict, rather than family break-up as such. Similarly, in the 1980s it was shown that the risks of depressive disorders in adult life were a function of impaired parenting, rather than parental loss. As part of this same issue, it came to be appreciated that distal risks needed to be differentiated from proximal risks. Thus, poverty constituted a distal risk for child mental disorder because it made good parenting more difficult, but the proximal risk mediator involved family malfunction rather than lack of economic resources.
Second, Bell (1968) emphasized that children had effects on their parents, just as parents had effects on their children. The association between family features and child disorder could not simply be assumed to reflect adverse socialization practices; instead it might derive from the effects of a difficult child on family functioning. Longitudinal data were essential to determine the direction of the causal arrow. Third, twin and adoptee studies showed that, even though risks were due to an environmental feature, the risks might nevertheless be genetically mediated in part (Plomin & Bergeman, 1991) – because, if the environmental feature concerned anything that was influenced by parental behaviour (as would be the case with variables such as family conflict, divorce or parent–child interaction), individual differences in such behaviour were likely to be genetically influenced to some extent. Study designs were needed that could differentiate between genetic and environmental mediation. Twin and adoptee strategies of various kinds provide just that possibility, and they have produced good evidence of the reality and importance of environmentally mediated risks for psychological and psychopathological outcomes (Rutter, 2004a). However, they are by no means the only relevant designs; psychosocial researchers have also pioneered the use of ‘natural experiments’ of diverse kinds, their common feature being that they involved a radical change of environment, and a pulling apart of variables that ordinarily go together, the effects of which could be studied by measuring within-individual change investigated through the use of longitudinal data.
By these means, environmentally mediated risks have been demonstrated for various aspects of the family rearing environment, and also for peer group, school and community influences.

Four features of the research findings need to be particularly highlighted. First, despite some claims to the contrary, environmental influences have been found to operate within the normal range, and not just in relation to extreme environments (although, for obvious reasons, the effects of the latter are greater). Second, environmental effects have been shown not only for influences in infancy, but also for influences in middle childhood (Duyme et al, 1999) and even in adult life (Laub et al, 1998). Third, the environmentally mediated risks include prenatal influences (such as maternal drug and alcohol use and severe maternal stress) and postnatal physical influences (such as brain injury and adolescents’ heavy early use of cannabis). The span of risk influences is substantially wider than has sometimes been assumed. Fourth, with all known environmental hazards (both physical and psychosocial) there is a huge individual variation in response (Rutter, 2004b): some individuals succumb; some appear remarkably resilient; and a few even seem strengthened as a result of having coped successfully with stress and adversity. It might be supposed that the individual differences merely reflect variations in the severity and number of risks involved, but experimental studies in both animals and humans have shown that this does not account for the phenomenon of resilience (despite the fact that some studies were
flawed by a failure to assess the severity of risk satisfactorily, and/or by a failure to examine an adequate range of outcomes). The features underlying the individual differences include strengthening (or weakening) experiences prior to risk exposure, protective influences operating at the time of risk exposure, and recuperative positive turning-point experiences subsequent to the experience of risk. However, a key influence that has been highlighted by recent research (see Rutter, 2004a) is genetically influenced vulnerability to (or protection against) environmental risk.

**Shared and non-shared effects**

Plomin & Daniels (1987) argued that environmental differences among families were of little consequence and that attention needed to be focused on child-specific environmental influences, because environments tended to make children in the same family different. The paper was helpful in its emphasis on the need to measure putative psychosocial influences as they actually impinge on individuals (reiterating a message from psychosocial researchers over 20 years earlier who developed the person-specific measure of negative expressed emotion). However, the distinction between shared and non-shared environmental effects, which was central to the paper, has held back progress because of the ways in which it was interpreted. Many reviewers (both geneticists and others) have supposed that the findings meant that family-wide influences had little effect on either psychological development or risk of
psychopathological disorder. In fact, the research shows nothing of the kind. The shared v. non-shared distinction has nothing to do with whether the influences are or are not family-wide, and indeed has nothing to do with whether the influences are within or outside the family. The distinction is solely concerned with whether the environmental influences tend to make siblings similar or different. Child-specific experiences within the family (such as abuse or parental negativity) may nevertheless have a largely shared effect if the experiences of the siblings are sufficiently similar; see Pike et al (1996) for an example. The same would apply to peer group experiences if they were similar for different siblings. Conversely, family-wide influences (such as poverty, conflict or neglect) might have largely non-shared effects if the key features impinge on the children to differing degrees or in varying ways, or if the children vary in their vulnerability to risk environments. It is also pertinent that the relative importance of shared and non-shared effects varies according to type of psychopathology – so that shared effects are more important in relation to antisocial behaviour than to depression. The message to researchers is to measure environmental influences in individual-specific ways but not to assume that this means that overall family influences are unimportant. Similarly, the message to clinicians is to consider how risky environments actually impinge on, and affect, individual children (or adults), but not to assume that family-wide risks do not matter.
A somewhat related issue concerns the distinction between environmental effects on the level of a trait, or the frequency of a disorder, rather than on individual differences with respect to that trait or disorder. Thus, over the past half-century there has been a substantial rise in the rate of many types of mental disorder in young people (Collishaw et al, 2004). The causes of the rise remain ill-understood but the environmental factors involved urgently require investigation. The same applies to the higher rate of schizophrenia in individuals of Caribbean origin compared with ethnically similar individuals living in the West Indies or with White people living in the UK (Jones & Fung, 2005). Some sort of society-wide influence seems to be implicated, but it has yet to be identified.

1.1.6 Research challenges still to be met

The main challenges are three. First, there is a need for a better understanding of the kinds of environmental influences that have major risk effects. The evidence so far suggests that these include restrictions on the possibility of developing intense selective social relationships (as with institutional rearing), severe disruptions in the security of such relationships (as with neglect, rejection and scapegoating), life events that carry a long-term threat to such relationships (as with humiliating experiences, personal rebuffs or rejections), and social ethos or group influences of a maladaptive kind (as with antisocial peer groups or malfunctioning schools). Also, however, the
overall quality of adult–child interaction and communication has been shown to matter. In addition, it is evident that both prenatal and postnatal influences that affect neuroendocrine and neurotransmitter functions are important.

The second challenge is to identify the origins of environmental risk factors, whether they lie in gene–environment correlations (so that genetic factors have their impact on behaviours that shape or select environments and, thereby, influence the likelihood of experiencing stress or adversity), societal elements (such as racial discrimination, poverty or housing policy) or personal experiences.

The third challenge is to determine the changes in the organism that provide the basis for the persistence of environmental effects on psychological functioning or psychopathology. In many respects, this constitutes the environmental equivalent of sequencing the human genome (i.e. the basic need). There is a major Canadian initiative on this topic (the Canadian Institute for Advanced Research consortium on ‘Experienced-based brain and biological development’), but regrettably the UK is lagging behind. Several different types of mediation need to be considered. Exciting findings from Michael Meaney’s research group have shown that environmental influences affect gene expression through influences on methylation (Weaver et al, 2004); in other words, environments affect genes – not through effects on gene sequence but through effects on gene expression (which is how genes act). Environments also affect the programming of
brain development (Rutter, 2004c); this was shown first with respect to vision (leading to a Nobel prize for Hubel and Wiesel), but it is now clear that it applies more widely. Furthermore, environments affect neuroendocrine structure and functioning and, through such effects, may influence brain development. Experiences may affect patterns of interpersonal interaction that become influential through their role in the shaping of later environments; in addition, experiences have to undergo cognitive and affective processing, so that what happens to individuals influences their mental concepts and models of themselves and of their environments. The relative importance of these, and other, possibilities with respect to different outcomes has yet to be established. The questions are answerable, and require the bringing together of genetic, social and developmental perspectives in an integrated fashion. If this is to happen, funding agencies will need to take on the challenge of supporting research that can tackle these questions. Meanwhile, the message to clinicians is to consider the important interplay that shapes environmental effects.

1.1.7 Genes, Environment, and Mental Health Wellness

by Ming T. Tsuang, (2000)

In this issue, Kendler and colleagues raise an intriguing question: How do genes and environment contribute to the mental health? This is a creative research strategy that has seen little use in psychiatric genetics, which traditionally has focused on specific mental illnesses
and their concomitant neurobiological and behavioral features (1999). We know from past psychiatric genetic studies that the etiology of most psychiatric disorders is complex, requiring the action and, perhaps, interaction of many genes and environmental risk factors. In contrast to the many genetic studies of psychiatric disorders, little is known about the inheritance of mental health wellness.

We can, of course, assume that mental health wellness is fostered by the absence of the genes that cause specific disorders. But Kendler et al. reach further than this. They seek to know whether there are genes and environmental risk factors that might be considered health inducing. The discovery of health-inducing genes or environments would be a major contribution to the empirical and theoretical foundations of psychiatry. Indeed, it could motivate a paradigm shift by which studies of wellness become as important as studies of illness.

To understand the implications of the study by Kendler et al., we must first consider how they defined wellness, the phenotype used in their genetic analyses. Recognizing the complexity of this construct, these authors included measures in several domains: self-perceived physical health, nonconflictual interpersonal relationships, social support, self-esteem, low levels of anxiety and depression, and low levels of substance use. The authors acknowledge that this is a limited sampling of the wellness construct. So future work should examine
other features of wellness, such as quality of life and occupational functioning.

The genetic modeling analyses partitioned the causes of mental health into genetic, shared environmental and individual-specific environmental influences. Each of these three factors contributed equally to low substance use, but individual-specific influences were the most important factors for the other measures of wellness. There was a smaller, yet significant role for genes and the shared family environment. What does this mean?

The individual-specific environment comprises factors that differentially influence siblings in the same family. For example, one sibling may be exposed to drugs through peers, whereas another may not. The twin study contrasts these with shared environmental influences—those that are shared by siblings. For example, if both siblings are exposed to a drug-abusing parent, drug exposure is a shared environmental factor. One weakness of the twin method is that, although it shows us that broadly defined features of the environment influence wellness, it cannot tell us exactly what these features are. Another obstacle to interpretation is that errors of measurement will inflate the apparent effect of the individual-specific environment. Nevertheless, it is worthwhile to speculate as to what aspects of the individual-specific and shared environments might be targeted for further study.
Information about relevant features of the individual-specific environment can be gleaned from research in child psychopathology that has attempted to define factors that protect children from illness (Garmezy N 1984). This work has led to the concept of "resilience" or "invulnerability," which applies to children who become reasonably well-adjusted adults despite being exposed to risk factors for mental illness (el-Guebaly N, Offord DR 1980).

Resilience is a multidimensional construct, including constitutional strengths in domains such as temperament and personality along with specific skills and abilities that help people cope with the stresses and constitutional vulnerabilities that lead to psychopathology in less resilient peers (Dyer JG, McGuinness TM1996). Garmezy’s studies of stress-resistant children (Garmezy N 1984) provide a view of some features of resilience. Resilient children are autonomous, have high self-esteem, and get along well with others. Their families are cohesive and free from frequent conflicts among family members. Resilient children also have access to social support both within and outside the family that helps them cope with stress.

Although the constructs of resilience and wellness both apply to mentally healthy people, they differ in one important respect. Wellness is purely descriptive. It assesses a person’s absolute level of healthy functioning without regard to either the person’s constitutional vulnerability to mental illness or his or her exposure to environmental risk factors. In contrast, by definition, resilience refers to the
achievement of healthy levels of functioning despite the presence of constitutional or environmental risk factors (Rutter M 1990). For example, a well-adjusted person who has mentally ill parents or has been exposed to poverty and family conflict can be described as resilient. But the term "resilience" does not apply to a well-adjusted person who has not been exposed to risk factors. In the latter case, the resilience of the person is unknown.

Thus, Kendler et al. did not study resilience, because they did not assess wellness in the context of exposure to risk factors. Nevertheless, by definition, all resilient people are mentally healthy, so we can infer that some of the mentally healthy subjects of Kendler et al. must also be resilient. It is therefore possible that the mechanisms that mediate resilience might be candidates for the three causal domains assessed by the twin methodology. It is also possible that genetic studies of resilience would implicate a mix of genes, shared environment, and individual-specific environment different from the one Kendler et al. implicate for wellness.

Because genes also appear to influence wellness, we must consider whether the findings of Kendler et al. suggest that searching for mental health genes might be a useful endeavor for psychiatric genetics. From table 3 in the article by Kendler et al. we see that the influence of genes on wellness is relatively low (ranging from 0.16 to 0.49 on a scale of 0 to 1) compared to the known influence of genes on most psychiatric disorders (which often exceeds 0.70 | Tsuang MT,
Stone WS, Faraone SV (1998). The relatively low level of genetic influence on wellness suggests that finding genes for mental health will be difficult.

Yet, despite this cautionary note, there is already one report of a potential chromosomal locus for mental health. Ginns et al. (1998) conducted a genetic linkage study to identify genes that prevented or reduced the risk of bipolar disorder in multigenerational families having many affected members. They defined mental health wellness as the absence of any psychiatric disorder and found strong evidence for its linkage to a locus on chromosome 4p and suggestive evidence for linkage to a locus on chromosome 4q. Their findings support the idea that certain genes may prevent the clinical expression of bipolar disorder.

Studies of the forces that mold wellness and resilience will have substantial clinical implications. Most important, they will provide new directions for efforts to develop preventive interventions. Future studies of wellness should use a broader range of highly reliable measures. High reliability, or the use of repeated measures, will help disentangle apparent effects of the individual-specific environment from measurement error. Future work also needs to determine whether the findings of Kendler et al. in women will generalize to men.

Studies of shared and unique environmental factors can identify features of the environment that can be manipulated to promote
wellness. Molecular genetic studies may eventually discover biological reasons why some people remain mentally healthy in the face of adversity. If so, that could lead to pharmacologic strategies to protect children at risk from mental illness.

Over the past two decades there has been an increasing belief that the experience of stress has undesirable consequences for health. It has become a common assumption, if not a ‘cultural truism’ (Leventhal and Tomarken, 1987), that it is associated with the impairment of health. Despite, this, the evidence is otherwise: the experience of stress per se does not necessarily have pathological squeal. Many of a adolescents responses both psychological and physiological, to such an experience, are comfortably within the body’s normal homeostatic limits and, although taxing the psycho physiological mechanism involved, need not cause any lasting disturbance or damage. However, it is also obvious that the negative emotional experiences that are associated with the experience of stress detract both from the general quality of life and form the adolescent’s sense of well-being. Thus, the experience of stress, while necessarily reducing the sense of well-being, does not inevitably contribute to the development of physical disorder for most people. For some, however, the experience does influence pathogenesis. That influence will not only be part of a wider etiological process, involving a variety of factors and processes, but will also be part of a two-way interaction between the experience of stress and the state of the adolescent’s health. Stress may affect
health but, at the same time, a state of ill health can both act as a significant source of stress and also sensitize the adolescents to other sources of stress by reducing their ability to cope.

1.2 STRESS:

Previously stress was used to known as “nerves”. Later it was referred to as anxiety. These days everyone calls it “stress”. The international labour Organisation (ILO) has reported that the executive stress is one of the most serious occupational hazards of the 21st century. Hans Selye first introduced the concept of stress in the life sciences in 1936. Wolff (1968), describes stress as an inherent character of life. Since stress is a dynamic state within an organism in response to a demand for adoption, living creatures are constantly in a state of more or less stress. Lazarus (1971) went on to explain stress is a broad class of problems or demands which tax the system (physiological, social, and psychological systems) and the response of that system. As per Parkes (1971), stress can be viewed as a stimulus to growth and achievement to new balance. Selye (1956) define stress by two approaches:

- **Stimulus – oriented**: This perceives stress as threatening and any external Event or internal drive, which threatens to upset, organism equilibrium is “stress”.

- **Response – oriented**: As a response, it has been defined as a non-specific response to a situation which demands that the individual...
adapt to the change physically or psychologically. Slyer featured four different types of stress in Stress research: Issues for the eighties. Easters accompanies the exciting things in life. Understress accompanies freedom from boredom, hopelessness, physical immobility. Overstress makes one to push oneself beyond limits and has a negative effect. Distress is the obvious: unresolved frustration, fear, anger and anxiety.

The definition of stress is not simply a question of semantics and it is important that there is agreement, at least in broad terms, on the nature of the concept. A lack of any such agreement would seriously hamper research into stress and the subsequent development of effective management strategies. Given this, it is an unfortunate but popular misconception that a little consensus on the definition of stress as a scientific concept or, worse, that stress is in some way indefinable and immeasurable. Such a belief belies a lack of knowledge of the relevant literature.

It has been concluded in several reviews of the literature that there are essentially three definition, but overlapping, approaches to the on and study of stress (Lazarus, 1966; Appley and Trumbull, 1967; Cox 1978, 1990; Cox and Mackay, 1981; Fletcher, 1988). The first approach conceptualizes stress as an aversive or noxious characteristic of the environment and, in related studies, treats as an independent variable-the environmental cause of ill health. This approach has been termed the ‘engineering model’. The second
approach, on the other hand, defines in terms of the common physiological of a wide range of aversive or noxious stimuli. It treats stress as a dependent variable, particular physiological response to a threatening or damaging environment. This approach has been termed the ‘medico-physiological model’. The third approach conceptualizes stress in terms of the dynamic interaction between the adolescents and their environment.

- The engineering approaches has treated stress as a stimulus characteristics of the adolescent’s environment, usually conceived in terms of the load or level of demand placed on the individual, or as some aversive or noxious element of that environment (Cox and Mackay, 1981; Fletcher, 1988).

- The medico-physiological approach to the definition and study of stress received its initial impetus from the work of Selye (1950, 1956). He defined stress as ‘a state manifested by a specific syndrome which consist of all the nonspecific changes within the biologic system’ that occur when challenged by aversive or noxious stimuli. Stress is treated as a generalized and non-specific physiological response syndrome.Selye (1950) also argued that the wear and tear on the body caused by the stress response can significantly contribute the physical pathology. This was true where the response was frequent, of long duration or severe. The diseases that had such a stress-related etiology, Selye termed
'diseases of adaptations’. This seemingly paradoxical situation arose because the stress response had evolved as adaptive in the short term, increasing the animal’s (or person’s) ability to respond actively to an aversive or noxious environment. However, in the long term it could contribute to the disease process.

- The third approach to the definition and study of stress generally conceptualizes it in terms of the dynamic interaction between the adolescent’s and their environment. When studied, stress is either inferred from the existence of difficult adolescent environment interaction or measured in terms of the cognitive and emotional processes that underpin those interactions. This approach has been termed the ‘psychological model’. Variants of this psychological model dominate contemporary stress theory, and among them two distinct types can be identified the interactional and the transactional. The former focuses on the structural features of the adolescent’s interaction with their environment, where as the later is more concerned with the psychological processes underpinning that interaction. Transactional models are primarily concerned with cognitive appraisal and coping. In a sense they represent development of interactional models, and offer little which is not consistent with such model. Transactional theories owe much to the work of Lazarus (1966) and his notion of cognitive appraisal.
1.2.1 General Adoption Syndrome (GAS)

Slyer (1936) coined the term “stress syndrome” and showed that it is fundamental to virtually all higher animals. The stress phenomena was accepted and explained as three-stage general adoption syndrome (GAS) when an individual is confronted with threat, he undergoes three types of reaction these are:

✓ **Alarm reaction:** It is a shock phase during which the defence mechanism of an individual becomes active. This stage is characterized by autonomous excitability; adrenaline discharge; increased heart rate, muscle tone, blood content and gastrointestinal ulceration.

✓ **Stage of resistance:** Maximum adoption occurs during this stage. When the bodily reactions experienced during the alarm stage disappear. But if the stressor persists, then the individual moves to the next stage.

✓ **Stage of Exhaustion:** After the reactions of the alarm stage disappear and the adaptation energy gets exhausted, the organism collapses.

1.2.2 Causes of Stress

Stress is caused by various factors - not all of which are work-related of course, (which incidentally doesn't reduce the employer's obligation
to protect against the causes of stress at work). Causes of stress - known as stressors - are in two categories: external stressors and internal stressors.

- **External stressors** - physical conditions such as heat or cold, stressful psychological environments such as working conditions and abusive relationships, eg., bullying.

- **Internal stressors** - physical ailments such as infection or inflammation, or psychological problems such as worrying about something.

Internal factors have more of a moderating influence or effect on stress. These factors are:

- **Personality**: Personality traits such as authoritarianism, rigidity, masculinity, Felinity, extroversion, supportiveness, spontaneity, emotionality, tolerance of ambiguity, anxiety and need for achievement have been uncovered by research as being particularly relevant to the individual stress (brief, 1981).

- **Anxiety state and anxiety trait**: Sushiate (1986) found a significant correlation between stress and anxiety state and anxiety trait.

- **Need for achievement**: Srivastava and Sehgal (1984), Mohan Chauhan (1999), Hauhan and Chauhan (2001), all studied effect of employees and achievement on their perception of occupational
stress and inferred that high need for achievement acts as a resource in influencing the cognitive appraisal of stress, thus moderating their effectiveness.

- **Ego strength and job involvement**: Srivastava and Sinha (1983) concluded that perceived role stress is a function of ego strength and job involvement. The ego strength enables one to cope effectively with excessive demands and conflicting expectations.

- **Values, goals and priorities**: Autunovsky (1974) has identified commitment to self i.e. an ability to recognize one’s distinctive values, goals and priorities and an appreciation of one’s own capacity to have purpose and to make decisions as a generalised resistance resource against the impact of stress.

- **Self–Esteem**: it is defined as the favour ability of individuals characteristics self evaluations. Kinicki and Latack (1990) showed that individuals with low- esteem tend to use more passive forms of coping than their counterparts with high self-esteem. Similar study was taken by pierce et. al (1993).

- **Locus of control**: Mohan, Chauhan and Chauhan (2000) found a negative correlation between external locus of control and stress and positive correlation between external locus of controls and stress.
✓ **Career development**: It is the potential stressor for the top employees. for them career progression is of great significance because it is accompanied by not only increase in salary structure but also elevation to positions of higher responsibility and authority at the same time; offering scope for taking up challenging task.

From the above, it is easy to see that work can be a source of both external and internal stressors. Stressors are also described as either short-term (acute) or long-term (chronic):

- **Short-term 'acute' stress** is the reaction to immediate threat, also known as the fight or flight response. This is when the primitive part of the brain and certain chemicals within the brain cause a reaction to potentially harmful stressors or warnings (just as if preparing the body to run away or defend itself), such as noise, over-crowding, danger, bullying or harassment, or even an imagined or recalled threatening experience. When the threat subsides the body returns to normal, which is called the 'relaxation response'. (NB The relaxation response among people varies; ie., people recover from acute stress at different rates.)

- **Long-term 'chronic' stressors** are those pressures which are ongoing and continuous, when the urge to fight or flight has been suppressed. Examples of chronic stressors include: ongoing
pressurised work, ongoing relationship problems, isolation, and persistent financial worries.

The working environment can generate both acute and chronic stressors, but is more likely to be a source of chronic stressors.

1.2.3 Stress effects on health and performance

Stress is proven beyond doubt to make people ill, and evidence is increasing as to number of ailments and diseases caused by stress. Stress is now known to contribute to heart disease; it causes hypertension and high blood pressure, and impairs the immune system. Stress is also linked to strokes, IBS (irritable bowel syndrome), ulcers, diabetes, muscle and joint pain, miscarriage during pregnancy, allergies, alopecia and even premature tooth loss.

Various US studies have demonstrated that removing stress improves specific aspects of health: stress management was shown to be capable of reducing the risk of heart attack by up to 75% in people with heart disease; stress management techniques, along with methods for coping with anger, contributed to a reduction of high blood pressure, and; for chronic tension headache sufferers it was found that stress management techniques increased the effectiveness of prescribed drugs, and after six months actually equalled the effectiveness of anti-depressants. The clear implication for these ailments is that stress makes them worse.
Stress significantly reduces brain functions such as memory, concentration, and learning, all of which are central to effective performance at work. Certain tests have shown up to 50% loss of performance in cognitive tests performed by stress sufferers. Some health effects caused by stress are reversible and the body and mind reverts to normal when the stress is relieved. Other health effects caused by stress are so serious that they are irreversible, and at worse are terminal.

Stress is said by some to be a good thing, for themselves or others, that it promotes excitement and positive feelings. If these are the effects then it’s not stress as defined here. It’s the excitement and stimulus derived (by one who wants these feelings and can handle them) from working hard in a controlled and manageable way towards an achievable and realistic aim, which for sure can be very exciting, but it isn’t stress. Stress is bad for people and organisations, it’s a threat and a health risk, and it needs to be recognised and dealt with, not dismissed as something good, or welcomed as a badge of machismo - you might as well stick pins in your eyes.

### 1.2.4 Factors influencing the effects of stress and stress susceptibility

A person’s susceptibility to stress can be affected by any or all of these factors, which means that everyone has a different tolerance to stressors. And in respect of certain of these factors, stress
susceptibility is not fixed, so each person’s stress tolerance level changes over time:

- Childhood experience (abuse can increase stress susceptibility)
- Personality (certain personalities are more stress-prone than others)
- Genetics (particularly inherited 'relaxation response', connected with serotonin levels, the brain’s 'well-being chemical')
- Immunity abnormality (as might cause certain diseases such as arthritis and eczema, which weaken stress resilience)
- Lifestyle (principally poor diet and lack of exercise)
- Duration and intensity of stressors

### 1.2.5 Types of stress:

Every one of us would probably experience different types of stress at one time or another. It could be, emotional stress caused by financial problems, post traumatic disorders after an unhappy event some personal stress arising in the work place, strained family relationships with teenage children like an accident or even feeling stress when you are on holiday! All these various types of stress and many more can however be group into four main types of stress.

- **Eustress:** These feelings sure make us feel good and they are the so-called "good stress" or "positive stress". They are able to exert a
healthy effect on you. It gives one a feeling of fulfilment or contentment and also makes one excited about life. Unfortunately, it is a type of stress that only occurs for a short period of time. Eustress is also often called the curative stress because it gives a person the ability to generate the best performance or maximum output. In this stress person felt;

✓ The thrill and excited feeling while watching a horror movie
✓ The feeling of excitement when you won a game or race
✓ The excitement when you bought your first car
✓ The accomplishment of a challenge
✓ The proud feeling of being a first time parent
✓ The happy feeling of being loved
✓ The excitement of going for a holiday

➢ Distress: Just like everything in life, when there are good or positive stress, there are also "bad" or "negative stress". These types of stress is the opposite of Eustress and it’s called Distress. Distress is a “negative stress”. It is a stress disorder that is caused by adverse events and it often influences a person’s ability to cope. Some events leading to distress are:

✓ Death of a loved one
✓ Financial problems
✓ Heavy work responsibility and workload
✓ Strained relationship
✓ Chronic illnesses
Distress can be classified further as acute stress or chronic stress. Acute stress is short-lived while chronic stress is usually prolonged in nature.

**The remaining two types of stress are:**

- **Hyper stress:** When a person is pushed beyond what he or she can handle, they will experience what we called hyper stress. Hyper stress results from being overloaded or overworked. It’s like being stressed out. When someone is hyper stressed, even little things can trigger a strong emotional response. People who are most likely to suffer from hyper stress are: Working mothers who have to multi-task, juggling between work and family commitments a wall street trader who are constantly under immerse tension

  ✓ People who are under constant financial strains.
  ✓ Generally people working in fast pace environment.

- **Hypo stress:** The extreme opposite of hyper stress is Hypo stress. Hypo stress stands in direct opposite to hyper stress. That is because hypo stress is one of those types of stress experienced by a person who is constantly bored. Someone in an unchallenging job, such as a factory worker performing the same task over and over, will often experience hypo stress. The effect is feelings of restlessness and a lack of inspiration.
1.2.6 Response toward Stress

Our response to stress depends on two main aspects of an individual:

- **Personality type:** There are two categories of people “A” and “B”. Type “A” person is one who is competitive, hard driving, tense, aggressive, preoccupied with deadliness; work oriented and have a high need to control his environment (Friedman and Rosenman, 1974). Type “B” Who doesn’t suffer from impatience and time urgency, has no need to impress others with his achievement, is able to work without agitation and relax without guilt. Type “A” people are likely to experience more stress.

- **Control and influence:** The second aspect, which determines our response to stress, is the extent to which we believe we can control or influence the environment or events. Based on this aspect people are said to be having an external locus of control. Internals are those who fill that they can make things happen while externals are those who fill things happen to them. Lack of control and influence is the major cause of stress. The more an individual perceives himself to have control over the situation, the less likely it is that he will perceive the situation as threatening and stress inducing and the less likely to manifest the adverse reaction patterns (Chung 1977). Several studies have examined the buffering effects of perceived control. Researchers have predicted that employees who perceive themselves more in control would
experience fewer negative consequences of role stressors then their counterparts who perceive themselves less in control. (Ganster and Fusilier, 1989, Schaubroeck & Merritt, 1987). Our response to stress would depend on our interpretation or the way we perceive a situation or event. A positive interpretation is stress reducing while the negative interpretation is stress inducing.

1.2.7 Gender Difference in Neural Response to Psychological Stress

Gender is an important biological determinant of vulnerability to psychosocial stress. Gender is an important determinant of human health, and there is a clear pattern for the sex-specific prevalence rates of several mental and physical disorders. Men are generally more susceptible to infectious diseases, hypertension (cardiovascular disease), aggressive behavior and abuse of alcohol or drugs. Women, on the other hand, have higher rates of autoimmune diseases, chronic pain, depression and anxiety disorders compared to men (Holden, 2005; Kudielka and Kirschbaum, 2005; Lundberg, 2005; Kajantie and Phillips, 2006). Some of these gender differences emerge during women's reproductive years, and gradually diminish after menopause (e.g. depression, cardiovascular disease), suggesting that the observed gender-specific disease pattern may be partly attributed to effects of sex hormones (Otte et al., 2005). Recently, individual differences in stress reactivity have been proposed as a potentially important risk
factor for gender-specific health problems in men and women, in addition to genetic, socio-cultural, hormonal and developmental factors (Hamann and Canli, 2004; Young and Altemus, 2004; Goldstein et al., 2005; Kajantie and Phillips, 2006).

To date, assessing gender differences in stress reactivity primarily relied on measuring physiological responses to acute stressors in laboratory settings, including activities of the hypothalamic-pituitary-adrenal (HPA) axis (e.g. cortisol) and/or sympathetic nervous system (e.g. heart rate and blood pressure). A general trend has emerged suggesting greater acute HPA and autonomic responses in adult men compared to adult women using standard performance related psychosocial stressors such as public speaking and arithmetic tasks (Kudielka and Kirschbaum, 2005; Kajantie and Phillips, 2006). This greater sympathoadrenal responsiveness in males may be reasonably associated with the pathogenesis of cardiovascular disease, aggression and immune suppression (Segerstrom and Miller, 2004; Lundberg, 2005). In women, the phase of menstrual cycle, menopausal status and pregnancy were found to have marked effects on physiological stress responses. In particular, estrogen has been shown to buffer the sympathetic and HPA arousal (Goldstein et al., 2005; Kajantie and Phillips, 2006).

Other studies, however, reported either no gender difference in stress reactivity or greater cortisol elevation in females than males, when a social rejection task was adopted as the stressor instead of
achievement tasks (Stroud et al., 2002; Dickerson and Kemeny, 2004). It has been proposed that women are more likely to be negatively affected by interpersonal events than men—a tentative factor underlying the emergence of gender differences in depression (Cyranowski et al., 2000). These differences in experimental findings and alternative theoretical models highlight the complex nature of the gender-specific stress response, which may be dependent on the type of stressor/challenge, experimental procedure, outcome measured and subject status (Dickerson and Kemeny, 2004). Furthermore, the probed peripheral physiological parameters typically reflect the integrative reaction of several biological systems, which are often delayed in time and modulated in magnitude by other stress mediators.

It would be desirable to be able to directly visualize the effects of psychological stress in the male and female brain. Functional neuroimaging studies have begun to shed light on the neuroanatomical substrates underlying human emotional processes tightly related to stress (Phan et al., 2002; Hamann and Canli, 2004). Nevertheless, the majority of emotional stimuli employed in existing functional magnetic resonance imaging (fMRI) studies (e.g. fearful faces) lack critical features of a standard psychosocial stress paradigm, which typically comprises motivated performance tasks along with social-evaluative threat and/or subjective feelings of uncontrollability (Dickerson and Kemeny, 2004). Using a quantitative
fMRI method—arterial spin labeling (ASL) perfusion fMRI, we explored the neural correlates of psychological stress elicited by a mental arithmetic task under performance pressure (Wang et al., 2005a). The RPFC, which is affiliated with negative emotion, vigilance and goal-directed behavior, is activated in response to stress with concomitant suppression of the left prefrontal and orbitofrontal cortex. Brain activation in the limbic circuitry, including putamen, insula and anterior cingulate cortex (ACC), was also observed even after completion of stress tasks.

1.2.8 Is stress necessarily harmful?

In situations requiring muscular activity, stress reactions are usually purposeful. For a coalminer or stevedore, it serves to release various “fuels” into the bloodstream and speed up the circulation (the heart beats faster), breathing is accelerated so that the blood picks up more oxygen, and the bloodstream, bearing its “fuels”, is directed to where it is most needed, namely the muscles (Levi, 1971, 1972; Henry and Stephens, 1977; Elliott and Eisdorfer, 1982).

In the case of mental strain, a certain amount of stress can give that little extra “boost” a person needs to give of his best, whether in a talk, in negotiations, in trying to sell a product or anything else. But if this boost is too violent, the opposite occurs: a block arises, our head becomes empty and we cannot think of what we want to say. As in any other situation, it is a question of not too little, not too much, but just
right. Strain in just the right dose is borne well by the body: it stimulates the organism and may enhance its ability to perform and make it tougher. An athlete trains for a long time before running the marathon. A shy, inexperienced salesman waits until he has warmed up a bit before tackling his most difficult customers. Both the athlete and the salesman mete out their strain in small doses. Strain in just the right dose— one might even call it training— can thus be something positive and stimulating and actually heighten performance because it produces stress reactions which remain within the body’s ability to cope, exercising reasonable effort. The problem lies in arriving at what is “just right” for each individual. It is not often that people are exposed to strains that are too moderate or too few. The opposite is far more common: strains which are too severe or taxing or which our bodies are too “old fashioned” to cope with.

As we have said, the body reacts to all sorts of stressors in accordance with, generally speaking, a single plan for defence. The endocrine glands and the autonomic nervous system (the part of the nervous system which cannot be controlled by the will), together constitute the body’s most important means of defence. The Canadian scientist, Hans Selye, who introduced the term “stress”, has coined a term for what happens in these two systems under strain: the general adaptation syndrome (Selye, 1971). The meaning of “adaptation” is clear, while “syndrome” implies that the different defense forces are co-ordinate.
The sequence of physiological events in the adaptation syndrome may be summed up as follows: the first and quickest reaction to stress comes from the autonomic nervous system whose two subsystems, the sympathetic and parasympathetic, together seek to brain about the necessary adjustments in bodily functions. The next step is an increased production of the stress hormone adrenaline from the adrenal medulla, in response to signals from the sympathetic nervous system.

This stepped-up adrenaline production, together with signals from the hypothalamus (the anterior part of the brain stem), stimulates the pituitary to increase its hormone production. The pituitary hormones regulate the production of hormones by other endocrine glands, and these hormones in turn participate in various ways in the body’s defence and adaptation reactions. The pituitary hormone most essential to this process is called ACTH and controls the Adriano-cortical secretion of vital hormones- above all- cortical.

In the case of mental strain, signals are sent from the cerebral cortex to the hypothalamus, from whence the autonomic nervous system is steered and the pituitary is influenced in the way described above.

**1.2.9 Stress at work:**

The nature of work is changing at whirlwind speed, perhaps now more than ever before, job stress poses a threat to the health of workers and, in turn, to the health of organisations. Each organization has a
different climate and they differ not only in structure but also in attitudes and behaviour it elicits from its employees. The individual personalities interact with the opportunities available within an organization, to create a climate, which is significant for both the individuals and the organization, as both works towards attainment of common goal. Forehand and Gilmer’s (1964) defined organizational climate as “a set of characteristics that describe an organization and Distinguishes one organization from another.

• Are relatively enduring over a period of time.
• Influence the behaviour

There are definitely many aspects such as Hierarchical etc. These specifications can be classified into three categories:

• Participation
• Motivational Climate
• Inter-personal Relations.

Gemmil and Heisler (1972) quoted that greater they believe in One’s ability to influence the environment, the lower is the reported job strain. Kasl (1973) reported that low job satisfaction was related to non participation and involvement by suggesting that “Mental health at work is due to a large extent a function of the degree to which output is under the control of an individual worker “Jackson (1983) concluded that if employees are given a sense of control over their work environment, given privilege of decision making, the stress levels are certainly reduced. Khanna (1985) found that lower levels of stress
promote a better climate which in turn enhances organisational effectiveness. Singh (1987) on the moderating effect of organisational climate revealed that three motivational namely, Achievement, expert influence and extension increased satisfaction and decreased role stresses. On the other hand, climates of control, affiliation and dependency have the opposite effect. Roa (1987) concluded that the interpersonal relationship has a significant positive influence on the individual’s performance. Stress may definitely crop up due to the nature of relationship with significant others in the organisation i.e. one’s boss, subordinates and colleagues. French and Caplan (1970) have defined poor relationships as those, which include low trust, low supportiveness and low interest in listening to and trying to deal with problems that confront the organisational member. Although the relation between social support and stress reduction appears complicated (Seers, Mc Gee, Serey & Green 1983), There is some research evidence that a networking strategy may be able to help people cope better with job stress (Mc lean 1964) to be more effective (Kotler 1982) and successful workingwomen (Luthans, 1985). These are:

➢ **Relationship with Superior:** Buck (1972) used the Fleishman’s leadership questionnaire on consideration and initiating structure and concluded that those who perceived their boss to be low on “Consideration” reported feeling more job stress. Thus considerate behaviours contribute significantly to reduce job-stress.
> **Relationship with Subordinates:** working people mostly have responsibility to manage a team and if they have the inability to delegate, participate, control and motivate they become stressed. Cooper and Marshall (1978) are of the view that managers from technical and scientific backgrounds, having “thing orientation” experience high stress on account of poor interpersonal relations as compared to those who are “people oriented”.

> **Relationship with colleagues:** A finding by Lazarus (1976) is that stress could arise due to lack of adequate social support in difficult situations. Morris (1975) developed a model called the “Cross of relationships” to emphasize the importance of the relationship of managers with significant others in the organisations as shown in the fig. Belo: Morris suggested that the manager has to bring all the four into a dynamic balance in order to deal with the stress because a manager spends a high portion of work-time dealing with people. An earlier study of a small sample of CEO’s in large organisations by Mintzberg (1973) showed that only 22% was spent in desk work sessions and rest was spent in people sessions communicating. In contrast, in small organisations; basic desk work took up a larger part (52%) however 40% was devoted to face-to-face contact of one kind or another of relationship.
Except above following are typical causes of stress at work:

- Bullying or harassment, by anyone, not necessarily a person’s manager
- Feeling powerless and uninvolved in determining one’s own responsibilities
- Continuous unreasonable performance demands
- Lack of effective communication and conflict resolution
- Lack of job security
- Long working hours
- Excessive time away from home and family
- Office politics and conflict among staff
- A feeling that one’s reward is not commensurate with one’s responsibility
- Working hours, responsibilities and pressures disrupting life-balance (diet, exercise, sleep and rest, play, family-time, etc)

1.2.10 Job stress and health:

Stress sets off an alarm in the brain, which responds by preparing the body for defensive action. The nervous system is system is aroused and hormones are released to sharpen the senses, quicken the pulse, deepen respiration, and tense the muscles. This response (sometime called the fight or flight response) is important because it helps us defend against threatening situations. The response is pre-
programmed biologically. Everyone responds in much the same way, regardless of whether the stressful situation is at work or home. Short-lived or infrequent episodes of stress pose little risk. But when stressful situations go unresolved, the body is kept in a constant state of activation, which increases the rate of wear and tear to biological systems. Ultimately, fatigue or damage results, and the ability of the body to repair and defend itself can become seriously compromised. As a result, the risk of injury or disease escalates.

In the past 20 years, many studies have looked at the relationship between job stress and a variety of ailments. Mood and sleep disturbances, upset stomach and headache, and disturbed relationships with family and friends are examples of stress-related problems that are quick to develop and are commonly seen in these studies. These early signs of job stress are usually easy to recognize. But the effects of job stress on chronic diseases are more difficult to see because chronic diseases take a long time to develop and can be influenced by many factors other than stress. Nonetheless, evidence is rapidly accumulating to suggest that stress plays an important role in several types of chronic health problems especially cardiovascular disease, musculoskeletal disorders, and psychological disorders.
**What the research tells us:**

- **Cardiovascular disease:** many studies suggest that psychologically demanding jobs that allow employees little control over the work process increase the risk of cardiovascular disease.

- **Musculoskeletal disorders:** on the basis of research by NIOSH and many other organizations, it is widely believed that job stress increases the risk for development of back and upper-extremity musculoskeletal disorders.

- **Psychological disorders:** several studies suggest that differences in rates of mental health problems (such as depression and burnout) for various occupations are due partly to differences in job stress levels. (Economic and lifestyle differences between occupations may also contribute to some of these problems.)

- **Workplace injury:** although more study is needed, there is a growing concern that stressful working conditions interfere with safe work practices and set the stage for injuries at work.

Suicide, cancer, ulcers, and impaired immune function: some studies suggest a relationship between stressful working conditions and these health problems. However, more research is needed before firm conclusions can be drawn.
1.2.11 Stress and Stress Management

Health care costs in the United States are skyrocketing. A large part of this increase can be attributed to the fact that many Americans do not practice preventive medicine by making a serious effort to reduce the stresses in their lives.

Although the occurrence of stressful situations is an inevitable fact of life, one over which you have little control, how you react to the stressor is in your control. In other words, a "stressor" is not stressful unless you deem it to be. We therefore experience stress when we believe there is a threat to our health and well being and we determine that there is an imbalance between the demands being made on us and the psychological and physical resources available to us. We can therefore experience stress in positive situations that require us to adapt such as marriage and having children as well as negative situations such as increased work demands, being fired from a job and the death of a loved one.

Although many people believe it is "cheque" to be stressed, unmanaged stress is a contributor to many physical as well as emotional problems. It is therefore important for us to be able to manage our stress more effectively since we can't always prevent taxing events from happening.
1.2.12 Signs and symptoms of stress!

Although we all experience stress in different ways, there are certain signs that are most frequently reported. These signs fall into two major categories; physical/behavioral signs and emotional signs. If we become aware of our own stress symptoms, we will be more effective in dealing with them sooner rather than later. What follows is a list of some of the most experienced symptoms of stress.

- The physical/behavioral symptoms include; muscular tension, muscle spasms and tics, rapid heartbeat, shortness of breath and high blood pressure, cold hands and feet, backaches, headaches and neck aches, stomach problems, indigestion, irritable bowel and ulcers, feeling fatigued, irritable, decreased ability to concentrate, insomnia and changes in eating behavior. Since these physical symptoms may be related to physical problems, you should consult with your medical doctor before you assume that your symptoms are purely stress-related.

- The emotional symptoms include; anxiety in a variety of situations not limited to the stressful situation, depression, hopelessness and a strong urge to cry without specific incident, withdrawal from social interactions and avoidance of previously enjoyed activities, powerlessness and decreased self esteem, hostility, anger and resentment, fears, phobias and unwanted thoughts.
Learning to become more aware of your own stress symptoms is the first major step in the stress management and healing process. It is often helpful to monitor your daily symptoms in a stress diary where you match the stressful events with the symptom experienced. For example; you made find that if you are stuck in early morning traffic you may experience irritability and headaches. In this case it will be important to use these symptoms as a cue that you have to begin managing that stress more effectively when it happens.

### 1.2.13 Sources of stress

Stress is experienced from three general sources; the environment, your body and your thoughts. Although you have some control over your environment and your body, you have much more control over your thoughts or the way you appraise/think about a "stressor." The ability to be able to view situations as either threats or challenges will have important effects on the stress management process which will be addressed in the stress management section. What follows at this point is a list of commonly reported sources of stress within the three general categories.

- The environment constantly requires us to meet demands and challenges and can therefore be a potential source of stress. For example, we experience natural disasters, traffic, time pressures, work and interpersonal demands. In addition we may have to adjust to changes in financial status, job changes and the loss of a
loved one. Although we have some ability to prevent some of these stressors, such as leaving earlier to prepare for lost time in traffic, we have no ability to prevent a natural disaster and our efforts need to go to preparing for it instead.

- Our body is another potential source of stress since it requires you to adapt to the physiological changes it makes. Some examples include; changes that occur in adolescence, phase of life changes brought on by hormonal fluctuations and the aging process. In addition, the onset of illness, improper nutrition and lack of sleep and exercise can contribute to the stress response. Once again, some of these sources we have more of an ability to control and change. For example, we have more control over our ability to eat well and exercise than we have over the natural aging process.

- The third general source of stress, our thoughts, is the one over which we have the most control. Your brain interprets messages from the environment all the time. Your interpretations of these events determine whether or not you will feel stressed. For example, if you interpret your bosses silence as proof that he is displeased with your work, you are more likely to experience stress than you would if you interpreted it as something unrelated to you or even neutral until you had more information to the contrary. Stress producing thoughts are often catastrophic, black and white, over generalized, supported by few facts and over personalized.
Richard Lazarus, a prominent researcher in the area of stress, believes that stress begins with your thought about or appraisal of a situation. If you constantly view situations as difficult or dangerous and if you believe that you don’t have the physical and emotional resources with which to handle the situation, you are much more likely to experience stress. A significant part of stress management therefore focuses on how to change your appraisals so situations are viewed as challenges versus dangerous threats.

### 1.2.14 Consequences of unmanaged stress

Stress is something that doesn’t feel good to us physically and emotionally. What is even more compelling is what happens below the surface each time we experience stress. Stress researcher Hans Selye, determined what happens internally each time we experience something as threatening or stressful. According to Selye, when we perceive a threat in the environment the thinking part of the brain sends an alarm message to the nervous system via the hypothalamus. The nervous system then makes changes in the body that prepare you to handle the perceived danger ahead. These changes include increases in heart rate and blood pressure as well as pupil dilation. In addition, there are hormones and chemicals secreted such as adrenaline, which give the body the necessary push to be able to manage the threat ahead. Although there are situations in which these adrenaline surges are very helpful in helping us mobilize, the
constant adrenaline surges due to repeatedly perceived threats, have a
toxic effect on the body. For example, recurrent adrenaline surges
inhibit some of the other important functions in the body including
growth and tissue repair, digestion and the immune response. Just as
the thinking part of your brain is responsible for turning the stress
response on, you can turn it off by changing the threatening
appraisals you are making. Once you are able to determine that a
threat does not exist or that it can be effectively managed, your
thinking brain stops sending panic messages to the nervous system.
As a result of this reappraisal, the hormones and chemicals cease to
be released and the body returns to normal.

Bringing the body back to an "un-stressed" state is very important
since almost every system in the body can be damaged by stress.
Although our bodies are adaptive and can recover from periodic
stressors, chronic stress has serious consequences. We experience the
consequences of stress on three important levels; physically,
emotionally and behaviourally which are as follows-

➢ Physically, the body is likely to develop a stress-related disease as
a result of the stress toxins that are released. For example, chronic
stress can lead to cardiovascular disease by elevating blood
pressure, damaging the heart and arteries and increasing blood
sugar. Respiratory conditions such as asthma and bronchitis can
result from stress-triggered changes in the lungs. When stress
inhibits the body’s digestive functions, diseases such as ulcers,
colitis and chronic diarrhea can occur. In addition, stress contributes to inhibited growth of tissue and bone which can lead to decalcification and osteoporosis. The immune system is also inhibited by the reduced efficiency of the white blood cells, making the body more susceptible to disease. Increased muscle tension, fatigue and headaches are additional consequences of chronic stress.

The second category of consequences of chronic stress is the emotional consequences. Depression can result from chronic stress due to the constant release and depletion of norepinephrine. What also contributes to the depression is the thought that life is terrible and that it is never going to get better. What then results is a feeling of helplessness and ineffectiveness, feeling like a failure and a reduction in self-confidence. Individuals who are depressed are also likely to withdraw from relationships and isolate themselves which often increases the intensity of the depression. In addition, anxiety and fearfulness are commonly felt emotions if someone constantly perceives threats around the corner. In addition, individuals who are chronically stressed are likely to exhibit increased cynicism, rigidity, sarcasm and irritability since they believe that their situation is not likely to improve.

Chronic stress also has significant behavioral consequences. The behavioral consequences often result from the innate survival urge we have to seek relief, to fight or to flee. Unfortunately, these relief
seeking behaviors eventually become problematic. For example, "addictive behaviors" can result from the repeated efforts to soothe or escape the painful stress. Alcohol, drugs, smoking and overeating are often seen as tools to help manage the stress even though their effects are short lived and the consequences of chronic use are destructive to the body and mind. Unfortunately the mind’s ability to deny the long term consequences in order to fill the short term need to escape, perpetuates the problem and increases the excessive use behavior. Similarly, procrastination, poor planning, excessive sleeping and the avoidance of responsibility are examples of behaviors used by stressed individuals to temporarily flee from the pain. What is most significant about these behaviors is their ability to generate additional problems that are as severe as the original stressor. For example, procrastination or avoidance of the management of a stressor only serves to increase anxiety and exacerbate the stress experience.

The stress consequences reviewed above suggest that in addition to being physically and psychologically distressing, they reduce the likelihood of effective goal reaching. The rationale for properly managing and coping with the stress is for health protection in the future as well as making the present more productive and satisfying.
1.2.15 Approach to manage stress

Stress is a condition or feeling experienced when a person perceives that demands exceed the personal and social resources the individual is able to mobilize. There are three major approaches to use the manage stress:

➢ **Action-oriented:** In which person seek to confront the problem causing the stress as he has some power in the situation, changing the environment or the situation; action-oriented approaches are some of the most satisfying and rewarding ways of managing stress.

➢ **Emotionally-oriented:** In which person do not have the power to change the situation, but he can manage stress by changing our interpretation of the situation and the way we feel about it; Emotionally-oriented approaches are often less attractive than action-oriented approaches in that the stresses can recur time and again; however, they are useful and effective in their place.

➢ **Acceptance-oriented:** Where something has happened over which person has no power and no emotional control, and where our focus is on surviving the stress. For example, when loved-ones die. In these situations, often the first stage of coping with the stress is to accept one’s lack of power.
These different approaches to stress management address the definition of stress in different ways: the action-oriented techniques help us to manage the demands upon us and increase the resources we can mobilize; the emotionally oriented techniques help us to adjust our perceptions of the situation; and the acceptance-oriented techniques help us survive the situations that we genuinely cannot change.

1.2.16 Stress management & its techniques

Since stress is an inevitable fact of life that we can’t always prevent, In stress management ones efforts focused on coping with stress more effectively. Three pronged approach to stress management are-

- **Behavioral techniques:** The behavioral approaches to stress management include exercise and eating a healthy, balanced diet which includes selections from the basic food groups. In addition, it is recommended that one avoid the excessive use of alcohol, caffeine and sugar which contribute to fatigue and vulnerability to mood swings. It is also important to allow the body to rest and replenish to help inoculate the body against future stress. Building this stress resistance also includes scheduling time for leisure and pleasure which provides for a more balanced, fulfilling life. Anticipating and preparing for recurrent stressors by managing time, setting priorities and limits, delegating responsibility, and not procrastinating are helpful stress reducing strategies. These
techniques are effective stress management tools because their utilization is within our control.

➢ **Relaxation techniques:** The relaxation approaches to stress management include a variety of techniques designed to help you effectively manage the body/mind tension. Progressive muscle relaxation is an active form of relaxation where you individually contract the major muscle groups of your body for about five seconds and then you relax the individual muscle groups for a five second hold. The contrast experienced by this exercise relieves muscle tension and relaxes the body. Some of the more passive relaxation approaches include listening to music, reading and using saunas and hot tubs to relieve tension. Techniques used to relax the mind include meditation and visual imagery. Meditation teaches you how to clear the mind of stressful and distracting thoughts by focusing the mental energy on positive coping thoughts. Visual imagery is designed to help the individual visualize him/herself coping effectively with a stressor that was previously experienced as overwhelming. The behavioral and relaxation approaches described above are necessary but not sufficient conditions for stress management. The third prong to stress management, the cognitive or thinking approach, is essential to effective coping with stress.

➢ **Cognitive techniques:** The cognitive approaches are an integral part of coping effectively with stress and now the primary focus of
many stress management programs. Since it has been determined that we can turn off the stress response by changing our threatening/dangerous event appraisals to appraisals that help us view these events as manageable challenges, we have a direct link to controlling the stress response. The first step in the cognitive approach is to identify our thoughts or internal dialog that is negative, perfectionist, black and white, rigid and demanding. In other words, you are more likely to experience stress if you believe that you, the world and other people "should or must" behave in a manner consistent with your demands and standards. For example, you are likely to experience stress if you believe that the world and your life should be stress free and that you do not have the resources to handle stress if it does occur. In addition, demands of perfection on yourself and on others important to you, increases the chance of feeling stressed since these expectations are unrealistic and rigid. After identifying your stress producing thoughts you are then able to move onto the second step in the cognitive approach; recognizing the consequences of this negative, rigid dialog.

The motivation to change the stress producing dialog comes from the determination that there are serious consequences that result from these negative, rigid thoughts. When you talk to yourself in a defeated, pessimistic or rigid way, you deny your ability to cope and are not likely to manage situations effectively or meet goals you set. In
addition, perfectionist demands are experienced as appropriately unrealistic and contribute to a "why bother" attitude. This attitude reduces the likelihood that you will address these demands since it is a realistic fact that no one or nothing is ever perfect. Once you are convinced that the dialog is negative and counterproductive, you are ready to move on to the third step in the cognitive approach; challenging and replacing the negative internal dialog with a healthier, more productive internal dialog.

This important step in the reappraisal process requires that you challenge your rigid dialog by asking yourself a series of questions about that rigid dialog. For example, "Why must I perform perfectly in order to believe I am a valuable human being?" In addition, "Does that demand for perfection increase my anxiety and reduce the likelihood that I perform well at all?" "What would I feel like and would I be more motivated if I changed my demand for perfection to a desire to do well?" Another example of this reappraisal process can be seen in the area of criticism and rejection. A negative internal dialog that would create stress in this area is "I am worthless because I was rejected and this proves that no one will ever love me." A healthy challenge to this belief would be, "How does the opinion of this person reflect my personal worth?" "How does it follow that this rejection will lead to future rejections?" It is also important to add, "Even if I were to get rejected repeatedly, could I work to make desired changes in my personality without condemning myself or feeling worthless?" By
replacing the negative, rigid dialog with more realistic, flexible dialog, you are more likely to feel healthier emotionally and behave more rationally and productively.

The behavioral, relaxation and cognitive techniques described above have been determined to be effective ways to manage and cope more effectively with stress. The techniques give the control back to the individual and empower him/her to manage the inevitable stressors that will occur in life.

1.3 LIFE SATISFACTION:

Life satisfaction refers to a cognitive, judgmental process, Shin and Johnspn (19'78) define life satisfaction as "a global assessment of a person's quality of according to his chosen criteria" (p.478). Judgments of satisfaction are dependent upon a comparison of one's circumstances with what is thought to be an appropriate standard. It is important to point out that the judgment of how people are with their present state of affairs is based on a comparison with a standard which each individual sets for him or herself; it is not externally. It is a hallmark of the subjective well-being area that it centres on the own judgments, not upon some criterion which is judged to be improbity the researcher (Dienes, 1984). For example, although health, energy and so forth may be desirable, particular individuals may place different values on them. It is far this reason that need to ask the person for their overall evaluation of their life, rather than sumerming
across their satisfaction with scientific domains, to obtain a measure of overall life satisfaction. As Tatarkiewicz (1976) wrote, "...happiness requires total satisfaction, that is satisfaction with life as a whole".

Life satisfaction is an overall assessment of feelings and attitudes about one’s life at a particular point in time ranging from negative to positive. It is one of three major indicators of well-being: life satisfaction, positive affect, and negative affect (Diener, 1984). Although satisfaction with current life circumstances is often assessed in research studies, Diener, Suh, Lucas, & Smith (1999) also include the following under life satisfaction: desire to change one’s life; satisfaction with past; satisfaction with future; and significant other’s views of one’s life.” (Beutell; 2006)

1.3.1 Life satisfaction; As a component of Subjective Well Being

Recent years have seen an increase in research on subjective well-being (Dien., 1984). Three separate components of subjective well-being have been identified: positive affect, negative affect, and life satisfaction (Andrews & Withey, 1976). The first two components refer to the affective, emotional aspects of the construct; the latter to the cognitive-judgmental aspects. Although several scales for the assessment of affect exist (Bradburn, 1969; Kammann & Flett, 1983; Kozma & Stones 1980), the measurement of general life satisfaction has received less attention.
Subjective well being (SWB) is a term coined by Ed Diener (1984). SWB has three components, namely life satisfaction, positive affect, and negative affect. An individual with high life satisfaction, high positive affect, and low negative affect has high SWB. The scientific term SWB is often used to avoid the ambiguous meaning of the term happiness. However, the term happiness is more often used in the communication of research findings in the media. Researchers often distinguish between life satisfaction, as a cognitive component, and PA and NA, as an affective component of SWB. Although these components are correlated, individuals with high levels on one component can have lower levels on another component (Lucas, Diener, & Suh, 1996). Some researchers average across components to obtain a single indicator of SWB.

Life satisfaction is one of the indicators of subjective well-being (Horley J;1984). It has been conceptualized as an assessment of life as a whole on the basis of the fit between personal goals and achievements (Andrews FM, Withey SB). It has also been viewed as a dimension of mental health (Headley B-W, Kelley J, Wearing AJ;1976). Indeed, many of its correlates—such as depressive symptoms, self-esteem, anxiety, and psychosomatic symptoms Koivumaa-Honkanen HT and others;1996)—are aspects of mental health, but life satisfaction is also associated with diagnosed mental disease and health risk factors, including poor health behavior and poor social support. Thus, life satisfaction is a broad and nonspecific subjective
perception comparable to self-rated health—another of its correlates. Both have proven to be predictors of mortality, but level of life satisfaction is a particularly effective predictor of psychiatric morbidity. It is not surprising that life dissatisfaction is much more common in psychiatric patients than in the general population, regardless of the level of psychopathology (Koivumaa-Honkanen HT and others; 1999).