INTRODUCTION

Modern living has brought with it, not only innumerable means of comfort, but also a plethora of demands that tax human body and mind. Now-a-days everyone talks about stress. Not only just high pressure executives or professionals are its key victims but it also includes laborers, slum dwellers, working women, businessmen, professionals and even children. Thus, stress is an inevitable and unavoidable component of life due to increasing complexities and competitiveness in living standards. The speed at which change is taking place in the world today is certainly overwhelming and breathtaking. In the fast changing world of today, no individual is free from stress and no profession is stress free. Thus in modern life, stress in general and time stress in particular has become an integral part of the human life and therefore, has received considerable attention in psychological researches.

Work culture and nature of job differ to some extent from one organization to another organization. At work place, job demands, time pressure, challenges and opportunities etc sometimes cause stress related to work/job/time and exert significant impact on employee’s health and wellbeing. (Cartwright & Cooper, 1994; Pandey & Srivastava, 2004; Rice, 1992; Singh & Pandey, 2013; Tiwari & Mishra; 2008). Work place conditions, both physical and interpersonal, have been shown to lead to negative emotional reactions (e.g., anxiety), short term (e.g., headaches, stomach distress) and long term (cardiovascular disease) physical health problems and poor on-the job performance. Ozel (2001) found that time
pressure, which is often present in the workforce, increases use of negative coping styles, which in turn threaten health and job performance.

With a rapid pace of technological advancement in day to day life, our social fabric is witnessing a great change in all spheres. Sometime small life events and busy life style traps result in many severe physical and psychological illnesses. In that case medical professionals play a significant role in our society. In medical organization, sometimes medical professionals have to perform challenging duties in emergent and adverse situations. A significant percentage of medical professionals often suffer anxiety disorder because stress has a strong relationship, to emotional and behavioral problems. Therefore, stress in medical professionals becomes a focus of concern nationally and globally. It has been recognized for a long time, and studies have to explore its causes, consequences and solution. There are three issues considered the most important for the development of stress in medical professionals. First is the fact that they have to learn a lot of new information in a short time. Second is, the uncertainty of duty hours and place of performance, and the last one is that they have little or no time to review what they learn (Yussof & Baba, 2013). Medical professionals are overloaded with a tremendous amount of information. They have a limited amount of time to memorize all the information. The overload of information creates a feeling of disappointment because sometimes professionals do not handle all information. Many medical professionals struggle with their own capacity to meet the demands of medical curriculum (Yussof & Baba, 2013).
Previous studies have shown a higher level of stress amongst doctors when compared to the general population (Yussof & Baba, 2013; VanDulmen, & Trompb, 2007; Chunga, 2012). Firth - Cozens (2003) noted that the proportion of doctors showing above threshold levels of stress is around 28%, in cross-sectional and longitudinal studies, compared to around 18% in the general working population. There is also evidence to show an increased rate of psychological morbidity, for example, depression, anxiety and substance abuse amongst doctors. Local data are still limited, but there is preliminary evidence to suggest elevated anxiety, depression and stress in Hong Kong medical students (Wong et. al.,2005) and interns (unpublished data). Rates of stress are elevated in all doctors, regardless of the setting in which they work. They have to work, day or night, when the patient needs their help; they have to give their service. Because of emergent duties, medical professionals have a lot of time pressure and feel high level of time related stress.

A sizeable number of researches have proved the adverse consequences of stress on employees and organizations too (Pandey & Srivastava, 2004; Rice, 1987; Tiwari, 2006). However, time stress and its consequences on health status of medical professionals, especially in relation to future orientation and time management; is still a less investigated issue. Therefore, this research was planned to investigate “The role of future orientation in managing time stress- health relationship.” The conceptualization and empirical validation of each factor to be studied in the present investigation has been presented in following section.
Time Stress

Among the various sources of stress, time constraint or time pressure has been found to be an important source of stress in modern day life. Whether at work place or in our daily routine at home, we worry about a number of things we have to do and we fear that we will fail to complete those tasks within given time. When a person has to complete an assigned task within a specified period of time, he may feel an externally induced urgency to complete that task. In such a condition he may feel worried, rushed and may view the time constraint as a pressure. This condition gives rise to time stress. Common example of time stress includes worrying about deadlines or rushing to avoid being late for a meeting. Time stress has been found to have adverse consequences for the health and wellbeing of the individual (Rice, 1992).

Concept of Stress

Stress is a dynamic condition in which an individual is confronted with an opportunity, constraint or demand related to what he or she desires and for which the outcome is perceived to be both uncertain and important (Seley, 1956). Stress has been extensively defined from different perspectives. A number of definitions are cited here to clearly conceptualize the concept of stress.

According to Selye (1956), “Stress is the nonspecific response to any demand”. Selye’s concept of General Adaptation Syndrome (GAS)
describes the concept of stress. When an individual is confronted with a threat, the general physiological response is produced in three stages i.e., alarm stage, resistance stage and exhaustion stage.

Defining the concept of stress, Lazarus (1966) stated that, “Stress exists, when the demands of a person are perceived as taxing or exceeding that person’s adjustive capacity.”

Cox (1978) defined stress as “perceptual phenomenon arising from a comparison between the demand on the person and his ability to cope. An imbalance on this mechanism when coping is important gives rise to the experience of stress and to stress response.”

Further, Beehr and Newman (1978) defined job stress as, “a condition where in job related factors interact with the worker to change (disrupt or enhance) his psychological conditions such that the person is forced to deviate from normal functioning.”

Later, Beehr and Bhagat (1985) defined, “Work stress is a psychological state experienced by an employee when faced with demands, constraints, and/or opportunities that have important but uncertain outcomes”.

Consistent with earlier conceptualization of stress (life/job/work etc), Wallace, Anderson and Shneiderman (1993) defined, “Time-stress is an externally induced urgency (exerted upon the User) to complete an assigned task within a specified or limited amount of time."
Whereas, in Hochschild’s (1997) opinion; “Time stress is shortage of time or `time crunch` faced by an individual in a specific period of time”

Based upon the review of definitions, stress can be defined as a perceived dynamic state involving uncertainty about something important. The dynamic state may be associated with opportunities, constraints or demands. The states of opportunity are perceived by the individual to offer the potential fulfillment of important needs and values. States of constraint are perceived to be blocking or preventing current fulfillment of important needs and values. States of demands are those of the physical environment of the work place, time pressure, emergency work load and mismanagement of time schedules which influence important needs and values both perceptually as well as objectively (Schuler, 1980).

**Theoretical Approaches to Stress**

A close perusal of definitions stated above reveals that stress has been conceptualized on the basis of different theoretical perspectives.

1. **The Stimulus Based Approach:** This approach considers, stress as independent variable, as an objective property of the external environment. In this sense stress is viewed in terms of the stimulus characteristics of environments which are recognized as disturbing
in some form. A typical stimulus – based approach to stress is shown in Figure 1.1.

![Stress diagram](image)

**Fig. 1.1: Stimulus based model of stress**

Further, more complex stimulus based model (Figure 1.2) has been proposed by Welford (1973). He suggests that stress arises whenever there is a departure from optimum conditions in which the person is unable, or not easily able to produce the correct response.

However, this model has some limitations. Since, stressful situations are not objectively identified; they pose main problems to define stress as independent variable. Cox (1978) pointed out that stress does not exist in front of the eye of subject or the experimenter.
The stimulus and response based approaches are circular and taken separately, cannot properly explain the nature of stress. According to Lazarus and Folkman (1984) a stimulus is stressor where it produces a stressful (Psychological / behavioral) response and a response is stressful when it is produced by a demand, threat, harm or loss.

2. The Response Based Approach: According to Selye (1956), “Stress is the non-specific (Physiological) response of the body to any demand made upon it”. He saw stress as the response of organism to the demands of his environment. This model describes that when an organism is

![Graph showing the relationship between stress arousal and performance according to inverted U. hypothesis (Welford, 1973)]
confronted with a threat, the general physiological response is produced in three stages i.e. alarm stage, resistance stage and exhaustion stage. The first stage of syndrome is characterized by the general mobilization of resources to meet the demand, centered on a sympathetic adreno-modullary response. If the demand or stressor persists, this initial stage gives way to the second phase known as the stage of “resistance”. During this larger phase assuming demand to be constant, the centre of activity passes from the adrenal madulla to the adrenal cortex. If the demand is prolonged or severe bodily reserves are eventually depleted, and at this point resistance to demand decreases sharply.

Lastly, the stage of exhaustion occurs. During this period, the sympathetic adreno-modullary activity, characteristics of the first phase reappears. If demand still persists it may pose a threat to the life of individual. The general adaptation syndrome is shown diagrammatically (figure 1.3). Selye’s idea of non-specificity has had enormous influence for long time. However, McGrath (1970) has pointed out several limitations of response based definition of stress. For instance, it fails to allow the identification of stressors prospectively and may lead to diffused understanding, as the same response can be implied as an indicator of stress in the case of one stimulus and unrelated to stress in connection with other.
3. Transactional Model of Stress: A group of psychologists (Cox & Mackay, 1978) presented that stress is an individual phenomenon; it can be best explained as a complex and a dynamic system of interaction between person and environment (Cox & Mackay, 1978; Lazarus & Folkman, 1984). This approach is displayed in Figure 1.4
An integral part of the transactional model is the interactions within and between its different levels and stages. Each of these interactions are based upon the concept of feedback mechanisms. They are concerned with maintaining or returning the individual to a state of balance. The transactional approach views stress as a multicausal system. Following this approach Lazarus and Folkman (1984) opined stress as a particular relationship between the person and environment, which is appraised by the person as taxing or exceeding his or her resources and endangering the well-being. The person environment relationship is mediated by two critical processes, i.e. cognitive appraisal and coping. If normal coping is ineffective, stress is prolonged and abnormal responses may occur.

Based on transactional approach a number of models were developed.

(i). P. E. Fit Approach: A sizable number of researchers (Caplan, Naidu & Tripathi, 1984; French, Rogers & Cobb, 1974) have conceptualized stress in terms of misfit between characteristics of a person and his/her environment. This misfit may appear between person’s abilities and environmental demands or between person’s values, needs and environmental supplies. Numerous studies have supported that the measure of misfit is correlated with type of strain (Wall & Payne, 1973). This approach admits that a life is stressful to the extent that it does not provide supplies to meet the person’s motives and to the extent that
abilities of the individual fall below demands of life which are pre-requisite to receiving supplies.

(ii). **Bounce Model**: Pestonjee (1983) developed ‘Bounce Model’ to explain how we cope with stress reactions. This model suggests that behavioural decomposition takes place due to stress, which tends to reflect in interpersonal and other reactions. The reactions are then registered and analyzed by the environment, which in turn, bounce back signals to the individual to bring about a change either at the organismic level or at the response level. Responses can be of various types like adjustive, effective, good, adaptive or maladaptive. These reactions may lead to decomposition. The model is presented in Figure 1.5.

![Bounce Model Diagram](image)

Fig. 1.5: *The bounce model (Pestonjee, 1983)*

Pestonjee (1983) differentiates between hyper-stress, where there is over activation or heavy demand in terms of time or responsibilities and hypo stress in which the individual suffers from lack of activation characterized by lack of energy and boredom. It is expected to maintain
optimal level of stress. When stresses are left unnoticed and unmanaged, they can create problems in performance and affect the health and well-being of the organism.

(iii). **Workplace Related Model of Stress:** Cooper (1989) developed this model to explain the dynamics of work stress on workplace and its consequences (Fig. 1.6). This model represents three interrelated stages, viz.; source of stress, symptoms of stress and diseases (outcome). First level of the model denotes six major sources of stress. These sources are: stress-intrinsic to the job, role in the organization, relationships at work, stress related to career development, stress caused by organizational structure and climate and non-work factors. These stressors cause symptoms at individual and organization levels. Individual related symptoms include raised blood pressure, depressed mood, excessive drinking, irritability and chest pains whereas, organization related symptoms are found in the form of high absenteeism, high labor turnover, industrial related difficulties and poor quality control. Disease is the outcome of the dynamic relationship of stressors and symptoms. At individual (employee) level, it causes mental illness and coronary heart disease and at organizational level, prolonged strikes, frequent and severe accidents, apathy etc. are found as the outcomes of stress.
In any workplace, the arrangement of working hours has become a crucial factor in work organization, with important health, economic and social consequences for both employees and employers. Not only has the link between workplace and working times been broken (for example, through teleworking, medical profession, police department etc), the line between working and leisure times is no longer fixed and rigidly determined by the normal working day. The general trend has been for working hours to extend into the evening, night and weekend and for hours of duty to become more and more variable in what is sometimes referred to as the "24-hour society". Working irregular or extended hours can also have negative consequences for health and well-being owing to the stress of interference with psycho physiological functions and social life. Most studies to date have focused on shift work rather than extended working hours, although the two are sometimes confused. Some have
addressed this second aspect independently, with contrasting results (Harrington, 2001; Van der Hulst, 2003). In this context, shift work, high demand of time pressure and emergent duties at any work place, may results in time stress.

**Features of Time Stress**

Time is a key factor in understanding the universe. A world without time is a frozen world where nothing happens and nothing changes. Time is an essential factor in the life of every living creature, affecting its ability to survive and to adjust itself optimally to its environment (Michon, 1985). The issue of unrealistic time constraints and deadlines is as important as work overload –indeed the two factors usually occur in combination. Several studies have found a strong relationship between work stress and time factors. These factors have included such concerns as insufficient time for planning, inability to complete required tasks in the allocated workday resulting in work being taken home, constant interruptions relating to other work demands (i.e., meetings), and unreasonable deadlines (Humphrey, 1998; Sauter & Hurrell, 1999).

Time-stress is defined as “an externally induced urgency (exerted upon the User) to complete an assigned task within a specified or limited amount of time." (Wallace, Anderson & Shneiderman, 1993). It refers to whether time is viewed as pressure or not. If time is viewed as a pressure,
people feel rushed, hurried and irritated, and that attitude towards time remains constant for a long duration, and people tend to feel time related stress. People experience time stress when they worry about time, or the lack thereof. We worry about the number of things that we have to do, and we fear that we'll fail to achieve something important. We might feel trapped, unhappy, or even hopeless. Common examples of time stress include worrying about deadlines or rushing to avoid being late for a meeting. Time-stress is thought to have at least two components, one positive, and the other negative. The positive effects of stress may be evidenced in the enhanced arousal it provides in helping the user to perform quickly, but the “anxiety” introduced may lead to greater dissatisfaction and an increased error rate. Time stress is caused by numerous factors. However, time pressure and time mismanagement are identified as two salient or major sources of stress.

(I). Time Pressure

The issue of unrealistic time constraints and deadlines is as important as work overload – indeed the two factors usually occur in combination. Several studies have found a strong relationship between work stress and time factors. These factors have included such concerns as insufficient time for planning, inability to complete required tasks in the allocated workday resulting in work being taken home, constant interruptions relating to other work demands (i.e., meetings), and unreasonable deadlines (Humphrey, 1998; Sauter & Hurrell, 1999). A
recent national study into the changing workforce found that the proportion of workers bringing work home from the job once a week or more, has increased by 10 percent since 1977. Most workers in this study reported a change in their perceptions of work pressures in that 66 percent agreed with the statement, ‘I never seem to have enough time to get everything done on my job’ (Swamberg, Galinsky & Bond, 1999).

Another research that examined the impact of long hours on managers, found that a range of stress-related symptoms, including excessive fatigue and headaches, were predominately associated with the need to manage excessive workloads and simultaneously meet unrealistic targets and deadlines (Townley, 2000). A growing number of organizations have adopted longer working hours, possibly in an effort to maximize productivity. As a consequence, more workers are committed to complex and odd shifts (Scabracoq & Cooper, 2000). This trend is reflected in the prevalence of the twelve hour working day that has been adopted by many Australian workplaces (Heiler, 1998). In a study conducted by the Australian Bureau of Statistics (1998), it was found that full-time workers were working 42.5 hours per week on average, a figure that has increased since previous years. Recent research into the effects of this extended shift has suggested that there are grounds for concern over the impact of extended working hours on the physical and psychological health of workers (Bent, 1998). Along with the marked increase in the number of working hours per day, there has been the unprecedented
growth in the amount of overtime worked. According to a recent review of overtime in the manufacturing industry, in the United States, average weekly overtime increased from 1.6 hours to 4.9 hours over a seven year period. What is notable about this survey is that whilst the employment rate within the manufacturing industry declined during the year of 1999, total overtime hours remained stable in the same year. This suggests that fewer workers maintained productivity levels by working an increased amount of overtime and, potentially, experiencing significant time pressure (Hetrick, 2000).

Time pressure has been evidenced in negotiations which arise when there is a will to conclude them and reach an agreement as quickly as possible (Pruitt, 1982). The posing of “deadlines” also increases the sense of time pressure. This feeling in turn affects the information-processing and decision-making processes, primarily through the selective use of information, a high likelihood of miscalculation or misjudgment, and a greater sense of importance being attributed to negative information in comparison to positive information (Zakay, 1993). Time pressure can even lead to increased closed-mindedness. The side that is more affected by time pressure during negotiations is more likely to be predisposed to reaching a quick agreement while making drastic concessions (De-Dreu, 2003).

Time pressure refers to “changing the time available to make a decision” (Payne, et.al., 1993). The effects of time pressure on decision
making have been described in the literature extensively and so have the resulting operator coping processes used. The most frequently cited coping processes for dealing with temporal stress are ‘acceleration’, ‘filtering’ and ‘omission’. ‘Acceleration’ is probably the most obvious effect of time pressure and denotes an increased information processing rate. It has been shown, however, that with an increasingly stringent deadline subjects were less likely to rely uniquely on acceleration. ‘Filtering’ refers to processing some parts of the information more than others; the research has consistently shown that the attributes seen as less important tend to be filtered out first. ‘Omission’, also referred to as “shallower search for information”, implies ignoring particular parts of the information. In contrast to these coping processes, research has also shown that a common cognitive strategy shift is a tendency to look into one problem solving strategy under time pressure even if it is suboptimal, a process also known as regression to learnt behaviors.

(II). Time Mismanagement

The mismanagement of time takes place when one fails to utilize his time in an effective way in achieving their goals. Numerous factors like confusion, indecision, diffusion, procrastination, avoidance, interruptions and perfectionism lead to mismanagement of time and result in time stress. These concepts are described briefly.

- **Confusion:** Confusion is created when people complain they were wasting too much time, but are not sure where their time is actually
going. It is because they are confused what their priorities are and how to go properly to complete them (Rutherford, 1978).

- **Indecision:** The second major factor of time mismanagement is indecision, or failing to make a decision that needs to be made. In any case, indecision is the hidden foe of effective time management. It also tends to increase confusion and tension in ourselves. Indecision increases confusion and tension because the decision is easily put off but not to easily put away. Indecision may come from many psychological factors. It may be due to lack of interest in the task, a failure of motivation or deep-seated fear of making the wrong decision.

- **Diffusion:** Diffusion is trying to do far more than is necessary, perhaps even more than is possible. Mental diffusion produces ineffective problem solving, lack of concentration, and poor motivation for even the simpler tasks. Diffusion results from not knowing the limits of our own capabilities. It also results from not knowing when and how to say no to the requests from our friends and colleagues. That is, the inability to say no may be due to not knowing your limits.

- **Procrastination:** Procrastination is a cardinal sin of time mismanagement. Procrastination has been defined as putting off until tomorrow what we should do today. Merrill and Douglass (1980) have identified three types of procrastination: (1) putting off
unpleasant things, (2) putting off things that are difficult and (3) putting off things that involve tough decisions.

- **Avoidance:** People find many ways to avoid doing works. In avoidance, mostly people use to read books or section of newspaper that really do not need to be read. They get off on trivial aspects of organizing their work. The person who is constantly cleaning the desk or file may really be engaged in escape behavior. Another common escape is daydreaming. If anyone writes or rewrites letters or memos in the name of perfection, in fact he is probably avoiding some other task he do not want to do. If we catch our self frequently saying that we are a perfectionist, consider whether we are also avoiding by overdoing.

- **Interruption:** One of the most frustrating times – killer is the unscheduled interruption. Phone calls, the boss dropping in for a chat, colleagues stopping by to say hello, and emergencies all represent disruptions to the normal flow of work are the most common unscheduled interruptions. Interruptions are not completely uncontrollable. A number of interruptions that occur could be prevented by decisive actions on our own part.

- **Perfectionism:** Perfectionism is another important factor in time mismanagement. It may have a place in life. Sometimes, perfectionism is really little more than compulsive overdoing. In
perfectionism up to a point, the extra effort will be worthwhile. But after the point, no amount of extra effort will produce any again.

Apart from a number of factors causing high feeling of stress, researchers have identified several causative factors of stress in professionals.

**Correlates of Time Stress**

(I) **Personal/ Demographic Factors:**

The relationship between demographic variables (viz., age, gender, education, occupation, experience, type of family) and stress have been established in a number of studies.

(i) **Age:**

Researchers have proved the role of age in stress level of professionals. Reddy and Ramamurthy (1991) analyzed the influence of age on stress experience of a executive. The results revealed that executives in the age group of 41-50 experienced more stress than the age group of 51-60. Moderating variables among executives experiencing stress include not only age but also the years of service in the employment. Similarly, Virk et al. (2001) conducted a study on occupational stress and work motivation in relation to age, job level and type-A behaviour. He reported that age and job level can have strong influence on job stress. Mayes (1996) conducted study on police officers, fire fighters, electrician and executives aged 18-63 years. Multiple
Regression results revealed that age moderated the relationship among various stressors and physiological symptoms as well as psychological depression and life satisfaction. Contrary to this, Aminabhavi and Triveni (2000) in their study found that age, sex, coping strategies of bank employees have not influenced their occupational stress. From the above studies, it can be concluded that younger age group is more susceptible to stress due to lack of experience and older age group experience stress due to the increase in the responsibility.

(ii) Gender:

Gender differences on stress level were studied by Beena and Poduval (1992). The results revealed that female executives experienced higher rate of stress than male counterparts. Pradhan and Khattri (2001) studied the effect of gender on stress and burn out in doctors. They have considered experience of work and family stress as intra-psychic variables. The results indicated no gender difference in the experience of burn out, but female doctors experienced significantly more stress than male doctors. Triveni and Aminabhavi (2002) conducted a study to know the gender difference in occupational stress of professional and non-professionals. The results revealed that women professionals experience significantly higher occupational stress than men due to under participation. All these studies have revealed controversial results but gender of professionals has significant effect on experience of stress.
(iii) **Education:**

Education acts as mediator, either increases or reduces stress depending on perspective of the individuals. Ansari (1991) had studied the nature and extent of stress in agriculture university teachers. The result revealed that the correlation between the nature of stress and qualification of teachers in different cadres was found to be non significant. Chand and Monga (2007) examined the correlates of job stress and burn out among 100 faculty members from two universities. He found that, higher education can combat stress and burn out related problems among the faculty members.

(iv) **Occupation and position:**

The moderating effects of cognitive failure on the relationship between work stress and personal strain was studied by Orpen (1996). He compared the work stress among 136 nurses and 12 college lecturers. He found that nurses experienced more stress than the lecturers. Gaur and Dhawan (2000) examined that the relationship between work related stressors and adaptation pattern among women professionals belonging to teachers, doctors, bank officers and bureaucrats groups. It showed that the four professional groups have shared almost similar level of stress except in the categories of career development and stressors specific to working women. Pandey and Srivastava (2000) had studied the female personnel working in railway, bank and teaching institutions. They identified that respondents among all the three job categories, bank clerks and railway
employees experienced more work stress as compared to teachers. Anitha Devi (2007) aimed at identifying the degree of life stress and role stress experienced by professional women. The result showed that science and technology professionals and doctors experienced significantly greater life and role stress followed by administrators and self-employed group. Teachers and bankers experienced comparatively lesser stress in both role as well as life. In a recent study Pandey and Pandey (2013) found that time stress and illness were found greater in paramedical staffs than doctors.

(v) Experience

In a study Blix et al. (1994) found that professionals having less than 10 years of experience had higher stress than professional with more than 20 years of experience. Bhatia and Kumar (2005) studied on occupational stress and burn out in industrial employees. Their experience/length of service varied from 2-6 and 7-12 years. Industrial employees at supervisor rank and below supervisor rank with more experience of service had more occupational stress due to more feeling of depersonalization and more emotional exhaustion.

(vi) Type of Family

Numerable researches evinced that nuclear family creates more stress as compared to joint family. Joint family and support from the Joint family acts as buffer against stress. Vashishta and Mishra
(1998) observed that social support from the family, coworkers, supervisors and other people could minimize stress among the employees. Pandey and Srivastava (2000) studied the female personnel belonging to nuclear and joint family, and working in railway, bank and teaching institutions. They identified that respondents belonging to nuclear family had expressed more work stress than their joint family counterparts.

Apart from demographic and personal factors the role of personality variables in feeling of stress has also been thoroughly investigated.

(II) Personality Factors

(i) Introversion & Extroversion

It has been predicted that introverted individuals should be more susceptible to performance decrements under moderate levels of stress than should be extroverted individuals. It was expected that, with moderate increases in stress, introverts would decline in efficiency (and hence in performance) and extroverts would improve. That is, it was expected that correlation between the introversion-extroversion dimension and performance will increase with increase in the level of stress. This prediction was derived from a theory of the behavioral and physiological differences between introverts and extroverts.

Extraversion and caffeine-induced arousal show complex interactions as a function of time of day. Revelle, Humphreys, Simon &
Gilliland (1980) reported that, for measures of cognitive performance, introverts tend to outperform extroverts with morning testing under low arousal; but as arousal is increased, extroverts tend to show an increase, and introverts a decrease, in performance efficiency. With evening testing, this interaction pattern is reversed, with introverts doing best under high arousal, extraverts doing best under low arousal.

Revelle et al. (1980) interpreted these data as suggesting that introverts are relatively aroused in the morning, less aroused in the evening; extroverts less aroused in the morning, more aroused in the evening. This interaction pattern is consistent with the hypothesis of a phase difference in diurnal cycles (cf. Blake, 1967, 1971), with introverts reaching their arousal peak before extroverts.

In personality research, it is sometimes thought that manipulations such as caffeine and time stress impact upon a unitary arousal system (Revelle, 1987); although this unitary arousal system hypothesis is under constant challenges (Neiss, 1988).

(ii) Type ‘A’ Type ‘B’ Personality and Time Stress:

A well known perspective on personality variables and their relations to stress are the distinctions between “Type A” and “Type B” personality types, which were derived by two cardiologists looking to explain the role of psychological factors in cardiovascular disease. Type A behaviours include such things as ambition, aggressive
competitiveness, and an eagerness to get things done on time, as well as self absorption, and a tendency to be cynical and hostile. On the other hand, the Type B personality includes behaviours that are much more relaxed and less competitive.

Studies have shown that individuals displaying Type A characteristics have a significantly increased risk of experiencing the deleterious effects of stress, specifically with respect to cardiovascular disease. It is argued that individuals exhibiting Type A behaviours are more likely to enter into demanding jobs, more likely to over react to them, and for this reason would be more vulnerable to stress and coronary heart disease in particular (Wainwright & Calnan, 2002; Cowley, Hager & Rogers, 1995).

Type A men and women were found to have twice as much risk of heart disease as the Type B individual, who takes a relaxed approach to life (Matthews, 1982). Since the initial identification of the Type A personality, careful research has revealed that it is specifically the anger and hostility common in Type A people that increases risk of heart disease. Time urgency, perfectionism, and competitiveness, without the anger and hostility, are not risk factors. Hostile individuals are less trusting, quicker to anger, and more antagonistic than their non hostile counterparts. This interpersonal style makes it more difficult to maintain relationships, which in turn reduces availability of social support.
Hostility is also associated with a variety of risky health behaviors—such as smoking, drinking alcohol, and overeating—that themselves increase risk of heart disease (Taylor, 2009).

From a physiological perspective, those high in hostility become aroused more quickly in the face of a potential stressor, exhibit greater levels of arousal, and take more time for their arousal level to return to normal once the stressor has passed (Fredrickson et al., 2000; Guyll & Contrada, 1998). Hostility is also associated with higher levels of cytokines, which can prolong the stress response (Niaura et al., 2002).

Researchers aren’t yet sure, though, whether these biological differences are entirely genetic in nature or partially a result of early childhood environment: Boys who grow up in families rife with conflict and low in acceptance and support are at greater risk to develop hostility (Matthews et al., 1996). At this time, both nature and nurture are thought to play roles in development of hostility and later heart disease. Clearly, though, there are multiple channels through which hostility promotes heart disease.

Many people may sometimes feel angry; there are important differences between normal anger and a truly hostile personality style. We all feel angry at times in response to a negative situation—in these instances, anger can be healthy and even adaptive: It signals us that something is wrong and provides the energy to take measures to correct the situation. That type of normal anger stands in marked contrast to the hostile personality style, which reflects a long-term pattern of hostile behavior that manifests frequently across a variety of situations. The level
of arousal is a distinguishing factor as well: It is reasonable to feel irritated when a slow moving vehicle blocks us in traffic, but feeling enraged is irrational and dangerous, especially if this becomes a common pattern in our life.

Besides cardiovascular diseases, other illnesses have been linked with Type A habits: allergies, head colds, headaches, stomach disorders, and mononucleosis (Suls & Marco, 1990; Suls & Sanders, 1988). Likewise, the perfectionism characteristic of Type A has been linked to anxiety (about reaching impossible goals) and to depression (from failing to reach them; Joiner & Schmidt, 1995).

Type A Behavior pattern characterized by intense, angry, competitive, or hostile responses to challenging situations. A sizeable number of studies have proved the exclusive relationship between stress and illness outcomes. (Cartwright and Cooper, 1994) Time stress produces numerous symptoms which vary according to persons, situations, and severity. These can include physical health decline as well as depression. The process of stress management is named as one of the keys to a happy and successful life in modern society. Although life provides numerous demands that can prove difficult to handle, stress management provides a number of ways to manage anxiety and maintain overall well-being.

Review of studies on stress (time/work) suggested that stress – outcome relation is not linear but is mediated/moderated by many factors like social support, demographic and personality factors, organizational characteristic, coping strategies and time management. Thus, in this
connection future orientation and time management may work as buffer in mediating time stress – health relationship in medical professionals. In the following section future orientation and time management have been conceptualized and discussed in the context of stress related to time.

**Time Perspective (Future Orientation)**

Time perspective is one of the important dimensions that influence the capacity to manage time effectively. Several important concepts like, ‘Future Orientation’, ‘Temporal Alignment,’ ‘Time line Orientation,’ ‘Time Conception’ are related to, and sometimes used synonymously with time perspective. Time perspective as a multidimensional concept relates to a comprehensive and complete representation of individual’s past memories, present concerns and future orientations (Agarwal & Tripathi, 1978; Agarwal & Tiwari, 1988; Tiwari, 1987; Trommsdorff & Lamm, 1980). Elliot Jaques noted in his classic book, ‘The Form of Time’ that the past, present, and future are the conscious concepts we develop to express our sense of experience of oscillation between a focus on our future intentions (the future), on current memories of the past, and on present wishes or desires. Jaques proposes that there are no fixed memories of the past, perceptions of the future, or goals for the future. These fields are psychological processes that change and reorganize constantly. The concept of time perspective is explained on the basis of model given below:
**Ribbon Model of Time Perspective**

To explain the structure and function of time perspective, Katsumata (1995) presented the Ribbon Model of Time Perspective (Fig. 1.7).

Positive Feedback Feed forward Positive
negative negative

1. Above model displays the position of Past, Present and Future time perspective. According to this model, the past time perspective is the individual’s, group’s and/or society’s views of the psychological past, including the events and conditions in the past. The concept of the past time perspective can be conceived as the reciprocal relation of the orientation towards the past, the extension to the past, the degree of details of the past, the degree of importance of the past and the feeling tone of the past. Further, it
can be explained by the concept of feedback system including positive and negative feedback.

2. This model again reveals, that the present time perspective is the individual’s, group’s and/or society’s views of the psychological present including the events and conditions in the present. The concept of the present time perspective can be conceived as the reciprocal relation of the orientation toward the present, the scope of the present, the degree of details of the present, the degree of importance of the present, and the feeling tone of the present. Further, it can be explained by the concept of monitoring system for the present.

3. The model further indicates that the future time perspective is the individual’s, group’s and/or society’s views of the psychological future including the events and conditions in the future. The concept of the future time perspective can be conceived as the reciprocal relation of the orientation toward the future, the extension to the future, the degree of details of the future, the degree of importance of the future, the degree of possibilities of the future and the feeling tone of the future. Further, it can be explained by the concept of feed forward system (including positive and negative feed forward).

In the following section different concepts related with time perspective are elaborated-
(i). Temporal Alignment

Temporal Alignment refers to an individual’s basic orientation toward the past, present, and future. Research suggests that at least four personality traits or characteristics make up Temporal Alignment. These include `Timeline Orientation`, `Future Time Perspective`, `Time Span`, and `Time Conception`. It is believed that there are other traits that may impact Temporal Alignment as well.

(ii). Timeline Orientation

We can think of the past, the present, and the future as three distinct spaces in time. People’s Timeline Orientation is the space that is most important to them. It is the space where they are most likely to see and think of themselves and that has the most meaning for the individual.

(iii). Time Span

Time Span is the amount or blocks of time that each of us is capable of holding in our mind. It literally refers to the number of weeks, months, and years that we can imagine and work with in our heads. Jaques, introduced the concept, calling it time span of discretion, and suggested that the amount of time that we are capable of handling is related to our cognitive capacity, which he distinguishes from intelligence. Time Span includes both retrospective (how far back into the history of the institution leaders remember) and prospective (how far into the future leaders project the institution) extension.
(iv). Time Conception

The important variable that makes up temporal alignment is Time conception, which refers to whether one views time as cyclical or linear. Time Conception is different from the other variables; it is a way of thinking about the past, the present, and the future that is primarily culturally biased. Graham distinguished between cyclical and linear patterns of time. A cyclical conception of time is a belief that life is a cycle; life events repeat themselves, season-to-season, year-to-year and generation-to-generation. Time is not viewed as something being lost. A linear conception of time is a belief that life is one continuous line with the future ahead and the past gone forever.

(v). Future Orientation

Future orientation as an important dimension of time perspective is extensively studied by researchers (Agarwal & Tiwari, 1988) For some individuals, present is only important as preparing ground for the “future” and past is meaningful because it is a precedent of what is to follow in future. They look primarily towards the future. Future orientation is defined in various ways, has been explored in multiple literatures and has consistently been found to relate to adult competence and attainment (Manzi, Vignoles, & Regalia, 2010), positive educational outcomes (Beal & Crockett, 2010), and delinquency (Oyserman & Markus, 1990), despite inconsistent measurement and varying definitions. In the sociological literature, adolescent future orientation is seen as an
important predictor of adult attainment (e.g., education; Messersmith & Schulenberg, 2008). In the risk and resilience literature (e.g., Masten, Obradovic, & Burt, 2006), future orientation is identified as a primary predictor of overcoming adversity. In the psychological literature, future orientation is often used to predict behavior and planning (e.g., Beal & Crockett, 2010) and transitions from adolescence to adulthood (e.g., occupation; Nurmi, 1994), and has been used in intervention research to identify children at risk for school failure (e.g., Oyserman, Bybee, & Terry, 2006). In all of these literatures there is a shared understanding that some adolescents have higher levels of future orientation than others. Future orientation is important for adolescents because it is related to decisions about one’s education, career, and family (Havighurst, 1982; Nurmi, 1991; Seginer, 2003)

Nurmi (1991) has viewed future orientation as a multidimensional concept that includes dimensions like; motivation, planning and evaluation (Figure -1.8)
Motivation refers to the awareness or motives a person has to do something in future. `Planning` refers to the way how, person plan for his/her future goals and move towards the goal. Third dimension `evaluation` refers to how a person realizes the expected goals.

However, while definitions and measurement of future orientation may overlap to some extent, there is little consistency in how future orientation is conceptualized across these literatures (Trommsdorff, 1983). The comprehensive definition of future orientation provided by Trommsdorff (1983) suggests that future orientation is comprised of eight components: future extension, domain of cognitions, number of cognitions, detail, affect, motivation, control, and sequence of events. According to Trommsdorf and Lamm(1975) future orientation (F.O) relates to attitudes and judgements concerning one”s future, thus it
involves a goal-related structuring of time, evaluation of true problems and planning for anticipated future behavior. It refers to cognitive elaboration of motivation in means-end structures (Nuttin, 1980; Trommsdorff and Lamm, 1980). Further, researchers have conceptualized future orientation as, person’s “model of future”. As such, it provides the ground for setting goals, planning, exploring options, making commitments and consequently guides the person’s developmental course (Bandura, 2001; Nurmi, 1991; Seginer, 2003; Trommsdorff, 1986). Bearing these properties, future orientation has a special importance not only for individuals going through developmental and transitional periods in which they are not normatively expected to prepare themselves for what lies ahead, but also for individuals for all age groups, because future orientation, may have important influence on deciding priorities, managing stress, etc.

**Conceptualization of Future Orientation**

Contemporary conceptualization of future orientation can be traced back to early work of three psychologists; Frank (1939), Israeli (1930, 1936) and Lewin (1939, 1948). Their analyses addressed the conceptualization of future orientation as well as its motivational and developmental functions, especially addressing three issues; (a) Future orientation, or the construction of possible events and experiences in the future, is generated in the present, (b) Future orientation is domain specific and individuals construct their images of the future by relating to
different domains, and (c) The contents (themes) of these domains may be personal or social, realistic or ideal, and reality-based or fantastic.

Using different terms, Frank, Israeli, and Lewin considered the motivational power of future orientation as directing and regulating present behaviour. However, while Frank and Israeli’s analyses of the regulating function of future orientation were theoretical, Lewin (1948) tested his proposition in experiments linking level of aspiration to performance and in qualitative analysis linking future orientation to morale.

The ability to foresee and anticipate, to make plans and systematize future possibilities is one of the most outstanding tendency of man. This unique ability to conceptualize time, enables people to anticipate and organize future possibilities and to bring them into the psychological present. The manifestation of future orientation is based in both personality characteristics as well as the situational characteristics (Gjesme, 1983). According to Lewin’s field theory, an individual’s behaviour is determined by the field that is actually present. The psychological field contains psychological past, present and future, as the dimension of a given environment at a given time (Lewin, 1951). Psychological future is termed here as those future events which the individual anticipates. Future time perspective and future orientation have often been used interchangeably and refer to individual’s expectation and assessment of all events which enter his psychological future. Devolder
(1979) defined the future orientation as the degree or involvement in the future.

Heider (1958) postulates that people make effort to know and explain the world around them and, in this process, develop subjective theories to give system to their experiences. Future orientation may also be understood as a kind of subjective theory for anticipating and explaining the future (Kelley, 1955). It relates to the way in which people conceive of, organize, and feel about their future (Lomorkkanz et al., 1983). It is associated with cognitive elaboration of motivation in means-end structure. Future orientation covers the goal related structuring in time, evaluation of future problems and planning for possible future behaviours. It may also contain the dimension of internal-external control depending on a person’s belief as to whether events are under his control or controlled by external forces (Lamm el al., 1976) According to Toda (1983) the creation of future time orientation/perspective is one of the culminating accomplishment of the human cognitive systems, since it represents the standard tool upon which survival-oriented behaviour can be planned ahead in time.

In the process of an analysis of the development of individual’s future time orientation (Nuttin, 1964); Fraisse, 1963; Wallance & Rabin, 1960), three fundamental factors, are said to be motives, which provides the beginning of future time orientation, the delay of gratification, the necessity to learn to control reactions and inhibits impulses and the ability
to use symbols to conceptualize the future (Gjesme, 1983). It is, therefore, a combination of cognitive and affective motivational components which is involved in the anticipation and evaluation of future events structured in a time sequence (Trommsdorff et al., 1982; Devolder, 1978).

**The cognitive aspects of future orientation:**

The cognitive aspects involve the structuring of anticipations based on future time sequence and can be analyzed in terms of the ‘density’ and ‘coherence’. These are often measured by projective methods (Kastenbaum, 1961; Lomoranz et al., 1983; Wallace, 1956). The ‘extension’ of anticipation has also been used as a measure of future orientation (Wallace, 1956). Cognitive component involves the casual attribution, thematic structuring and planning.

(i). **Causal Attributions:** Manner in which a person’s expectations are structured depends on the cognitive schemata that he/she has availed for explaining the possible causes of future events. An individual who thinks that he has a high degree of control over occurrence of future events might be expected to have a highly differentiated and extended future orientation. Various approaches to attribution theory (Harvey et al., 1976; Jones et al., 1972) have had some influence on future orientation research (Miller & Porter, 1980).
(ii). **Thematic Structuring:** The characteristic of time structuring varies according to thematic content. A mention of this fact has already been made by Lewin (1948, 1951) in his `Field Theory` and empirically it has been demonstrated by Green (1972) and Lessing (1968, 1972) that differences in future orientation can be traced to underlying differences in thematic content which is differentiated according to thematic area. The magnitude of difference in evaluative content, salience, and extension of thematic areas is, therefore, important.

(iii). **Planning:** More structured and elaborated views for events to come to relate affective as well as to the cognitive aspect of future is ‘Planning’. Thus, planning contains cognitive elaboration of needs and goals and includes the processes of orientation, prediction, elaboration, evaluation, ordering and ingenuity. Guilford and Hoepfner (1971) contend that planning leads most directly to the divergent production and to the transformation of products. Future orientation also relates to planning for events yet to come. It also implies the consideration for preconditions and consequences of events. Savickas et al. (1984) reported that time perspective is related with attitudinal, vocational, maturity and career decision making variables and is linked with planfulness. Nuttin (1976) pointed out that the goal object is located to future and a cognitive elaboration of need in terms of plans and intentions take place.

Gjesme (1983) has emphasized the distinction between general future time orientation as a personality characteristic or disposition with
its specific dimension and arousal of future time orientation in a particular situation.

1. **Dispositional Future Orientation**

The future orientation as a dispositional trait relates to the ways in which people conceive or organize and feel about their future (Lomoranz et al., 1983). It is associated with cognitive elaboration of motivation in means-ends structure. It covers the goal related structuring in time, evaluation of future problems and planning for possible future behaviours. It may also contain the dimension of internal-external control depending on a person’s belief as to whether events are under his control or controlled by external forces (Lamm et al., 1976). According to Toda (1983) the creation of future time orientation (FTO) is one of the relevant features of the human cognitive systems, since it represents the standard tool upon which survival-oriented behaviour can be planned ahead in time.

2. **Situationally Induced Future Orientation**

Nuttin (1976, 1964, 1953) has investigated the influence of future time perspective on law of effect. Nuttin says that the psychological future arises due to a dynamic orientation towards something which is not here in the present. It is related to motivation and provides the “motivational space”, for the goal object. Future time perspective is cognitive elaboration of needs. Nuttin has tried to relate
this future perspective with learning and says that learning is based not on reward by itself but because reward signifies future sequence of events which will again produce reward. Gjesme (1983) reported that manifestation of future orientation depends on personality characteristic as well as experimental or situational arousal of future orientation. An individual’s future orientation is aroused and manifests itself as a function of the anticipated valances of importance of the future utility of tasks, events or activities. Anticipated consequences of immediate activity on subsequent activity arouse the future orientation.

**Theoretical Models of Future Orientation**

The following theoretical models have been proposed by different theories/researchers to explain future orientation:

**(1) Possible selves’ model:** Possible selves’ theory was first proposed by Markus and Nurius (1986) as a way of conceptualizing the process by which future thoughts regarding the self motivate behavior to achieve desired outcomes. Possible selves are comprised of three distinct cognitions: ‘hoped for selves’, ‘expected selves’, and ‘feared selves’. The hoped for self is the most desired or idealistic view of the self in the future and is not necessarily realistic. The expected self is what one anticipates becoming in the future. It is typically more realistic and what the individual believes is most likely to occur. Finally, feared selves are what one wants to avoid in the future.
According to possible selves theory, individuals are motivated to engage in behaviors that move them toward attaining the hoped for self and away from the feared self.

(2) Hopes and fears model: Another perspective of future orientation was proposed by Nurmi (1987). He presented a life course perspective of future orientation, providing the first truly developmental perspective in this area (Figure 1.8). He postulates that adolescents hold future-oriented cognitions regarding anticipated tasks to be completed in early adulthood. These tasks would include educational goals, possible occupations, relationships, intrapersonal characteristics, and social/political beliefs about the future. Similar to possible selves, Nurmi and colleagues have suggested that adolescents hold hopes, or idealistic views of the future they would like to attain; they also develop fears, or things adolescents want to avoid in their futures. Nurmi (1989) also postulated that, based on his perspective of future orientation, hopes and fears should include the dimensions of motivation, planning, and evaluation. In this way, Nurmi combines content of a future-oriented cognition (i.e., the domain, the affect) with process (e.g., how an individual plans to accomplish a goal).

(3) Aspirations and expectations model: Aspirations and expectations are related constructs housed within sociological perspectives. Research conducted in the aspirations and expectations framework tends to emphasize educational and occupational domains almost exclusively (Gottfredson, 1981). Interestingly, there are two distinct definitions of
aspirations and expectations within the sociological literature on future orientation. The most common conceptualization defines aspirations as similar to hoped for selves in possible selves theory (above), where these are the idealistic goals for future attainment (Meersmith & Schulenburg, 2008). Similarly, expectations and expected selves both capture those anticipated outcomes that seem most probable to the individual.

(4) Future time perspective model: Among the most frequent terminologies employed within cognitive and social psychology, future time perspective is used in a variety of ways to describe multiple aspects of future orientation. For some researchers (e.g., Lens & Moreas, 1994) future time perspective is seen as a personality trait, where individuals hold an orientation that is either toward the future, in the past, or in the present. Having a future-oriented personality results in highly motivated individuals who tend to be more successful and hold many long-term goals for themselves when compared to those who do not extend as far into the future.

Comparison of Future Orientation Models

The comprehensive definition of future orientation provided by Trommsdorff (1983) suggests that future orientation is comprised of eight components: future extension, domain of cognitions, number of cognitions, detail, affect, motivation, control, and sequence of events. Each of the major theories/models of future orientation described above
include some, but not all, of the components as part of their operational definitions of future orientation. It is important to note that the definitions offered by other theories of future orientation do not incorporate Trommsdorff’s definitions as part of their own; however, when theories are examined through the lens of Trommsdorff’s definition some overlap is found. Possible Selves theory (Markus & Nurius, 1986) includes domain, detail, affect, and motivation in its definition; Hopes and Fears (Nurmi, 1987) address components of extension, domain, detail, affect, motivation, and control. Aspirations and expectations (Gottfredson, 1981) include extension, domain, number of cognitions, and sometimes affect as part of the operational definition.

Thus, it is clear that, while none of the theories/models of future orientation are identical in how they define and measure the construct, there is some overlap in components across theories. This overlap allows for the potential to develop a shared definition that includes multifaceted dimensions of the cognition (e.g., domain, affect, detail) and the process (e.g., motivation, control); however, it is currently unknown whether the inferred conceptual overlap among theories translates to empirical overlap.

**Correlates of Future Orientation**

Given the importance of future orientation an important issue that needs to be addressed with regard to future orientation is where
the cognitive ability and social motivation to consider the future comes from. Research addressing various correlates of future orientation and other constructs of interest has been organized into three conceptually distinct sets of predictors: correlates that likely contribute to the capacity for future orientation (i.e., underpinnings), correlates that likely contribute to individual differences in future orientation (predictors), and factors known to be related to future orientation that are likely to develop simultaneously (i.e., correlates).

1- **Correlate that contributes to the capacity for future orientation (Underpinnings):** There are several correlates of future orientation. There are two important constructs that underpin future orientation. These are – executive function (Miyake, Friedman, Emerson, Witzki, & Howarter, 2000) and self-regulation (Carver & Scheier, 2011). These constructs are linked conceptually, and in some cases empirically, to future orientation.

(i) **Executive function.** It is no coincidence that changes in an individual’s cognitive ability are occurring at the same time as improvements in executive functions, including abilities in attentional shift/planning, inhibitory control, and working memory (Flavell, Miller, & Miller, 2002; Miyake et al., 2000), which are presumably tied to brain development (Blakemore & Choudhury, 2006). Additional gains in strategy selection and analytic ability (Kuhn, 2008) as well as multi-tasking (Blakemore &
Choudhury, 2006) make this period unique in developing and extending views of the self into the future (Blair & Ursache, 2011).

(ii) **Self-regulation:** Another mechanism involved in future orientation is self-regulation, which is necessary for setting and achieving future goals. Self-regulation and self-control can be used interchangeably to refer to an individual’s ability to limit or prevent one’s action in order to gain a desired outcome (Carver & Scheier, 2011). Carver and Scheier have argued that self regulation should refer to a self-corrective process in order to keep individuals on-track toward a particular outcome. The important aspects of this definition are that correction of cognition or behavior is self-driven, and that self-regulation is the correction or maintenance (i.e., engaging in, preventing, etc.) of a particular cognition or action, and is not meant to be conflated with the goal of that correction or maintenance. Self regulation is also necessary in order to maintain an action identified as necessary to complete a future goal. Thus, self-regulation and future orientation are conceptualized as separate but related constructs.

(2) **Correlates contributing to individual differences in future orientation:** While certain cognitive capacities are necessary for future orientation, there are also several factors that relate to individual differences in future orientation. This may include constructs such as belief about future outcomes and opportunities provided within the individual’s environment, these are;
(i)- **Optimism:** The degree of optimism an individual holds about the future also appears to impact future orientation. Optimism tends to be conceptualized as the extent to which individuals believe that they will experience positive or good things in the future (Garber, 2004). Optimism is conceptualized as one-dimensional and continuous, which is more consistent with prior work in future orientation (e.g., Seginer, 2000).

Research has indicated that individuals who hold an optimistic view of their abilities in the future tend to also consider developmental life tasks more frequently (Seginer, 2000) and to explore more options with regard to education. There is also some evidence that optimism and future orientation interact to provide a coping mechanism for negative life events, where optimistic individuals who perceive negative events as learning opportunities report less negative affect (Strathman et al., 1994).

(ii)- **Opportunity:** Opportunities available to persons, and their expectations for success, vary by social class, creating trajectories for person’s development that are somewhat distinct (Gottfredson, 1981; Nurmi, 1987; 2004). For example, Nurmi (1987) found that adolescents from higher social classes perceived more opportunities in education and occupation, and were able to extend farther into the future than those from lower social classes. There is some evidence to suggest that persons from higher social classes tend to believe more in their own abilities to shape their futures, resulting in a more internalized sense of control and
increased motivation to regulate behaviors (Nurmi, 1987). It may also be the case that there are more opportunities in higher classes to gain experience in planning and to discuss future goals, resulting in more refined future oriented processes for people.

(3)-Correlates that develop simultaneously with future orientation:

The contributing factors that likely develop simultaneously with future orientation are identity and self-efficacy.

(i)- Identity: The progression of development in future-oriented cognitions may very well follow patterns similar to that of self-understanding (Damon & Hart, 1988) and identity (Erikson, 1968) development. Specifically, Damon and Hart (1988) propose a developmental model of self-understanding where identity is initially based on categorical identification in early childhood (e.g., membership in a specific group, physical appearance). It is not until adolescence that individuals begin to use self-understanding to determine how to operate within their environment and to organize their self-understanding based on beliefs and plans for the future. Further, a cohesive sense of identity begins to develop in adolescence, where current and future selves become more integrated, and a multidimensional sense of self is clarified (Damon & Hart, 1988). It may also be the case that later in childhood, future-oriented cognitions are based on patterns of cultural norms (e.g., gender stereotypes), but that in adolescence additional elements, including the understanding of potential opportunities and limitations available to the
individual and the individual’s beliefs about personal abilities, would be integrated into the selection of future-oriented cognitions.

(ii)- Self-efficacy: Self-efficacy, or the belief that an individual has the abilities needed to produce a particular outcome in a particular domain or situation by his or her own actions, has been used to predict a variety of outcomes, e.g. career goals (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001), and types of activities a person engages in. The content, level of commitment, and amount of motivation to achieve a particular aspiration (Bandura et al., 2001).


Thus, future orientation might not only be considered as situational but also depends upon the personality characteristics which may among other things determine the perception of an experimentally induced situation (Gjesme, 1983; Agarwal & Tiwari, 1988; Tiwari, 1987). The relationship between dispositional and situationally aroused future orientation needs to be widely investigated in further studies. Singh (2002) found positive impact of future orientation on decision making about contraceptive use and family planning behavior. Recently,
researches explored the role of dispositional future orientation in promoting awareness, attitude behavior and health status in rural community. Therefore, Future Orientation was selected as a mediator variable in present study.

It is also clear from several studies that future orientation leads to planning and goal orientation and a close positive link between future orientation and time management was found (Shukla, 2010). Thus, time management is clearly implied in future orientation because it also includes planning and goal clarity, which works as a buffer in mitigating adverse effect of time stress on health (Agarwal & Tiwari, 1988; Pandey & Singh, 2004). Therefore, time management was selected another predicting variable in time stress – health relationship.

**Time Management**

Time management is required for getting the best out of one’s time and habituating oneself to use the time effectively. Time being the most finite and scare resource, needs to be planned and managed properly, and otherwise nothing can be managed. Durbin (1997) defined time management “as the process of structuring and organizing time to result in better productivity and also to ensure a high quality of living for individuals”. Covey (1994) views time management from a totally different perspective. According to him, understanding of the underlying paradigms of time management is of vital importance because our
paradigms are the maps and hearts out of which our attitudes and behavior and the results in our lives grow. According to Jack Ferner, “time management is efficient use of resources including time, in such a way that wears effective in achieving important personal goals”. There are several reasons why it is important to the problems of stress and health. Modern society is time driven if not time obsessed. The type A behavior pattern is presumably the epitome, the extreme expression of that all consuming sense of time urgency. It may not be fair and appropriate, but it is a fact of modern time that value and importance is calculated in terms of money, power and position which generally require high productivity to attain and being productive usually means working hard and long hours. The study of time management may help us rethink some of our attitudes forward time and reduce the sense of time urgency.

But time management should never become a goal in and of itself. Time management is a tool to be used for a short while to reset priorities and recast inefficient work habits. Then it should be put on back shelf until needed again. Time management should help us use time more efficiently, but time management should never manage us. If it does, it should be throw out. We each need to take time to give expression to all facts of our personality to appreciate the creative and artistic expression of others. Time management does not free us for these pursuits. It is a misplaced effort. Discussing the concept of time management, Wainwright (1992) in his book ‘Steps For Success’ comments that time is
finite resource which cannot be recycled like many other resources. He has drawn 12 principles of time management from the chronemics, which are: speed an activity up, set deadlines, use flexible performance strategies, use anticipatory scanning techniques, be selective in your perception of cues, keep records of the way you do the things, set aside a little time, always allow imagination and intuitive responses, keep your mind open, try to time things just right, have a reverse bank of activities ready and periodically analyses your performance critically.

Seaward (1999) divided techniques and principles of time management into three categories, i.e.; prioritizing, scheduling and implementing. Prioritizing refers to, clear what is urgent to get done, what is rather important, and what can wait. In this regard we have to identify our long term and short- term goals. Second step in prioritizing is maintaining balance among the various sectors of our lives. Maintaining balance requires awareness of what is important to you. In the third step of prioritizing we want to rank our tasks weekly or daily.

The second technique, “scheduling” is time allocation for prioritized responsibilities or the still of matching a specific task or responsibility with a designated time period in which to accomplish it” (Wainwright, 1992). In scheduling our time, it is important to exert internal control, to become a pawn to the pushed and pulls from outside pressure and action- opportunities. We have to also block our time in scheduling, “Time blocking”, means to block our several hours on a
given day for a category of activities i.e. studying, letter writing, socializing, working, cooking, exercising etc. Some time called “time mapping” technique also use in scheduling. This technique is to break each our down into detailed segments and to assign a task to each segment. The third and last technique; “Implementing” is the challenge in the phase of time management (Rice, 1987), one can develop a life plan, a set of priorities, and a schedule, but the real challenge lies in the implementation.

In this phase of time management lurk the traps, diversions and temptations that get us off-track, swamped, or buried in chaos. To avoid these problems, we have to incorporate one or more of the following implementation techniques into our time-management plan-

- **Assign Time Goals**- This sometimes is not realistic, but it usually can be done, whether the task takes hours, days, or weeks. Setting time goals for the end product and for intermediate steps can be very useful.

- **Avoid Procrastination**- Procrastination means to put off something you know you need to do or want to do. Some people have difficulty getting started others procrastinate finishing the task. For proper time management we have to avoid these types of procrastination.

- **Focus Your Efforts**- This is not always possible, of course, but focusing our efforts is a valuable guideline for better time –management.

- **Create a Pleasant Environment** – Whether it is our den, office, apartment, or nurse station, the tone of our working environment can
make a real difference in our sense of inspiration and satisfaction. So it is quite essential for us to create a pleasant environment for proper time management.

- **Make Time For Exercise And Deep Relaxation** – Of particular value of the busy student, professional, parent, or politician is to make time each day for exercise and deep relaxation. It is a cost-effective use of our time. In this way the mind will be clearer and energy level become higher.

- **Take Small Breaks** - A routine of taking a 5 to 10 minute break at the top of each hour is needed. This keeps us clear and focused and minimizes sluggishness and mind-wandering.

- **Reward Your Accomplishment** – Do something that we feel good, not only when we have completed the task but also for making significant progress. It would be helpful in effective time-management.

In short, managing time for increased wellness may mean major step to simplify rearranging segment of time or becoming better organized within the context of perpetual overload and rush. Simplifying sometimes is necessary to gradually escape from one’s lifestyle trap of too much to do in too little time. Researchs suggests that time management has positive link with dispositional characteristics of future orientation (Shukla, 2010). People having future oriented outlook show better planning and prioritizing capacity and therefore, may effectively
control the ill consequences of stress on health and wellbeing (Agarwal & Tiwari, 1988; Pandey & Singh, 2004).

A sizeable number of researchers have endeavored to investigate the role of future orientation in health and reproductive behavior of women (Pandey & Srivastava, 2000; Singh, 2002; Pandey & Singh, 2004; Geis & Gerrard, 1984). There are a lot of studies on health behaviour and future orientation, but their connection has been examined mostly in the area of applied psychology (Koivusilta, Rimpelä, Rimpelä & Vikat, 2001; Koivusilta, Rimpelä & Vikat, 2003; Samdal, Nutbeam, Wold & Kannas, 1998). The relationships between health behaviour and personal variables, such as self-esteem and value of health, have been examined as well (Rivas Torres & Fernández, 1995). Future orientation, however, does not focus only to education and occupation. It entails much more. Thus, future orientation and time management together as well as independently may play significant role in mitigating time stress – health link

Health

Health is connected to the persons’ lifestyle and values (Pulkkinen, 1993). According to Pulkkinen (1990) people differ in the adoption of healthy lifestyles, even when living in very similar circumstances. Nupponen (1993) defined health behaviour as conscious activity aimed to improve own or others’ health. Health-related behaviour affects one’s
health, even if the person has not intended it. Glendinning, Hendry and Schucksmith (1995) defined unhealthy behaviour as smoking, alcohol use and positive attitudes to drugs. By contrast, exercise is a variable enhancing health.

The concept of health is changing with the passage of time. Now, health is viewed not only as the total absence of disease, but it also includes social and behavioral well-being. However, it has comprehensive meaning which is reflected in the definition of World Health Organization (WHO) which defines health as, “A state of complete physical, mental and social well-being and not merely absence of disease and infirmity” (WHO). This definition provides a comprehensive conceptualization of health as: (i) something which goes beyond the mere absence of disease, and (ii) that health has social and psychological characteristics. Though, this definition has been criticized as too vague if not idealistic, leading some researches to differentiate between ‘perfect or optimal health’ and “normal health’ (Carver et.al., 1989) and is reflected in the fact that health has been defined in terms of the “gap” between attainment and aspiration.

Mechanic (1986) has emphasized the importance of health within a given cultural context. Coelho, et. al. (1980) emphasizes the social functioning of healthy individual since health always addresses certain goals and social groups. Thus, definitions of wellness and illness refer to the specific roles the individual is expected to play in this cultural milieu,
as well as the judgments, that the person himself and significant others in his social network make about the adequacy of his performance, in particular effective functioning in the familial and the occupational role, tends to be regarded as crucial to the well-being of the individual and of his community.

**Health Connection to Personality Characteristics**

Health behaviour has been found to be associated with different personality characteristics (Donovan et.al., 1991; Glendinning et.al., 1995; Pulkkinen, 1983). According to Donovan et al. (1991) the relationship between personality and behaviour is “consistent and systematic”. Personality dimension conventionality- unconventionality has been found to be related with health (Glendinning et al., 1995). Researchers found people whose behaviour is health damaging to be peer oriented (Donovan et.al., 1991; Glendinning et al., 1995 & Pulkkinen 1983). They do not have as good relationships with their families and work. In Pulkkinen’s (1983) research independence from parents, weak tolerance and a lack of control were also associated with health damaging behaviour, particularly with smoking.

A sizeable number of researchers found that certain characteristics and values are connected to health maintaining behavior (Donovan et.al., 1991; Glendinning et al., 1995 & Pulkkinen 1983). Positive attitude towards family and work, spending less time with peers than unhealthily
behaving people, religiosity and responsibility toward society were associated with healthy behaviour. Also future orientation varies with personality (Glendinning et al., 1995; Pulkkinen, 1983). Part of healthily behaving people has a positive future orientation and high self-esteem (Pulkkinen, 1983). Self-efficacy and socially supported life goals seem to be protective factors (Lecci, 2002). Individual with positive future orientation are less likely to use alcohol or drugs (Robbins & Bryan, 2004). Whereas, negative future orientation is connected to different health-damaging behaviours. It has been found that individual smoking and alcohol use has a negative relation to the number of positive expected selves, referring to individual’s expectations, hopes and fears for the future (Aloise-Young, Hennigan & Leong, 2001). Person who smoke a lot are afraid and dissatisfied with their future (Pulkkinen, 1983). Drug users have low self-esteem (Rees & Wilborn, 1983), and their self-images are negative in educational, social, family and personal dimensions. Delinquents’ future orientation includes more private concerns (Trommsdorff & Lamm, 1980). Adolescents who show behavioural problems report often feelings of helplessness and hopelessness (Koivusilta & Rimpelä, 2000).

**Perspectives on Health**

Everyone accepts the importance of health and well-being in his/her life. The identification of indicators that would give an accurate picture of the state of an individual’s well-being and assessing reliably
how a person is enjoying such a state has proved to be a challenging topic (Misra & Sinha, 1999). It is, generally, viewed that if a person is healthy and happy, he is free from ailments and has the means to meet his physical needs and other demands. But equating well-being with lack of illness and economic condition alone, is taking a very partial and narrow view of the human situation, but it ignores mental, psychological and social aspects of his or her existence. Sinha (1990) has pointed out that physical and mental aspects are certainly important, but well-being cannot be meaningfully defined without taking into account the totality of an individual’s existential states. Health outcome depend on interaction between bio, physical and social psychological model. Therefore, health concept has been discussed on the basis of bio-medical as well as psycho-social models.

1. Bio-Medical Model

According to bio-medical model, health indicates the absence of disease. An advanced stage of disease is indicated by the presence of certain physical symptoms or signs. This definition of health relies heavily on the medical model of health care and emphasizes the role of the professionals in ascertaining signs, and symptoms and making the diagnosis.

Health can also be defined as the absence of subjective feeling of illness or the absence of the sick role-identity. Though theoretical
framework for studying health includes more than just the biological or physiological parameters, the problem of defining health is acerbated.

Since exact indicators of health are not mentioned in theoretical or statistical terms, the use of a dichotomous taxonomy (normal V/s. optimal) is of little importance in clarifying definitional problems. A few helpful distinctions and clarifications are available in the literature. Twaddle (1969) has represented normal health and ill-health as adjacent categories on a continuum that spans perfect health and death. Control theory of health (Carver & Scheier, 1990) is a useful conceptual model for understanding health concept. Researchers report that psychological health and well-being are desirable but difficult to define (Sinha, 1990). The latter is often negatively defined as absence of ill-health or as the relative absence of physiological malfunctioning in an organism. It has been taken to consist of freedom from any subjective feelings of discomfort or disability and from any disturbances of psychological functions. Bio-medical and behavioral/social scientists have also made the distinctions among various aspects of non-health. In this regard, terms such as disease, illness, and sickness have been distinguished, “Disease” is a bio-medical concept that refers to the physiological features of non-health. Being unhealthy, frequently involves biological dimensions in which there is some alteration of bodily functions that results in reduced capacities of a shortening of the normal life span. Whereas, “illness” can
exist whether or not disease is present. People often define themselves as ill because of certain subjective feeling states.

Sickness is viewed primarily by sociologists as a social identity, or role assumed by people who have been labeled as unhealthy. The social process of defining someone as “Sick” can occur whether or not disease or illness is present. Parson (1951) formulated the “sick role” concept and viewed sickness as a form of deviant behavior that is characterized by a set of socially institutionalized expectations and obligations, viz.; (a) the sick person is entitled to some exemption from normal social activities based on the nature and severity of the condition, (b) the sick person is not responsible for the condition and cannot get well by act of decision and ‘will power’, (c) the sick person must define the state of being ill as “undesirable and should desire to get well and lastly, (d) the sick person must seek professional, competent help and co-operation in receiving health. Adaptation is another dimension of sick role, because disease and sickness result from a person’s inability to adapt to the environment. As environmental changes take place new diseases develop, because there are demands of new adaptations to accommodation with environmental change.

2. Psycho - Social Perspective:

Antonovsky (1979) argued that health cannot be understood using a pathologically oriented perspective. Since health is a highly relative process rather than a state or static condition, influenced by the
availability of genetic and major psychosocial resistance resources. These resources include types of coping strategies, social matter degree of commitment and level of ego identity. He also conceptualized health process as influenced by the specific social and cultural context. He further reported that a “sense of coherence” is the major determining factor in the person’s overall health and disease status. The coherence concept seems to be associated with other health related concepts, such as hardiness, learned helplessness, personality types. Researchers further related the sense of coherence with break down (a health problem) which has four practical assessment criteria; (i) pain level (ii) degree of functional limitation (iii) prognostic implication and (iv) action implications.

From Indian perspective, Sushrut defined health as a state of delight or a feeling of spiritual, physical and mental well-being (Raina, 1990; Rao, 1983; Sharma, 1981). Ayurveda, in India, is more holistic in its outlook towards conception of health and disease than the allopathic system of medicine. In this context, it needs to be pointed out that holistic medicine in the east goes beyond the whole living organism and views the individual’s relationship with his/her social, cultural and spiritual ecology, as well as entire cosmos. Traditional Indian medicine, emphasizes the role of balance and equilibrium, thus, having various qualities in right or natural quantities is considered essential for health. Any disturbance in the equilibrium of Dhatu (Vata, Pitta and Kapha) is
considered disease, while the state of their equilibrium is health (Sinha, 1990; Sharma & Dash, 1976). It has been emphasized that essential features of a healthy person are that he possesses these three in right quantity neither too little nor too much.

With the passage of time, the conception of health and illness changed from individual and treatment approach to preventive and promotive health. It was considered important to shift the conceptualization of health from deficit orientation to competence orientation. However, emphasis was given to preventive and promotive aspects of health.

3. Preventive And Promotive Aspects of Health

In the preventive and promotive perspective of health, the roles of socio-cultural and psychological factors are considered important for preventing and promotive public health and well-being. Formally, community psychology (1965) came into existence after the Bostgan Conference and the acceptance of the goal of health for all by year 2000, was embodied in the Alma Ata declaration of the WHO has made consideration to the health of total effort. Four factors exert influence and finally determine the health status of a person. These are the effects of physical and social environmental, the behavioral patterns and lifestyles of the individual, development and provision of health services and the hereditary and genetic constitution. The final outcome of health status is determined by the interplay of these four factors. Guthrie (1988) observed
that in India and Philippines, behavior pathogens are often responsible for malnutrition higher fertility and spread of infectious diseases. Pandey and Singh (2004) evinced that family planning behavior and health behaviors are influenced by socio-demographic and psychological factors i.e., caste/community, rural/urban setting; future orientation, stress and coping.

**Time Stress – Health Connection**

Stress may have effects on, at least four physiological systems of body: the sympathetic-adrenomedullary system, the pituitary-adrenocortical system, the neuro-peptide system and the immune system. To the extent that stress affects these pathways, illness may result, and stress can produce physiological as well as psychological changes conducive to the development of illness, precursors of illness such as fatigue and achiness then develop, which, if untreated, can lead to illness and illness is found to be an important factor in the origin of several diseases.

The reason for this stress-health connection lies in the way, in which the brain interprets what is going on, how it responds to perceived threat, and how it translates those perceptions into body responses. However, it is important to note here that the brain works in a literal way. When threat is present, the brain will sound the alert, and the body will respond by mobilizing its defensive systems.
When the threat (real or imaginary) goes on for a long time, the body’s defensive changes may be forced to work continuously at high speed. Then the body may begin to wear down, lose its resistance, and be unable to cope with stress. Hans Selye called this the General Adaptation Syndrome (GAS), which begins with an alarm reaction, continues, with mobilized resistance, and ends with exhaustion if the stress persists. In the first stages of stress, unfortunately, many bodily changes are so subtle that they go undetected.

Stress reduces body’s immune efficacy, acts in certain physiological reactions, like increase in blood pressure, heart rate and skin conductivity, and also increases secretion of acids harmful to health. The affective and cognitive consequences of stressful experiences cause depression, anxiety, denial, morbid thoughts, inability to concentrate, withdrawal and performance impairment. Several classical representative studies on stress-illness relationship, have proved that stressful events lead to several health problems (Mishra & Sinha, 1999; Lazarus, 1981; Selye 1976). Recent studies reveal that moderate level of stress will lead to adaptive responses, but stress above a threshold point will have adverse consequences on health (Taylor, 2009) noted a direct relation between the amount of stress and whether or not he or she actually came down with a cold. Moreover, there effects did not depend on age, sex, education, propensity for, allergies, weight season of the year, social support and a variety of health habits, such as smoking alcohol consumption, exercise,
diet and sleep. It also did not depend on a variety of personality variables, such as self-esteem, personal control and extraversion. Cohen and Williamson (1991) evinced that stress increased the likelihood of illness and none of the factors that often moderate the stress illness relationship, make a difference. Stress is especially likely to lead to illness among people who have an initial vulnerability. The role of stress in the development of hypertension may follow the similar pattern. Stress may have little chronic impact on blood pressure levels. Psychological variables may also interact with stress, stress can indirectly affect illness by altering a person’s behavior patterns, especially health behaviors. Cohen and Williamson (1988) evinced that people, who responded, were under more stress also reported getting less sleep, being less likely to eat breakfast, consuming more alcohol and using more drugs. Stress then, may have a direct effect on illness, it may interact with pre-existing vulnerabilities, and it may adversely affect health habits. But there will still be much individual variability in whether stress causes illness. This is because stress moderators enable people to cope with stress differently.

There are three types of negative personal outcomes of stress viz.; behavioural symptoms, physical health symptoms and psychological health symptoms.

1. Behavioral Symptoms: A large number of behavioural consequences are observed as a result of time/job stress. These are: Procrastination and avoidance of work. Lowered overall performance and productivity,
increased alcohol and drug use and abuse, outright sabotage on the job, increased visits to the dispensary, overeating as an escape leading to obesity, underrating as a withdrawal, probably combined with signs of depression, loss of appetite and sudden weight loss, increased risk taking behavior, including drinking and gambling, aggression, vandalism and stealing, deteriorating relationships with family and friends, suicide or attempted suicide. Besides this, the stress is also frequently combined with low level of commitment towards the organization.

Schuler (1980) identified certain behaviours that affect the organization in negative manner. These are: quantitatively and qualitatively low performance, low job involvement, loss of sense of responsibility to the job, lack of concern for the organization, lack of concern for colleagues, absenteeism, leaving the job, accident proneness and lack of concern for the organization or low level of organizational commitment in employees.

2. Physical Health Symptoms: The effects of stress on physical health status are well established by a sizeable number of researchers. The major physical symptoms of stress are: increased heart rate and blood pressure, cardiovascular disease, increased secretions of adrenaline and non-adrenaline, gastrointestinal disorders such as ulcers, respiratory problems, increased sweating, skin disorders, headaches, cancer, bodily injuries, physical fatigue, muscular tension, tension, sleep disturbance and death.
Some employees bring some physical health problems to the job. These may be related to high risk behaviours in the social environment.

In addition, physical conditions of the work place (poor lighting, nuclear shop areas, high intensity noise levels and inadequate ventilation) may contribute to a variety of physical health problems. Eye-strain can contribute to headaches and increased errors, and thus lower productivity. Unsafe noise levels can lead to impairment or hearing disorders. Inadequate ventilation causes respiratory problems and strain on the cardiovascular system.

3. Psychological Health Symptoms: The findings from job/time stress researches report various psychological symptoms of stress which have been observed in a number of occupational settings (Pandey & Srivastava, 2004; Srivastava, 2002). Perhaps, the most predictable psychological consequence of job stress is job dissatisfaction. When this occurs, the person show low motivation for arriving at work, for doing a good job. While at work, or for continuing on the job. Anxiety, tension, anger and resentment are among the more commonly reported symptoms. Some people find the time pressure so great that they psychologically withdraw from the work and hence experience more depression. This occurs after employee’s failure to correct the stress situation. When this occurs frequently, the outcome may be a form of learned helplessness that presents the employee from making corrections everywhere; it is within his or her abilities to do so. On the other hand, some employees probably
never try because they develop learned helplessness to the work through consequences of stress or damaging to employee’s health/ behavior connections.

Literature, available on stress health connection indicates two main points (i) the relation between stress and health is a two way street. Stress affects health and health affects the ability to deal with stress. Poor health reduces individual capacity for successful coping. It makes no difference whether poor health results from injury and environmental hazard, lifestyle and self-defeating behavior, or the gradual weakening of body resistance by prolonged emotional stress.

On the positive side, engaging in adaptive coping and health behaviors conserve the body’s defensive resources, increases resistance to stressors, improves both the mental and physical sense of well-being and leads to increased productivity and satisfaction with living. Overall, the effect is one of enhanced personal functioning benefiting interpersonal, social and professional areas of life, (ii) Efforts to maintain wellness should not be isolated activities, as though they had nothing to do with stress management. And conversely the effort to manage stress should incorporate sound health strategies. Contrary to this, if stress is excessive and ill managed, the ill-consequences in the form of behavioral or physical/ mental health problems take place.

A large number of studies indicate that stress – health relationship is moderated / mediated by numerable number of factors i.e. coping, life
style, family structure, perceived control, coping styles and strategies etc. In this connection the role of future orientation and time management in work stress - health relationship has also been identified important (Shukla, 2010) Therefore, future orientation as a dispositional characteristic may play significant role in managing time stress – health relationship.

**Stress Consequences in Medical Professionals**

The sources of stress in medical practitioners vary with the type of medical practice (private vs. public, hospital-based vs. community-based) and specialty. The medical profession (Job) itself is a source of stress, i.e. workload, time pressure, administrative duties, sleep deprivation, no regular meals, threat of malpractice. The organizational structure is also a source of stress, i.e. career structure, career uncertainties, inadequacy of resources and staff, lack of senior support, culture and climate of the organization. The personality factor may also be related with stress experience, i.e. personality (e.g. Hardy and non-hardy), high demands on self and others, dealing with death and dying, confrontation with emotional and physical suffering. Furthermore, staff conflict, professional isolation, patient`s expectations and demands, level of support from friends and family are factors that may sometimes create stress. Work life balance is also a kind of stress, i.e. stress over sill from work to home and vice-versa, lack of exercise and other leisure activities, lack of free time, home demands, disruptions to social life. Usually, a number
of the above factors are present in an individual doctor, and therefore the difficulties faced by the doctor are compounded and complicated. (Table 1.1)

Table – 1.1 Major sources of stress in medical professionals

<table>
<thead>
<tr>
<th>The Job</th>
<th>Workload, time pressure, administrative duties, sleeps deprivation, no regular meals, threat of malpractice.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Organization</td>
<td>Career structure, career uncertainties, inadequacy of resources and staff, lack of senior support, culture and climate of the Organization.</td>
</tr>
<tr>
<td>The Doctor</td>
<td>Personality (e.g. Hardy and non-hardy), high demands on self and others, dealing with death and dying, confrontation with Emotional and physical suffering.</td>
</tr>
<tr>
<td>Relationships with other people</td>
<td>Staff conflict, professional isolation, patient`s expectations and demands, level of support from friends and family.</td>
</tr>
<tr>
<td>Work-life balance</td>
<td>Stress over sill from work to home and vice-versa, lack of exercise and other leisure activities, lack of free time, home demands, disruptions to social life.</td>
</tr>
</tbody>
</table>

Source: (Josephine, medical bulletin, Hong Kong, 2008).

During the last few decades stress related to occupation, role and workforce and its consequences on individuals and organizations have been thoroughly investigated (Beehr & Newman, 1978; Cartwright & Cooper, 1994; Pandey & Srivastava, 2004; Thakar & Mishra, 1999; Wong et. al., 1984). However, time related stress and its consequences on health is less investigated issue in psychological research (Rice, 1987).
Therefore, present study was planned to investigate the role of future orientation in managing time stress–health relationship. Variables selected for present research are mentioned in the section of present study.

**The Present Study**

In modern time, stress in general and time/job stress in particular has become a great challenge of human life and has received considerable attention in psychological researches. Stress has become the core concern in the life of everyone, but everybody wants stress-free life. Stress at the workplace is a growing concern in the current state of the economy, where employees increasingly face conditions of overwork, time pressure, job insecurity, low levels of job satisfaction, and lack of autonomy. Workplace stress has been shown to have a detrimental effect on the health and well-being of employees, as well as a negative impact on workplace productivity and profits. Work culture and nature of job differ at some extant from one organization to another organization and exercise significant impact on employees health and wellbeing. (Pandey & Srivastava, 2004; Tiwari & Mishra; 2008). Occupations most at risk of experiencing these types of stress include police and prison departments, medical organization, banking, and community care departments (National Institute for Occupational Safety & Health – NIOSH, 1999).

Researchers have made effort to explore the adverse consequences of stress on employees and organization too (Beehr & Newman; 1978;
Cartwright & Cooper, 1994; Cooper & Lewis, 1994). A sizeable number of studies have proved the exclusive relationship between stress and illness/outcomes (Cartwright & Cooper, 1994; Cooper & Marshal, 1976; Pillai, 1987; Wong et. al., 1984). Several representative studies on work stress- illness/outcome relationship have proved that stressful event leads to health problems and behavioural deviance (Lazarus, 1981; Mishra & Sinha, 1999; Selye, 1976). Beehr and Newman (1978) identified three types of negative personal outcomes due to stress. These are psychological health symptoms, physical health symptoms and behavioral symptoms. It has also been thoroughly investigated that the relationship between stress and illness/outcome is mediated by numerous contextual or personal factors like; family structure, work environment, perceived control, coping, time management and dispositional characteristics of future orientation (Pandey & Srivastava, 2004; Tiwari, 2006; Tiwari, 2010; Singh, 2010). In this connection, future orientation and time management are found mediators in stress–illness/outcome relationship (Shukla, 2010; Rice, 1987; Durbin, 1997).

Apart from the extensive studies on stress (work/occupation/time) and its adverse consequences, several questions are still unanswered:

(i) How does time related stress cause impact on health?

(ii) How does future orientation mediate in time stress – health relationship?
(iii) What would be the role of time management in time stress – health relationship? Whether the nature of relationship varies in accordance with various time management strategies?

(iv) Whether type of hospital, job category and future orientation would influence the extent of time stress, physical and psychological illness in medical professionals?

To examine aforesaid issues, present investigation was conducted to explore the role of future orientation in managing time stress–health relationship.

Stress has a large number of definitions; but the most relevant in present era is “physical, mental or emotional strain or tension” (Gronau, 1980). Time stress should thus be interpreted as strain or tension that is generated by feelings that the available time is insufficient to accomplish the desired activities. Time-stress is defined as “an externally induced urgency (exerted upon the user) to complete an assigned task within a specified or limited amount of time.” (Wallace, Anderson & Shneiderman, 1993). It refers to whether time is viewed as pressure or not. If time is viewed as a pressure, people feel rushed, hurried and irritated, and that attitude towards time remains constant for a long duration, and people tend to feel time related stress Ozel (2001) found that time pressure, which is often present in the workplace, increases use of negative coping styles, which in turn threatens health and job performance. Researches indicate that no organization is immune of high
stress in professionals immerged by time pressure, high work demands and life hasseles.

A sizeable number of researches evinced that level of stress differed across the nature of the specialty and the duration of professional experience influences risk of morbidity in doctors. Kapur, Borrill and Stride (1998) reported significant difference between junior and older doctors, in junior doctors’ low autonomy predicted psychological morbidity while work demands were most predictive in older doctors. In relation to medical specialties for instance, work-related stress and specifically, ‘‘low task–role clarity’’ predicted later depression in emergency medicine residents (Revicki, Whitley, Gallery & Allison; 1993). Rout, Cooper, and Rout (1996) reported that while in routine work administration, job demands, interference with family and interruptions with work, predicted their negative mental well-being. Cooper, Clarke and Rowbottom (2000) showed that, in anesthetists’ communication in the hospital and perceived control over work were significant in determining job satisfaction and mental well-being. In middle-aged medical graduates generally, the effects of psychological job demands, patient demands, physician resources and work control were studied; high job demands were associated with both ‘‘work dissatisfaction’’ and psychological disorder, lack of control over work was independently associated with both dissatisfaction and psychological disorder (Johnson, Hall, Ford, Mead, Levine, Wang & Klag, 1995). A sizeable number of researches proved the adverse consequences of work stress on health,
performance and level of commitment in employees working at different organizations. (Pandey & Srivastava, 2004; Singh & Pandey, 2013; Tiwari, 2006).

Medical profession is found a challenging job in which emergent duties are required. Obviously, such type of job makes professionals prone to work/time stress. Medical sector specifically have several kinds of stressors, will not be found in other non health sectors, as professionals have to work in a unique environment; full of noise, pollution, susceptible to infections. It is a job seeks patience, high mental and physical capabilities (Ugur et al., 2007). In their daily basis practices they were exposed to life and death situations, workload, long working hours in different shifts, competition, insufficient knowledge and information sharing with peers and physicians (Milutinovic et al., 2012).

Most of the stress researches on medical professionals evinced the role of personal, social and contextual factors in stress – health relationship. But in the context of time stress – health relationship particularly in hospital setting, very few studies are found. In view of these considerations, the problem of present research is quite relevant and meaningful in the context of present era of pre-dominant stress and anxiety in every walk of human life. Certainly, the stress has become an inevitable part in the life of medical professionals in modern era representing serious costs for medical field in general and employees/professionals in particular.
Against this backdrop, present research endeavored to investigate the role of future orientation and time management in time stress – health relationship. A brief description of variables selected for present research, is given in the following section:

**Type of Hospital**

The context or workplace plays crucial role in the occurrence or non occurrence of stressors that create stress. One type of organization might differ from another type and these differences exist in terms of their structure which includes organizational formalization, inflexibility, group cohesiveness, amount of subordinates or staff support, degree of spatial distance between workers etc (Podsakoff, 1997).

Many stress researches conducted worldwide in various types of workplace and occupation assumed that the feeling of stress of workers in government and private organizations differ (Boyne & Walker, 2004; Goulet & Frank, 2002). Srilatha and Harigopal (1985) illustrated that role conflict was negatively associated with job category, job tenure, age etc. in public sector organization. In private sector, it was negatively related to satisfaction with working conditions, co-workers opportunity for growth. Vijay and Vazirani (2012) compared between the main stressors of nurses in 5 private and 5 public hospitals in India. Salary and other incentives, job security ranked the highest stressors in the private hospitals while in the public hospitals: unstable time scheduling, long working hours in addition to the formal relations with seniors were the major nurses’ stressors. In a study Shukla (2010) also found that, teachers
working at private schools expressed high level of work stress than those working at government schools.

Several comparative studies on medical professionals of Government Hospitals and Private Hospitals showed that, in government hospitals the major benefits of a government medical professionals are monetary benefits, job security, job satisfaction more exposure and more experience. Whereas, disadvantages of working in government hospitals are long working hours and shortages of resources. Brunetto and Farr-Wharton (2005) suggested that, in particular, public sector nurses experienced increased workloads, poorer working conditions, inflexible scheduling, increased intensity of work, loss of work autonomy and increased accountability – especially in relation to increased record-keeping and data collection. However, in private hospitals the major benefits of a professional working in private hospital are better technology and multi-tasking. Whereas, the disadvantages are that their salary is comparatively lesser than that of the government professionals. Moreover, their exposure to cases is limited due to limited strength of patients (Violanti, 2010). Jahan and Kiran (2013) reported that nurses working at private hospitals suffer from many stressors and face many problems and were found dissatisfied with their job and salary. It can be concluded that the work-life balance and job satisfaction among private sector nurses is not equilibrium. In private hospitals, nurses work continuously long hours and they are not satisfied with their job,
whereas, nurses working at government hospitals have a good work-life balance and are satisfied with their job.

An overview of these research findings indicates that both government and private hospital professionals face challenges of work–life balance. Their need to be a periodical review in terms of their work and personal life satisfaction, otherwise, they would be subjected to severe stress. Hence, an attempt has been made to make a comparative analysis to study the difference in the level of stress among government and private hospital professionals. Therefore, the type of hospital was taken as an independent variable for present research work with an aim to reduce this gap. As literature pertaining to stress research suggested that apart from structural characteristics of organization, job hierarchy, job category and position in organization can also influence the feeling of stress therefore job category was selected as another independent variable for present investigation.

**Job Category**

Nature of job differ at some extant from one category to another category of job and exercise significant impact on employees health and wellbeing. Occupations most at risk of experiencing these types of events included police and prison officers (Singh & Pandey, 2013), medical and paramedical professionals, banking staff, and community care workers (Singh & Pandey, 2013; NIOSH, 1999; Pandey & Srivastava, 2004; Tiwari & Mishra; 2008).
The 20\textsuperscript{th} century has seen a considerable change in the workforce structure in industrialized economies. Employees are commonly faced with greater demands and less job security, both of which are likely to be stressful, thus psychological disorders especially depression may increasingly be caused by work-related stressors. The findings from occupational stress research is consistent with the more general life event stress literature showing that specific acute work-related stressful experiences contribute to ‘depression’ and, more importantly perhaps, that enduring ‘structural’ occupational factors, which may differ according to occupation, can also contribute to psychological disorders.

Working in health care weather in clinics or in hospitals is complex and diverse from one case to another, collaboration and synergy between health care staff is a basic requirement for success; lack of this kind of interaction is considered a stressor (Huang et al., 2012). The job of physicians and nurses is found stressful. Both perceived and real differences in power and status between physicians and nurses can lead to problems when these health care providers do not agree on a patient's plan of care. Traditionally, the profession of medicine has emphasized expertise, autonomy, and responsibility more than interdependence, deliberation, or dialogue. Nursing, on the other hand, has emphasized hierarchy and bureaucracy, though emphasis on these has diminished along with deference to physicians (Vive, 2000). Although earlier, nurses/paramedical professionals were used to follow orders of doctors and superiors, they have learned to adapt their approaches with
physicians to accomplish their patient care goals. The different emphasis that physicians and nurses have towards patient care may lead to strained physician-nurse relationships, which may in turn compromise patients, unless the physicians and nurses develop collaborative relationships (Zwarenstein & Reeves, 2002).

A plethora of studies identified that work stress was found higher in officers and clerks than class IVth employees. Furthermore, employees of short job tenure expressed more stress than their long job tenure counterparts Mishra & Srivastava, 1997; Tiwari, 2006). Pandey and Srivastava (2000) showed that teachers reported less stress than railway clerks. Ulrich et al. (2010) considered the commitment to be ethical in dealing with patients and maintaining acceptable level of their privacy and confidentiality, satisfying patients’ needs in a proper way, one of the major stressors in the doctor’s daily duties. Moral stress and the expected ethical behaviors from doctors and moral conflict between what they believe that is right and what they obliged by their organizations to do could have unsatisfactory results on their satisfaction and their intention to quit (DeTienne et al., 2012).

Studies on paramedical professionals report that nurses who are working at agencies specialized in treating drugs and alcohol addiction will rate high levels of work stress and also high levels of turnover. They had to be highly skilled, healthy, both mentally and physically and also satisfied to cope with the abnormal working conditions. In general nurses are always affected physically and emotionally from work load, difficult
unusual work conditions, time pressure shortage in nurses numbers especially registered nurses in nearly all countries will make the situation worse (Dave et al., 2011 & Duraisingam et al., 2009). Their dissatisfaction is often attributed to heavy workloads, leadership styles, motivation, inadequate training, and lack of respect (Lu, While, & Barriball 2005). Compared to their counterparts in other health care settings, such as those who work for home health care, staffing agencies, and acute care facilities, nursing home facility employees are often underpaid (Lu, While, & Barriball 2005).

In medical profession the stress increased usually for new graduates and for those who are working in ICU, emergency and mental health sections (Laal and Aliramaie, 2010). Paramedical staffs and other health workers generally have psychological morbidity rates higher than the general population; in a large NHS sample in the UK the relative risk of disorder was 1.5 and was most marked in direct care staff and women in particular (Wall et.al, 1997). In nurses (Firth & Britton, 1989), “burnout-related absenteeism,” was predicted by “ambiguity about authority” and perceived lack of social support at work; this study was however limited by a low 43% response rate. In another sample of nurses (Burke & Greenglass, 2000) psychological well-being was predicted by the congruence of work status (full- or part-time) with the desire for that degree of employment.

However, to get into further insight in understanding time stress and illness in paramedical and medical professionals in relation to personality
process variables, more studies are needed. Therefore, the mediating role of future orientation and time management in time stress – health relationship, were considered important in present piece of research.

**Future Orientation**

Future orientation is the image individuals have regarding their future, as consciously represented and self-reported. Like autobiography, it tells a personal subjective life story consisting of those life domains individuals deem important, and gives meaning to one's life. Its importance for individuals' motivation and self-definition has been acknowledged by both psychologists (e.g., Bandura, 2001) and common man, as attested by the frequent use of future metaphors for promoting both commercial and public interests. Future orientation includes attitudes, feelings and judgments concerning one’s future. It also includes extension, attribution and planning towards future. It is therefore, possible that future orientation may serve as schemata under which further information may be comprehended and organized. Future orientation may, thus, influence formation of other attitudes. It has already been shown that socialization experiences influence the development of temporal orientations. Furthermore, these temporal orientations are accompanied by value orientations (Gonzalez & Zimbardo, 1985; Trommsdorff, 1983).

Gjesme (1983) made distinction between future orientation as personality characteristic and situational arousal of it. The assumption underlying this problem is that, differences in dispositional personality
characteristic of future orientation may be related with differences in values attached to such thinking and planning about future. Some groups are characterized by present orientation and it is therefore, argued that such values regarding future or present orientation have functional significance (Gonzalez & Zimbardo, 1985; Trommsdorff, 1983). If this is so, then it may be expected that persons with high future orientation will also place high value on this ability because of their involvement with future planning, goal setting and management of time, because such orientation makes it possible for them to visualize the map of things to come and plan for them.

A sizeable number of researches evinced that effective reproductive health behaviour was found to be positively related with future orientation (Geis & Gerrard, 1984; Mahadevan, 1984; Pandey & Yadav, 2013). Other researchers have also identified positive linkage between future orientation, family planning attitude and F.P. adoption behaviour (Pandey, 2001, 2012; Pandey & Singh, 2004). Future-oriented thinking is well-represented in research and theory in the area of personality, as well. Researchers have identified reliable individual differences in expectations about future outcomes and their attainment (e.g., dispositional optimism, Scheier & Carver, 1985, and hope, Snyder, 1994), and in the proportion of cognitive activity devoted to past, present, and future outcomes (e.g., temporal orientation, Zimbardo & Boyd, 1999). Individuals have also been found to differ on the value they place on future vs. current outcomes (Strathman, Gleicher, Boninger, &
Edwards, 1994) and in their ability to forgo short-term rewards in favor of long-term benefits (Mischel et al., 1989). Many of these beliefs and skills have been shown to have robust prospective links to important achievement, health, and other outcomes in a wide variety of populations and settings. In a series of studies, Oettingen et al. (1996) have examined the processes through which different ways of thinking about future outcomes are related to the successful generation and enactment of thoughts and behaviors required to attain or to avoid those future outcomes. In longitudinal field studies in domains as diverse as weight loss, employment after college, and dating, those who fantasized about future outcomes were consistently less likely to achieve them than those who held expectations of their attainment (Oettingen, 1996; Oettingen & Mayer, 2002). In their contribution, Holman and Silver (2005) review studies that examine the concepts of temporal orientation and time perspective. These studies have established that there are reliable individual differences in whether people are predominantly cognitively focused on the past, present, or future. These differences, in turn, have been linked to a number of important behaviors and outcomes, such as achievement behaviors, health behaviors (Kahana et al., 2005), and adaptation to negative life events (Holman & Silver, 2005).

However, the role of future orientation in managing time stress – health relationship has not been clearly investigated and therefore future orientation as a dispositional characteristic was selected another variable
for the present investigation. Future orientation includes planning and goal orientation, thus it may have favorable link with time management.

**Time Management**

Time management is required for getting the best out of one’s time and habituating oneself to use the time effectively. Time being the most finite and scare resource, needs to be planned and managed properly, and otherwise nothing can be managed. Durbin (1997) defined "time management as the process of structuring and organizing time to result in better productivity and also to ensure a high quality of living for individuals". Further, discussing the concept of time management, Wainwright (1992) pointed out in his book titled, ‘Steps For Success’ that, time is finite resource which cannot be recycled like many other resources. He has drawn 12 principles of time management from the chronemics, which are; speed an activity up, set deadlines, use flexible performance strategies, use anticipatory scanning techniques, be selective in your perception of cues, keep records of the way you do the things, set aside a little time, always allow imagination and intuitive responses, keep your mind open, try to do things just right on time, have a reverse bank of activities ready and periodically analyses your performance critically. Whereas, Covey (1994) view`s time management from a totally different perspective. According to him, understanding of the underlying paradigms of time management is of vital importance because our paradigms are the maps and hearts out of which our attitudes and behavior and the results in our lives grow.
According to Jack Ferner, time management is efficient use of our resources including time, in such a way that wear effective in achieving important personal goals. There are several reasons why it is important to the problems of time stress and health. Modern society is time driven if not time obsessed. The type A behavior pattern is presumably the epitome, the extreme expression of that all consuming sense of time urgency. It may not be fair and appropriate, but it is a fact of modern time that value and importance is calculated in terms of money, power and position which generally require high productivity to attain and being productive usually means working hard till long hours. The study of time management may help us rethink some of our attitudes towards time and reduce the sense of time urgency.

It is clear from several studies that future orientation leads to planning and goal orientation. Thus, time management is clearly implied in future orientation because it also includes planning and goal clarity, which works as a buffer in mitigating adverse effect of time stress on health. In this regard, time management was taken another variable to determine its link with time stress and health/outcome variable.

**Health (Illness)**

Health is connected to the persons’ lifestyle and values (Pulkkinen, 1993). According to Pulkkinen (1990) people differ in the adoption of healthy lifestyles, even when living in very similar circumstances. Nupponen (1993) defined health behaviour as conscious activity aimed to improve own or others’ health. Health-related behaviour affects one’s
health, even if the person has not intended it. Glendinning, Hendry and Schucksmith (1995) defined unhealthy behaviour as smoking, alcohol use and positive attitudes to drugs. By contrast, exercise is a variable enhancing health. Time urgency or time pressure may cause physical and psychological illness.

The concept of health is changing with the passage of time. Now, health is viewed not only as the total absence of disease, but also it includes social and behavioral well-being. However, it has comprehensive meaning which is reflected in the definition of World Health Organization (WHO) which defines health as, “A state of complete physical, mental and social well-being and not merely absence of disease and infirmity” (WHO). This definition provides a comprehensive conceptualization on health as: (i) something which goes beyond the more absence of disease, and (ii) that health has social and psychological characteristics.

Stress may have effects on, at least four physiological systems of body: the sympathetic-adrenomedullary system, the pituitary-adrenocortical system, the neuro-peptide system and the immune system. To the extent that stress affects these pathways, illness may result, and stress can produce physiological as well as psychological changes conducive to the development of illness, precursors of illness such as fatigue and achiness then develop, which, if untreated, can lead to illness and illness is found to be an important factor in the origin of several diseases.
The reason for this stress-health connection lies in the way, in which the brain interprets what is going on, how it responds to perceived threat, and how it translates those perceptions into body responses. However, it is important to note here that the brain works in a literal way. When threat is present, the brain will sound the alert, and the body will respond by mobilizing its defensive systems. Stress reduces body’s immune efficacy, acts in certain physiological reactions, like increase in blood pressure, heart rate and skin conductivity, and also increases secretion of acids harmful to health. The affective and cognitive consequences of stressful experiences cause depression, anxiety, denial, morbid thoughts, inability to concentrate, withdrawal and performance impairment. Several classical representative studies on stress-illness relationship, have proved that stressful events lead to many health problems (Mishra & Sinha, 1999; Lazarus, 1981; Selye 1976).

Literature, available on stress health connection indicates two main points; first, the relation between stress and health is a two way street and secondly, stress affects health and health affects the ability to deal with stress. Poor health reduces individual capacity for successful coping. It makes no difference whether poor health results from injury and environmental hazard, life-style and self-defeating behavior, or the gradual weakening of body resistance by prolonged emotional stress.

**Statement of Problem and Hypothesis**

A cursory glance at review of studies evinced the role of numerous factors in stress – health relationship in several organizational
contexts. However, the roles of structural variable (i.e. Type of Hospital),
organizational variable (i.e. Job category) and personality/process
variables (i.e. Future orientation/time management) in time stress – health
relationship are still less explored issues specifically, in medical
organization.

Against this backdrop this research was carried out to investigate the
influence of future orientation in managing time stress – health
relationship in medical professionals.

**Objective:**

This research was carried out with following objectives:

(i) To investigate the role of future orientation in managing
time stress – health relationship.

(ii) To study the impact of type of hospital, job category and
future orientation on time stress and health status of medical
professionals.

**Hypothesis:**

On the basis of above objectives, following hypotheses
were formulated. It was hypothesized that-

1- There would be close link between future orientation, time stress, time
management and health. More specifically,

- Time stress and health (illness) would be found positively related
to each other.
- Future orientation would be found positively linked with time
management.
Future orientation and time management would be found inversely correlated with time stress and health (illness).

2. Future orientation would be found a salient modifier variable in the time stress–health relationship. Similarly, time management would be found a strong buffer in mitigating time stress–health relationship. The modifying effect of time management in time stress – health relationship would vary in accordance with different strategies of time management.

3. The level of time stress and health (illness) would be influenced by type of hospital (government and private), job category (Doctor and paramedical staffs) and level of future orientation (High and Low). More specifically,

- Private hospital professionals would show greater extent of time stress as well as physical and psychological illness than those professionals working at government hospitals.
- Paramedical staff would experience higher level of time stress and poor health status as compared to doctors.
- Low future oriented (L.F.O.) professionals would express high level of time stress and more physical and psychological illness as compared to high future oriented (H.F.O.) professionals.