



## Stress and Health at the Workplace-A Review of the Literature

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### **Abstract**

*This review of the literature gives information about work stress, factors in the working environment that cause stressful situations and negative health consequences of the workplace stress. Stressors are pointed out in details that lead to stress at the workplace. Approaches to the stress are explained and most famous models of the stress are assessed critically in this review. This article highlights the work stress and its adverse effects on the physical and mental health of an employee. Finally, recommendations for future research are given and areas are highlighted where there is need of more empirical research.*

**Keywords:** Stress, Health, Employee, Work

### **Introduction**

Stress is a result of social relationship in such a way that a person may undergo stress because of the people in his social circle. A person may undergo stress especially when he assumes a danger to his social respect. Stress possesses both negative and positive outcomes. Stress is normally a response to the danger. When a person perceives danger, automatically signals are transferred to the mind and reaction to that danger is generated. In positive sense, stress pulls us towards a necessary reaction and solution against the threat posed to us. While in negative sense, stress is a barrier which reduces productivity and plays a major role in creating hurdles to achieve our

targets. In an organization, stress brings behavioral changes which ultimately decrease the cooperation between the employees of an organization.

It is a well-established fact now that the stress is becoming more complex at working area in many industrial countries. With the sizeable increase in stress problems, there is also a sizeable loss in term of money in all over the world collectively and also millions are badly affected individually. Absenteeism because of disease, psychological health problems, unexpected events and many more are the outcomes of the stress at working areas. The negative outcomes of workplace stress are pushing the governments towards for making laws in favor of employees due to an increase quantity of the publications and research done in this field. The problems created because of workplace stress are not limited to a particular profession or a particular country; it has caused long-term effects everywhere in the world (*Mark, 2008*).

### **Objective:**

Work stress is an old problem, but more consideration has been given in the recent decades than any other time before. It is generally believed that the stress at work has adverse effects on the health of an employee and on the organizational health in every sector of employment.

There are some basic questions that should be answered:

*“What is work stress?”*

*“Does work stress influence health of an employee?”*

If yes then, *how work stress influences the health of an employee?*

This review paper is based on these questions.

The focus of this review does not mean that work does not have positive effect on the health of an employee. There is proof that under certain situations work has positive effects on the health of an employee and it develops mental comfort (*Baruch and Barnett, 1987*). Work may have positive effect on the physical health of an employee (*Repetti, Matthews & Waldron, 1989*). Particular work components may be favorable for the health of an employee such as energy expenses (*Fletcher, 1988*).

The main objective of this review is to know about the work stress and its effects on the health whether positive or negative.

### **Work Stress**

The word stress is being daily used by most of the people but the meaning of stress is not clear to them. All the current definitions of stress state that people experience stress because of the demands or pressure, it is an individual experience and ability of the individual to manage the

things is effected by the stress. Job stress arises when there is imbalance between the job demands and abilities and skills of an employee to deal with these job demands (*Blaug, Kenyon & Lekhi, 2007*).

*“Stress is a combination of physical and psychological reactions to events that challenge or threaten us. In normal circumstances, the stress response is a powerful protective mechanism that allows us to deal with sudden changes, dangers or immediate demands. In abnormal circumstances, stress overwhelms our protective mechanisms, leading to serious negative health outcomes” (CUPE, 2003).*

The negative impact of job stress on physical conditions and prosperity of workers is a major issue in the developed nations, the experts from the developed countries like European Union, Japan and America and even from the developing nations focused on job stress and its impact on health of employees (*Kawakamii & Haratani, 1999*).

Stress is a worst condition of emotions in terms of physiological rise when people experience a negative situation in such a way that they perceive a danger to their prosperity. Perceptions of people about stress vary. Some people perceive that stress is a situation of negative feelings which causes depression, antagonism and hostility. While other people may perceive that stress is a result of negative feelings. The response to negative feelings is physiological which brings behavioral and emotional changes such as high blood pressure, and muscular strain. From physiologist point of view, stress involves the perceptions of people which are a result of the unfavorable feelings. Stress is a state which some one experience when there are unrealistic deadlines, and less time to complete targets.

Job stress is explained as the adverse physical and mental reactions that appear when the job demands do not match with the abilities, skills, or requirements of the employee. Bad health and injury can result from job stress. The idea of job stress is usually mixed up with the challenge, but these ideas are different from each other. Challenge activates us physically and mentally and we are excited by it to gain new talents and learn about our jobs. After meeting a challenge, we feel calm and contented. So, challenge is an essential element for active and profitable job. In our job lives, there is significance of challenge just like that some portion of stress is fine for us. The challenge may convert into job demands that cannot be completed, leisure may convert into tiredness, and a feeling of comfort may convert into stress. Briefly, the result will be bad health, harm, and loss of job (*Sauter et al., 1999*). Stress emerges when there is mismatch between

demands of the job and level of control of a worker over job tasks. Sometimes we are facing positive stress which helps to achieve our goals. But high stress has negative outcomes.

Stress changes the thinking, behavior and feelings of the individual and brings modification in their physiological functions (*Stainbrook and Green, 1983*). Most of these changes are ordinary defects and displeasure is also connected with it. Many of these are not lasting but still destroy to the quality of life at a certain period of time. Stress at work may lead to social problems, ill mental and physical health outcomes and bad job performance. The relationship between stress and its precedents and health is constant but cautious (*Baker 1985*).

### **Job Stressors**

The word stressor means any tense happening or circumstances emerging from the environment or from inside the individual. Stressors generate mental or physiological responses which are mostly harmful and sometimes signs of psychological or physical defects are observed. The stress response is the result of the stress that occurs from the stressor. Stress is the reaction to a stressor by which a person is suffered both mentally and physically. The response of stress may be benign or serious which depends on the type and intensity of the stressor and sensitivity of individuals to stress (*Chay, 1990*).

There are three common types of stressors: (1) calamitous occurrence which guides to hasty, rare, strong distinct circumstances or related happenings by which a large numbers of people are influenced e.g. natural calamity, war, to move to a different location, (2) Major transitions that threat flexible abilities of individuals likewise calamitous occurrences but influencing less number of persons e.g. death of a dear, job lost, sickness, and, (3) daily problems which guides to constant, steady, and repeated issues e.g. lack of job satisfaction, travelling to work, having dispute with companion/partner, job clashes between employees. These three categories of stressors have closeness in the sense all have cruel stimuli (*Lazarus & Cohen, 1977*). Most common stress is the job stress which is faced by the employees at workplace.

Research studies on the work stress show that various organizational factors are responsible for anxiety and negative health outcomes. Literature agrees on the stressors i.e. what are the causes of stress and strain i.e. outcomes of the stress. Stressors can be of two types: physical or psychosocial. Both types of stressors can affect health physically and mentally and can work together may interact with one another (*Cox, Griffiths & Rial-González, 2000*).

Hence the increased hustle and bustle type of routine because of the pressure in the new era of large scale companies and an increase in competition could result in a stressful environment.

Many problems can lead to stress like less control at work, a few vacations, increasing duty hours, less bonus, no security of jobs, and least chances of promotions. Sometime a few other factors are also responsible like no significant work, less time more work, little help, no feedback, work not matching to the skills, work conflicts and conflict with other employees (*Griffiths, 1998*).

People experience stress commonly. We may feel stress when we have little time to as complete our important deadlines. Often people experience stress because of problems at job such less control over job tasks, overwork, unrealistic targets, etc. Some people may feel stress when they have fear of failure.

Stress is caused by over work which is health and safety issue in an organization. Over work is categorized as: long duty timings, unfair job demands, various job tasks, to force for overtime, a few recreation opportunities, pressure to speed up work, to monitor performance, more expectations and no substitute of the employees during their off days (*CUPE 2003*).

We cannot avoid stress at workplace and in our personal lives. Some organizations have low stress and some have high stress which adversely affects the health of its employees. Justice in an organization is a circumstantial factor at work which creates positive low stress in an organizational environment. There is negative relationship between workplace stress and health of an employee. Long working hours and work burden are observed the most important stressors in this study (*Rahman, 2013*). Physical working conditions are also causing stress i.e. noise, insufficient lighting, low or high temperature, less space more employees, badly managed working environment, improper circulation of air, poor plan of office building, exposure to dangerous machinery and lack of entertainment facilities. These stressors are causing stress in an organization (*CUPE 2003*).

Most common reason of the job stress is the workload. Other reasons of the work stress are long working hours, alteration, violence, downsizing, job shifts and sexual harassment (*Blaug, Kenyon & Lekhi, 2007*). Reorganization, layoffs, job insecurity, poor working conditions can all lead to stress. Lack of coaching, many job demands, difficult targets, insecurity, office politics, antagonistic management, rough working conditions, more than one boss, monitoring, low self-esteem among employees are the main sources of job stress (*CUPE, 2003*).

A review of the literature show that there are some important factors which are responsible for ill health of the employee in an organization and these factors are long working hours, work burden,

less control over job tasks, no participation in making decisions, lack of social support, poor management and ambiguous job description (*Michie & Williams, 2003*).

*CUPE 2003* states that there are various factors at organizational level which cause stress such as less authority, job demand conflict, less decision making power, lack of briefing, organizational changes, unfavorable behavior of seniors, less appreciation, repeated and insignificant work, ambiguous job responsibility, low salary, less chances of promotion, job insecurity, more or less work, work burden or underutilization of skills, bad communication, new advancements, deadline pressure, various job reorganization plans and oppressive ways of management.

There are various causes of work stress i.e. workload, poor working conditions, working alone, job insecurity and other factors are also responsible for work-related stress.

Stress is a phenomenon which differs from person to person. People have different level of stress even in similar situations because of the various reasons. The intensity of job stress relies on the degree of the job demands and the ability of the individual to control these job demands or freedom to make decisions at the job (“Workplace Stress”, 2015).

NIOSH supports the view that working conditions are the basic cause of job stress. Job stressors (irritating working conditions) can directly affect on the health of employees. Individual and different situational elements can interfere to enhance or lessen this affect (*Sauter et al., 1999*).

Almost everyone admits that job stress will result from the relationship between the employee characteristics and the working conditions. Specific working conditions will lead to stress or not, depends on the characteristics of the individual i.e. personality and managing habit. We cannot neglect the value of individual characteristics. A situation which is stressful for one person may not be an issue for another. Mostly people suffer from stress by certain working conditions for example: extreme load of work requirements and contradictory expectations (*Sauter et al., 1999*).

Some persons do well when they face time pressure in life, and they have to perform various tasks simultaneously and things to do list provided they feel that things are in their control, same situation may defeat most of us. These persons will be badly stressed by work which is dull and have no deadlines, enjoyed by others who avoid duties and want to do tasks that they can perform easily with their abilities (“Workplace Stress”, 2015). Effects of stress on people may vary.

## **Approaches to Stress**

Welford (1973) introduced a specific form of approach to stress, based on stimulus in which he defined stress in terms of demand. He suggested that human body will perform better in case of balanced demand and a tranquility of mind is maintained identical to the physiological homeostasis. If the demand is extremely high or extremely low, performance will be influenced.

According to *Cox & Griffiths (1995)*, majority people are agreed on that there is no specific definition of stress. *Cox and Griffiths (1995)* indicate that there are maximum three different ideas to define the stress. These ideas are engineering approach, physiological approach and psychological approach.

The ***engineering approach*** is an approach where stress is considered a feature of the environment in terms of demands expected from an individual, stress as an independent variable precedes to the negative health outcomes. Symonds states (1947, cited in *Cox & Griffiths, 1995*) that “stress is that which happens to the individual, not that which happens in him”. Stress and health outcomes are separate but interrelated to each other. Stress is actually a combination of causes, not a combination of diseases. There are various causes of stress and stress leads to the health problems.

The ***physiological approach*** is an approach where the stress is defined on the basis of biological or physiological changes which come in an individual as a result of stress. *Selye, 1930* (cited in *Cox & Griffiths, 1995*) was a leading supporter of this approach, and supposed that negative physiological responses are occurred in an individual as a result of harmful stimuli of environment. This happens in three levels: warn, fighting and tiredness.

Selye (1946) stated that stress is flexible in the short run in which one can keep safe himself from threat and avoid danger but in the current era of modernity; the increasing demands are causing continuous stress in individuals that lead to negative health outcomes. Selye named this a “Disease of Adaptation”.

The third approach is the ***psychological approach*** by Cox and Griffiths (1995) where stress is not considered only a reaction, but it’s an active state that happens to an individual as a result of an interaction with the environment (*Cox et al. 2000*). Cox (1987) termed this as “the stress process” and approves a cognitive theory, which is related with the psychological changes that result when a person is under stress.

*Cox and Griffiths (1995)* informs that the concepts of engineering and physiological approaches are weakened, because these theories tell us that people respond to the threat slowly and do not

clarify the certain effects of emotional or situational factors on performance and welfare. For instance there is the impact of noise on intellectual tasks in which noise type is an important element for the performance instead the level of the noise. In addition, in psychological approaches individual differences affect the stress process because of the individualistic elements like personality, gender, dealing abilities etc. Why some people can deal with stress easily while the others cannot, will be answered by these individualistic factors. People can deal with stress according to their personalities or characteristics.

### **Models of stress**

There are various models of job stress, and these vary in fame and statistical support. Some of these models are discussed here that were powerful in the past research of job stress. These models are Person-Environment fit and the Vitamin Model. Some currently famous work stress theories are also discussed i.e. the Demands-Control Support, the framework of occupational stress and Effort-Reward imbalance model.

#### **The Person-Environment-Fit model**

The Person-Environment-Fit model states that the congruence level or fit between an individual and his working environment can have major effect on health, prosperity and performance (*French, Caplan & Harrison, 1982*). The key assumption of the person environment fit theory is that stress originates when there is misfit between person and environment- from both components combined because factors of each component relate to another. Stress emerges when an individual observes that working environment is not good or is not fit according to his desire and he is not satisfied from work. These inconsistencies create stress which has negative impact on the health of employees.

If the demands of the job do match with the knowledge, skills and abilities of the individual, the result will be the healthy working environment. If there is high gap between the person and his environment, it will create problems. When demands of the job exceed abilities of the individual, the stress will be the outcome (*Sonnentag & Frese, 2003*). This model demonstrates the difference between personal feelings about reality and objective reality and between the objective working environment (real demands and rewards) and objective person (real skills, resources and wants). The stress will result if there is any misfit between the combinations of these elements (*Cox et al., 2000*).

This model also provides protective system to lessen the subjective imbalance by rejection, evaluation of wants and managing and objective imbalance can be reduced by learning new

expertise (*Buunk, deJonge, Ybema, & deWolff, 1998*). Work Environment involves job demands, duty expectations, and company standards. To be fit with the environment, person has to respond with his capability (learning, skills, preparation, time, and vigor) to the environmental demands. The concept of this theory is that the larger the inconsistency between person and environment, the higher the probability of stress and there will be need to deal with this stress (*Bickford, 2005*).

The main focus of this theory is on the wants, beliefs and skills of the individual. Person-Environment fit model does not explain in detail specific working conditions that lead to stress because it avoids the role of environmental forces in creating stress. This shows that Person-Environment fit model is not suitable to the study of factors in working environment (*Ganster & Schaubroeck, 1991*). The person environment fit model is advanced but this approach is imperfect because the harmony between the person and environment is stagnant. It focuses on the stable relationships and ignores the dynamic process of activity and interplay in the working environment (*Lazarus, 1991*). There is limited practical support for this theory (*Buunk et al., 1998*).

### **The Vitamin model**

*Warr (1994)* suggested a model which shows the effect of job stressors on the health of an individual. This model says that impact of stressors is similar to the impact of vitamins. Nine characteristics of job were highlighted, out of which three elements (safety, salary, and task significance) are same to C and E vitamins in their impact, just like insufficiency can harm body but exceed amount will not have damage anything. The rest of the factors (job demands, autonomy, social support, skill utilization, skill variety and task feedback) are the same to A and D vitamins in their impact that is excess amounts are risky. This vitamin model is more complex as compared to other stress models.

The Vitamin model contains powerful feelings and there are three aspects of the health i.e. dissatisfaction-satisfaction, tense-relaxed, and sadness-happiness. The influence of factors of job on the health can be moderated by individual differences (*Buunk et al., 1998*). *Warr states (cited in Buunk et al.1998)* that there are the three major kinds of individual differences such as values, abilities, and baseline mental health and when individual characteristics are matched with the job factors, moderating influence will be healthy.

The Vitamin model has attractive basis but confirmation of the model is varied and ambiguous (Sonnentag & Frese, 2003; Buunk et al. 1998). Van Veldhoven, Taris, De Jonge & Broersen (2005) state that this model needs to be explored experimentally.

### **The Demand-Control Support Model**

The job demand-control model is a model of job stress which is broadly used to show the relationships between job stress and employee health. The basic theme of this model is that stress occurs when employees have high demand and low job control. High level of stress will affect negatively to the health of an employee. When job demand is low and job control is high, the skills of an employee may decrease. Another aspect of this model was social support at work (Johnson & Hall, 1988).

The demand control support (DCS) model states that main cause of work stress is work content. Work content has two components in this model: employee's feelings about the job tasks that he has to perform at the job (job demands) and employee's feelings about the level of control that he has on these job tasks (job control). These two constituents are related to each other and stress level of an employee will be determined by these components. In case of high job demands and less control on these job demands will result in high level of job stress. A third component i.e. social support is added in an updated version of this model. Social support does not eliminate stress but protects from it to some extent. This model has been used efficiently to foresee mental stress and heart diseases threats (Bickford, 2005).

There are two hypotheses in DCS model: strain hypothesis (high stress jobs result in poor health outcomes, and demands, support and control have high independent effects) and buffer hypothesis (negative effect of high job demands is moderated by job control and social support). Strain hypothesis is fully supported by results whereas the support for buffer hypothesis is ambiguous (Van der Doef & Maes, 1998).

Hypothetical support show that demand control theory clearly explains the working conditions that are responsible for stress. This model has an ability to accurately anticipate negative effects on the health (Sharit & Salvendy, 1982). When comparing with Person-Environment fit model, Baker (1985) states that Karasek's Demand-Control model is appropriate because of the concept of control which is different from demand and measured as a separate variable. Demand and control are separate variables and the originators of stress and the difference between them permits investigation of their effects jointly and separately. This model explains new variable in the forecasting of stress as control is not evaluated as an independent variable in Person-

Environment fit model. Another attractive characteristic of this model is the comparative clarity and stinginess.

Other DCS model issues are that it defines the demand mostly on the basis of work burden, not on other demand types (*Cox et al. 2000*) and that the control concept has various dimensions but this model narrowly defines it (*Carayon, 1993 cited in Cox et al. 2000*). *Parkes (1989)* defines control types which are not mentioned in the DCS i.e. control as an objective component of the working environment, individual perceptions that how much work can be controlled and faith on the extent to which serious effects can be managed.

In DCS model high control is always preferable but some persons may not prefer control over job tasks and control may cause stress in them e.g. if they don't believe in their abilities. This model clearly explains job redesign and healthy jobs are those in which there is high control and less job demands and wide connections of social support. The DCS model is used to provide practical support for primary level interventions (work characteristics) but this is debatable that it can give advice for secondary level interventions (measures which focus individuals i.e. to give training for the stress) (*Mark, 2008*).

DCS model assumes that some factors are important and ignores the effects of common organizational issues e.g. Individuals may have high control over job tasks or low job demands but clashes among subgroups, imperfect managing skills, depends on age or gender bias. The DCS model does not explain causes of the stress. The DCS model is identified on the basis of job redesign i.e. in some jobs we can change demand, control and support levels. Nevertheless, most of the jobs are naturally hard and it is not possible to change the design of these jobs according to assumptions of DCS Model. It will be reasonable to prepare employees how to cope and to improve belief on their abilities, management of the time, information of favoritism matters, giving feedback opportunity and more reward (*Mark, 2008*).

The DCS is a well-known and effective model of job stress with acceptable anticipated validity but to summarize the stress process is restricted. This model is generally based on a stimulus-response pattern which is theoretically unproductive (*Dewe, 1991*). It will be more productive when used in combination with the other models of job factors also with individual characteristics or personal perceptions elements.

### **The Framework of Occupational Stress**

The framework of occupational stress has the same base as in the case of person environment fit theory. There are two basic arguments in the framework of occupational stress. First, stress

emerges when there is the misfit between person and environment and second, stress is generally determined by individual perceptions of working environment. The distinction between the two aspects is the definition of framework. Occupational stress is defined as a process containing the environmental causes of stress and the perceptions of individuals about them, physical, emotional, and behavioral reactions in the short run and long run and modifying determinants that affect the relationship of the variables in the process of stress.

Concept of snowball effect is applied in case of perceiving stress and the resulting stress. Bad perceptions related to work environment increase stress, which leads to the more bad perceptions of work. There is interdependent connection exists. Physical, mental and behavioral stress is created which will lead to the lasting results i.e. depression, alcohol abuse, failure, physical diseases and other harmful outcomes (*Bickford, 2005*).

The framework of occupational stress has five stages. The first stage shows the demands of working environment. The second stage show the perception of an individual of these job demands related to his ability to manage. Stress is considered a psychic condition which originates when there is imbalance between the perceptions of job demands and feeling of an individual about his ability to deal with it. The third stage is linked with the psychological and physiological changes experienced by an individual as a result of stress and involves secondary judgment and managing (*Mark, 2008*). *Cox and Ferguson (1991)* states that when a person is facing stress, psychological changes will occur in him like mood variation and emotional feelings. Anxiety, feeling of broken down and sadness etc are the signs of stress.

If a person has knowledge of obstacles that cause stress, he tries to adjust in the situation or tries to adjust the situation. If a person is unable to do so, it will lead to adverse health outcomes. The fourth stage shows the results of managing and final and the fifth stage is response which results in association with the other stages (*Mark, 2008*).

There is much research done on the influence of elements of individual characteristics i.e. locus of control, self-efficacy, hardiness etc, and its connection with the health. Information available on these elements, functioning as mediating and moderating variables, is considerably provisional (*Cooper, Dewe, O 'Driscoll, 2001; Spector, 2003; Parkes, 1994*). Additionally, this model is very complex so it's hard to test it practically contrary to the simple model of Karasek (The Demand-Control Support Model).

## **The Effort-Reward Imbalance model**

The Effort-Reward Imbalance (ERI) model is an alternate of Demand Control Support model. This model states that if there is imbalance between efforts and rewards of an employee, ill health will be the result. There are two types of efforts in the ERI model: intrinsic and extrinsic efforts. Intrinsic effort is motivation level of individuals and their need for control on job whereas extrinsic effort deals with job demands. Intrinsic effort is also known as “over-commitment”. Intrinsic effort is related to an individual whereas extrinsic effort and rewards are related to situation (*Van Vegchel, De Jonge, Bosma & Schaufeli, 2005*).

There was criticism on the concept of over-commitment in the ERI model. Previously, over-commitment was the part of intrinsic effort but later it is considered as a separate concept.

The ERI model is dissimilar to the DCS model and reflects the Person Environment fit model in that it is not the real imbalance between efforts and rewards but the feelings of the imbalance (*Siegrist, 1996*). This model indicates different perceptions because of the differences between the individuals but there is less theoretical explanation of it. The assumptions of the ERI model are supported by five main studies mentioned by *Peter and Siegrist (1999)*.

There are increased risks of heart diseases in those who are exposed to high efforts-low rewards situation as compared to the situation of low efforts-high rewards when smoking habits, age factor, blood pressure and cholesterol are fixed (*Siegrist, Peter, Junge, Cremer & Seidel, 1990; Bosma, Peter, Siegrist, & Marmot, 1998*). *Van Vegchel et al. (2002)* explains powerful impact of the reward factors linked with dignity and job safety on psychosomatic disorder and tiredness results and *de Jonge, Bosma, Peter, and Siegrist (2000)* states that individuals with high efforts and low rewards experience 21 times more nervous tiredness as compared to those with low efforts and high rewards.

*Tsutsumi and Kawakami (2004)* revised ERI model to check validity of the model as a measure of job stress and reported validity of the ERI model to measure stress. They reported that elements of job measured by ERI are different from those measured by Demand Control Support model and negative health outcomes are autonomous of each other. It is suggested that both models (Effort Reward Imbalance and Demand Control Support) are independent of each other.

ERI model does not explain redesign approach in detail but like the DCS model presents basic design rules which are based on basic interventions such as proper rewards for work, feedback processes, bonuses, chances of promotion, etc. (*Kompier, 2003*). The ERI model studies the limited number and a priori type of the elements, so its advice for possible secondary mediations

is restricted. It ignores the elements of working environment which are important in Demand Control Support Model. Research shows that when these models are used collectively, there will be more scope for these models as each can contribute to the description of difference in mental and physical health results (*De Jonge et al. 2000*).

### **New stress models**

New stress models are evolved in which important elements of the current models are included and they are expanded in different ways. These new stress models are Demand Skill Support model, Demand Induced Strain Compensation model and the Job Demands Resources model.

### **Demand Skill Support model**

The Demand-Skill-Support model (*Van Veldhoven et al., 2005*) is based on Demand Control Support model which is developed to determine how many minimum elements are needed to properly define stress and health and if such a model could be applied across a variety of professions and effects. *Van Veldhoven et al. (2005)* suggested that both quantitative and qualitative demands are related to stress and health diseases where as skill utilization and social support are more expected to relate with wellbeing and attitudinal outcomes.

This model can be criticized because of the following reasons. All of the work environmental elements are evolved from the DCS model and various actual DCS measures are divided into its sub factors. It is useful to separate forms of control such as skill utilization and task autonomy. Reasons for the selection of only DCS related factors are not mentioned except current measurement practices (*Veldhoven et al. 2005*). At the same time use of three different outcome variables is helpful (fatigue, task satisfaction, and organizational commitment). The model can be improved by the addition of emotional health related effects i.e. tension or sadness or objective effects i.e. absenteeism. The authors admit that only a few elements of the job are included in it and by adding more elements this model can be improved and conclude that this model will lead to future research. DCS based model is a good starting point for research (*Mark, 2008*).

The DSS model provides less awareness of the effect of individual characteristics in the stress process or individual thinking's of work demands. This model is a basic evaluating technique which can be used for detailed view of the levels of organizational stress. Further research can be done in this model by involving other work environmental factors.

### **Demand Induced Strain Compensation model**

*De Jonge et al. (2000)* supported that sub-factors of the DCS and ERI models had separate aggregate impact in the forecasting of nervous tiredness, job comfort and psychological and physiological health disorders. Same outcomes were observed by *Rydstedt, Devereaux, & Sverke (2007)*. *Rydstedt, Devereaux, & Sverke (2007)* and *De Jonge et al. (2000)* stated that in future research should be done by improving and joining features of these two models. A theory which tries for this is the demand induced strain compensation model (*De Jonge & Dormann, 2003*). This model was especially developed with emphasis on service job's stress.

This model states that there are different demands and resources and they should be matched in way that there are emotional resources for emotional demands of the work, cognitive resources for cognitive demands and physical resources for physical demands (*Van Veldhoven et al. 2005*). If there are low behavioral resources for high behavioral demands, low psychological resources for high psychological demands and low emotional resources for high emotional demands, it will lead to negative health outcomes. After all, if there are high demands for high resources in every aspect, it will lead to learning, ambition and improvement. This is called the triple match principle (*De Jonge & Dormann, 2003*). In this model, the principles of demand, resources, equity and mutuality are adopted from the models of ERI and DCS.

There is need of more research in this model especially for the attractive assumption that resources in a specific field are best offset by resources in the same field.

### **The Job Demands-Resources Model**

The Job Demands-Resources model takes advice from various theories and tries to show the effect of job demands and resources on health and organizational responsibility (*Llorens, Bakker, Schaufeli, & Salanova, 2006*).

Demands are the environmental elements of a job which need exertion and may lead to physical and psychological disorders. Resources are job elements that help to achieve goals at work, decrease demands and encourage progress. Therefore in the presence of working environmental demands and resource, health deterioration and ambition are affected. Burnout (from tiredness and distrust) and work engagement (from ability and loyalty) are supposed opposite mental conditions that directs to health lose (*Llorens et al., 2006*). Organizational responsibility is negatively affected by burnout because of the bad health or improved by work engagement by ambition.

The Job Demands-Resources is an interesting model which assumptions can be used in any working context irrespective of the specific demands or resources (*Llorens et al., 2006*). This model can be enhanced on the basis of DCS model by expressing that the various resources can lessen the effects of demands on stress related outcomes (*Bakker, Demerouti & Euwema, 2005*). There is significant negative relationship between job demands and organizational commitment which is mediated by burnout and the relationship between job resources and organizational commitment is mediated by engagement (*Llorens et al., 2006*). There is little support for Job Demands-Resources model which is extremely based on the DCS model and only the work characteristics are focused in most of the studies on this model (*Xanthopoulou, Bakker, Demerouti, and Schaufeli, 2007*).

Individual differences are significant in the Job Demands-Resources model but investigation of work characteristics can also help us to decide elements that are related to individual's outcomes (*Bakker et al., 2005*). *Xanthopoulou et al. (2007)* added the personal resources in this model to expand the research. Personal resources are the attributes that help in flexibility and positivism and that the association between environment and effects should be mediated and moderated by these resources. The addition of personal factors in this model and also joining important work environmental factors will lead to productive future research.

### **Work Stress and Health**

Rapidly expanding global empirical research confirms the association between work stress and its negative physical and psychological health effects (*Peter & Siegrist, 2000; Belkic, Landsbergis, Schnall, & Baker, 2004*). Work stress is considered a cause of physical and psychological disorders. Work stress is a severe health and safety threat that may result in adverse outcomes.

It is loudly clear from the study or research has been done so far that stress is a worldwide problem with fewer implications in the developed nations and more implications in developing nations and under developed nations. Stress can have serious health effects. Work stress affects employee health badly. The problem of stress becomes more severe and complex when it comes to developing countries where less attention is paid to the health related issues of an employee in an organization because of stress.

Most of the diseases result from stress and there are various causes of stress. There is transparent relationship between job stress and various physical and psychological diseases. The work stress

influence health of an employee negatively in many ways like physical, psychological, emotional and behavioral (*Blaug, Kenyon & Lekhi, 2007*).

Many working conditions like noise, work load, deadlines, less control of decision, unclear roles, clashes with colleagues, etc., are causing stress at work. Severe job stress leads to anxiety, bad performance, sickness, and absenteeism (*Crandall & Perrewe (Eds.), 1995*). Rising rates of stress at work have been observed which can be determined by the concept of keeping limited control over job tasks and untold job demands. Job stress is related with heart attacks, hypertension and other diseases. It's the person-environment fit that concerns, not the job ("Workplace Stress", 2015).

Work Stress is same for many jobs. Sometimes stress is normal but high stress for a long period of time can affect employee's performance, physical and emotional health. If the worker himself takes care of the level of his stress it will help in decreasing the health problems and will also cause positive impact on his organization (*Bakker, Holenderski, Kocielnik, Pechenizkiy & Sidorova, 2012*). Normal stress arrives, remains for some time and is finally finished. Noxious stress is different from normal stress which arrives, remains and increases with the passage of time. Noxious stress is harmful and usually leads to negative physical and mental effects.

Work stress is actually the adverse physical and hysterical reaction that results when there is clash between job demands and employee's control on these job demands. Stress occurs when there are high job demands and less control of an employee over these job demands. When there is low level of stress at job, it motivates an employee which in turn results in higher performance of an employee at job. When an employee faces high level of stress which he cannot control, it becomes very dangerous because high level of stress leads to physical and mental hazards (*The Canadian Centre for Occupational Health and Safety, 2000*).

Stress gives warning to the brain, which reacts by preparing the body for protective response. The nervous system becomes alert and hormones are excreted to arouse the awareness, pulse rate increases, deep breathing, and muscles are tensed. This reaction is called the fight or flight reaction which is essential because it helps the body by protecting against alarming situations. The reaction is programmed in our bodies naturally. Whether the stress is because of job or home, this reaction is the same. Temporary or rare stress will have fewer threats. But when alarming situations are not settled, the body is kept in a state of awakening for a longer period of time, which increases the rate of depreciation in human bodies. Finally, tiredness or injury

results, and body is not able to repair and protect itself against stressful situations. Therefore, the threat of injury or disease increases (*Sauter et al., 1999*).

Psychosocial stressors are actually the elements which result in many physical and psychological health outcomes in employees. These negative health outcomes are cardiac diseases, gastrological problems, restlessness, unhappiness, absenteeism, exhaustion, accidents, musculoskeletal problems, work-family issues, and many other complaints (Cox & Griffiths, 1995). These health outcomes will have adverse effects on the employers i.e. high turnover, absenteeism, strikes, low productivity, job mistakes, accidents, less responsibility, low morale, and lawsuits by employees.

When a person is having trouble to deal with the stress he is facing, he may experience following problems: physical, psychosocial, cognitive and behavioral. Physical problems include headache, bruxism, grasped jaws, chest pain, breathing problem, heart problems, increased blood pressure, muscular pain, upset stomach, irritable bowel disease, increased sweating, tiredness, sleeplessness, and constant sickness. Psychosocial problems include tension, irritation, unhappiness, protectiveness, anger, changes in mood, vulnerability, lack of interest, depression, decreased thoughts, incompetence, desperation, caught in a trap, and less motivation. Cognitive problems include unable to concentrate, confined thoughts, consistent inability to remember, ineffective thinking, less analytical skills, inability to learn, and easily distracted. Behavioral problems include changes in eating habits, restlessness, readiness for dispute, indecisiveness, more use of alcohol and drugs, increased smoking, seclusion, irresponsibility, bad job performance, dirtiness, changes in religious habits, and changes in relationships with family (*The Canadian Centre for Occupational Health and Safety, 2000*). Work stress can lead to psychosocial and physical illness. Stress can cause fatigue, sleep disorders, chest pain, increased blood pressure, neck and shoulders pains and tensed up muscles. Stress must be managed properly to avoid its bad consequences.

Stressors are the causes of stress in any individual. Human bodies are equipped with the natural response system to stress. Continuous low level job stress is always responded by the natural response system of human body for a long time and this response called “Generalized Stress Response”. The physiological responses to this stress are: high blood pressure, high rate of metabolism, slow rate of protein formation, low functioning of digestive and immune system, high cholesterol level, more fats in blood, body inflammation, quick clotting of blood, faster rate of blood sugar synthesis and stomach acidity. These symptoms when continually faced by the

individuals show that they under stress (*Bickford, 2005*). Work stress is a severe health and safety threat that may result in adverse outcomes.

There is linkage between working hours and health outcomes. Long working hours and work at night shift has negative health outcomes i.e. heart diseases, bad pregnancy results, colon cancer, ulcer, ill health and psychological disorder. Noise has adverse effects on health such as sleeping disorder, anxiety, and cardiovascular diseases (*McNamara, 2008*).

Today employees are facing more stress at workplace which affects their physical and mental health. This stress increases the costs for the organizations in the form of the less efficiency, absenteeism and high turnover rate. Stress leads to death by heart attack, loss of brain function, high blood pressure and other diseases. Poor working conditions are also affecting employees both physically and psychologically (*Bickford, 2005*). Stress can lead to serious mistakes and damages. Work stress has physiological and emotional responses.

People have sleeping problems, depression, disturbance, tension, nervousness, more intakes of drugs and alcohol, anger and negligence as a result of stress. Stress may lead to the accidents when a person is unable to control the risks or threats to his health (*The Canadian Centre for Occupational Health and Safety, 2000*). Some companies believe that tense working conditions are an essential disaster that companies must put the pressure on their employees and health matters should be abolished to remain rewarding and advantageous in modern economy. But research results has objection with this point of view. Studies demonstrate that disturbing working conditions are linked with increased absenteeism, lateness, and employees are willing to leave their jobs (*Sauter et al., 1999*).

The stress at work leads to physical and mental hazards. At an extreme, long term stress at work creates psychological disorders which results in the absence of employees from job. Stress affects negatively both work and personal life an individual. Immune system is badly affected by the stress by which an ability of an individual to fight against diseases decreases. Stress at work also results in bad habits like smoking and more intakes of drugs by employees (*WHO, 2004*).

Burnout is a constant level of high stress which has physical, psychological and emotional health effects and in this case employee is unable to achieve the presented targets. Feelings of desperation, lack of power, distrustful attitude, and feeling of anger, failure and decreased efficiency are the result of burnout. These responses to stress create depression and sadness in employees that may destroy their job, relations and health. Burnout is present in every profession. The reasons of burnout are work load, not being appreciated, not clear about the

goals expected from them, job insecurity, extra motivated to their profession, not satisfied about the balance between their salary and services (*Bickford, 2005*).

Many studies have presented an association between job stress and various diseases. Stress results in the problems like changes in mood, disturbed sleep, headache, upset stomach, and disputes with the friends and family that rapidly grow and these problems are usually discussed in these studies. Usually, these initial symptoms of job stress can be observed easily. But it is not easy to observe the influence of job stress on incurable disorders because incurable disorders take more time to evolve and can be affected by many elements other than stress. However, stress plays a crucial role in various types of incurable health issues particularly heart diseases, musculoskeletal pains, and mental illness. Initial alarming symptoms of job stress are headache, sleeping disorder, lack of concentration, short temperament, disturbed stomach, lack of Job satisfaction, and low confidence (*Sauter et al., 1999*).

Irritating behavior, depression, anxiety, unable to concentrate, sleeping disorder, tiredness, heart diseases, digestive system problems, headaches, high blood pressure, and muscular-skeleton problems are the diseases which result a result of stress. If the employees of an organization are suffering stress, this will ultimately affect the performance of an organization. It will also be risky for an organization to survive in the market (*WHO, 2004*).

Stress is the cause of many physical and psychological disorders. When the individual experiences stress, blood flows from the internal parts of the body and skin to the brain and muscles, fatty acids and cellulose are activated in the blood to supply energy, eyesight, and listening skill is enhanced and a person becomes alert. Normal physical support functions i.e. digestion, immune and curative systems are all weakened. This response to the stress is normal which develops when the stress is perceived by an individual but when the stress continues for a long time and it's severe and not properly managed, it will be a threat for the health of an individual. The immune system is disturbed as a result of the severe stress and the body is unable to function normally and becomes sensitive to various diseases and illness. Psychological diseases which result from job stress badly influence both employee and employer. Depression, tension and other psychological diseases normally result in absence because of sickness, medical appointments and malfunction (*Blaug, Kenyon & Lekhi, 2007*). Toxic stress has more harmful effects as compared to the normal stress.

*CUPE, 2003* reported that work stress increases metabolism, blood pressure, cholesterol level, production of acids in stomach, muscular tension, sweating and fats in the blood, decreases

protein synthesis, disturbs digestion and immune system. Stress also increases chest, shoulders, back, and neck pains, depression, apathy, headaches, diabetes, social conflicts, weight complaints, menstrual and sexual problems.

Employees will suffer stress when they are not doing their job in the way they want to do it. In case of overwork, the natural response system against stress is adversely affected because of the tiredness, excessive work pressure and other elements. Stress which is not timely resolved, keeps mounted and becomes toxic stress. Stress is related to overwork. Performance at job is also badly affected by overwork. Stress and overwork both are result of poor management of an organization. Work stressors disturb personal and social life of an employee, cause tiredness, sleeping disorder, lack of attention and increasing rate of work place accidents. These factors can also result in high level of stress (*CUPE 2003*).

Stress at work affects the quality of life and brings negative changes to human nature both physically and mentally. Stress not only badly affects the health of an employee but also detracts the performance of an employee in an organization. Ulcer, weak immune system, rheumatoid arthritis and coronial heart diseases are the results of job stress (*Cox, 1993*). Stress influences mental as well as physical health. University of London reported that stress is a major cause of cancer and heart disease as compared to smoking or cholesterol foods (*Cryer, 1996*).

Primary focus of any organization has never been to provide the better working environment for the employees which cause the stress in employees. Poorly managed and without standard protocols of good working conditions creates extra pressure on employees, the extra load which is generated for an employee because of the poor management system of an organization causes the stress among employees. One of the main draw backs of a poorly managed organization is that the employees cannot enjoy the due and timely favor from each other also causes stress (*WHO, 2004*).

According to *CUPE (2003)*, psychological diseases, social and behavioral changes originate from stress. Stress causes depression, anxiety, tension, fear, disturbed eating and sleeping habits, tiredness, irritation, mood changes, negativism, failure to concentrate, sexual dysfunction, and increased use of drugs. In America 20,000 employees experience coronary artery disease because of work stress and it costs \$700 million per year to replace them (*Cooper, Cooper, & Eaker, 1988*).

University employees were experiencing stress which results into poor health outcomes. Stress is normal to some extent and low level of stress is a motivator. Stress results in lack of sleep,

anxiety, bad performance at job, and affecting personal life because of job stress. Men and old employees having more experience at job can handle stress efficiently. Social support, advice, proper planning, and time management can help to handle job stress (*Mark, 2008*). Stress at work affects the quality of life and brings negative changes to human nature both physically and mentally. Stress not only badly affects the health of an employee but also detracts the performance of an employee in an organization. Ulcer, weak immune system, rheumatoid arthritis and coronial heart diseases are the results of job stress (*Cox, 1993*).

Companies which think stress is not a big issue, is a questionable mentality because this is the point which makes the situation more complex in the sense that the company wants to run away from moral and ethical responsibilities. The negative approach of the management that stress is not avoidable will cause serious health problems to the employees. One should also seriously think about the loud proclamations of the management schemes and other tactics which will ultimately result in nothing about the stress of employees. The stress management techniques and the measurements has nothing to do with the stress, it is only about the working environment in which the employees work because these techniques will never help to eliminate the stress and to provide the stress free environment to the employees. These techniques are not complete solution to the stress caused by working environment, but they provide only temporary solution to the problems of stress (*CUPE 2003*). Management of stress in a way to provide the temporary relaxation to the employees is like to hide the issues under carpet.

Better managed organization addresses the legal concerns of the employees and ensures their participation in decision making of their concerned work because if the work is designed with the participation of employees they can handle in an easy way that will finally help them not to experience the stress. Once the work is managed and designed with the participation of employees, all the stress related hazards are removed automatically. So, once these hazards are removed and better working environment is provided then there are fewer chances for the employees to suffer stress (*WHO, 2004*). Stress is a manageable phenomenon and should be managed prior to the serious mental and physiological problems.

Job stress has negative impact on the health and happiness of employees and also negatively affects the efficiency and income of organization. Organizations and individuals himself can take measures to avoid stress effects. Employees must have the knowledge of symptoms of their stress and employers must know the impact of stress on the health of their employees (*Bickford, 2005*).

As it is considered that any physical or mental damage to the health of an employee because of the stress is the loss of an individual not an organization. But the fact of the matter is that approach (i.e. any physical or mental damage to the health of an employee because of stress is a loss of an individual not an organization) will then ultimately affect the yield and outcome of an organization will badly suffer. Ethically and morally the attention should be paid that how any of the employees can come out of stress so that he can remain out of reach of the stress problem and the issues of health related to the stress.

Job stress is challenge for both employers and employees of an organization. They should deal with stress efficiently. As the organizations change, its employees may face stress. Stress problems at work should be regularly supervised to avoid its consequences (*WHO, 2004*). Stress should be properly managed to avoid its adverse effects.

Every organization should take measures (working environment, duty timings etc.) in order to keep its employees away from an environment of stress which will ultimately create a win-win situation for both of an employee and an organization. The employee will enjoy good health and the organization will prosper beyond the boundaries when the organization will provide better working conditions and in result the employee will work with zeal and zest for the organization.

### **Conclusion and recommendations**

This review of the work stress literature provides us detailed information about work stress, its reasons and its physical and psychological effects on the health of an employee. Famous stress models or theories are evaluated critically to explain the work stress and its health related outcomes. From this review of the literature we can conclude that there is strong relationship between stress at work and its physical and psychological effects. There are various issues which need attention i.e. non-job stressors. These non-work stressors and work stressors may have combined effects on the physical and psychological health of an employee. We have considered only the work stressors in this review to know their effects on the health. Research can be done on both stressors (work and non-work) and then their influence can be checked on employee's health. Work stressors and non-work stressors both are linked with physical and psychological health outcomes independent of the each other (*Klitzman, House, Israel, and Mero, 1990*). We should not ignore other vulnerable factors that is individual differences or non-work demands which may intervene in the stress process. More research is needed to measure the experience of stress and complete stress process. Stress management training is being provided to the

employees, even then there is need of more empirical research in this field. There is need to apply all stress related theories and frameworks into practice.

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