

Conceptual Framework of Stress- Approaches and Models

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Abstract

A great deal of research has been conducted in the last few decades to study and understand the dynamics of stress, its causes and its relationships with many other variables like performance and satisfaction et. This paper attempts to provide a conceptual framework of stress that includes major approaches and theories of stress that provide a basis for understanding stress from various perspectives. A compilation of inputs from various researchers regarding stress is also included and an attempt has been made to highlight prominent structural frameworks defined over the years and their usefulness for further empirical research. The most important results and basis for new research are discussed

Keywords: Cox's theory, GAS, Lazarus theory, Resource theories, Stress.

Introduction

Stress is a universal phenomenon and references to it can be found as early as the 14th century. However, the usage of the term “stress” has undergone significant changes over the time.

From the last two decades, the term “Stress” has come into wide use in behavioural studies, originating in the physical sciences, the term means a force which, acting on a body, produces strain or deformation. In physical, biological sciences and behavioral study, the concept of stress meant an extreme condition, involving tension, some form of resistance to the straining power or a discomfort or non acceptance towards a situation. Stress is a condition of strain on an individual's emotions, thought processes, and/or physical conditions that seem to threaten one's capability to cope with the situation. Stress is a threat to the quality of life and work life, and to the physical and psychological well-being of individuals. Stress is a process in which environmental events or personal factors pose a challenge to the physical or mental health of an individual and in which the individual tries to face such challenge and saves himself from the danger created by these conditions (Father Bulake, 1971). These events under certain situations generate stress reactions that are characterized by fear and anxiety. Stress may be termed as pressure or it is the tension that is created by pressure. Cannon (1929) was among the first who used the term stress. He referred to both physiological and psychological mechanism of this term. In Life Sciences Hans Selye first introduced the concept of stress in 1936. Stress may be defined as an internal state, which can be caused by physical demands of the body, e.g., disease conditions, exercise and the like or by environmental and social situations which are evaluated as potentially harmful, uncontrollable or exceeding our resources for coping. Stressors that cause stress can be physical, environmental or social in nature. Once persuaded by stressors, the internal stress state consequently leads to various responses. Along with the physical responses, psychological responses such as anxiety, hopelessness, depression, irritability, fear and a general feeling of not being able to cope with the work can result from the stress situation. Stress is a big problem in our society (Allen, 1983). What is stressful to one individual may be refreshing challenge to another depending upon individual's perception of the state of affairs as well as his own aptitude to cope with that situation. Even though a situation is perceived as demand or threat, it may still not activate a stress response if the individual thinks that he is able to cope with it effectively either on his own or with the help of external resources or support from other people in his life.

The consequences of stress can be seen in enormous symptoms which vary according to individuals, situations and severity of demand; these include physical health decline and a conduction of depression. Stress has become a matter of concern and importance to both the employers and employees. Stress includes the situations and experiences that are perceived as threatening to the individuals. Major types, symptoms, associated factors of stress include frustration, depression, conflict and pressure, which ultimately produce physiological and psychological stress

Stress – Interpretations of Researchers

The term stress in Engineering implies an inherent capacity to withstand stress. In Physics, stress" is force, which acts on a body to produce strain. In Physiology, stress refers to the changes in physiological function in response to the factors causing stress. In Psychology it refers to a state of the organism resulting from interaction with the environment in Psycho- Physiology, the term „stress" is that stimulus which imposes detectable strain that cannot be easily accommodated by the body and so presents itself as impaired health or behavior. Different people have different views about it as stress can be experienced from a variety of sources. The businessperson views stress as frustration or emotional tension; the air traffic controller sees it as a problem of alertness and concentration; the biochemist thinks of it as a purely chemical event. The concept of stress was first introduced in the life sciences by Hans Selye in 1936. It is a concept borrowed from the natural sciences. Derived from the Latin work. "Stringere", stress was popularly used in the seventeenth century to mean hardship, strain, adversity or affliction. It was used in the eighteenth and nineteenth centuries to denote force, pressure, strain or strong effort with reference to an object or person. In engineering and physics, the term implies an external force or pressure exerted on something with the intention to distort and being resisted by the person or object on which it is exerted.

The earliest and most influential conceptualization of stress came from Selye (1956). He observed an identical series of biochemical changes in a number of organisms adapting to a variety of environmental conditions. He termed this series of changes of the "General Adaptation Syndrome". Pareek (1983) developed and standardized the Organizational Role Stress. Scale (ORS Scale) to measure the above mentioned role stresses. He noted that until recently researches were done on three role stresses, namely, role ambiguity, role Overload and role conflict. However, he found many other role stresses in organizations. The ORS scale is certainly one of the best instruments available today for measuring a wide variety of role stresses. Khan et al. (1964) view stress as an environmental characteristic that affects people adversely. Lazarus, (1966) made tremendous contribution to the study of Psychological stress he suggests a more comprehensive definition of stress as a generic term as a whole area of problems that include the stimuli producing stress reactions.

This concept referring to the field stress covers Physiological, Sociological, and Psychological Stress. Mason (1975) defines stress as a state wherein expected functioning gets disrupted. T.A Beehr and J.E Newman (1978) define job stress as "a condition arising from the interaction of people and their jobs and characterized by changes within people that force them to deviate from the normal functioning." Marshall and Cooper

(1979) point out the term stress to denote the following; an excessive environmental force;

The harm caused; the individual's reaction in situations. Fireman (1979) views stress as a

Psychological response state of negative effect, characterized by a persistent and high level of experienced anxiety of tension he further views stress as a condition of organic damage resulting from strain. According to Beehr and Bhagat (1985) stress includes stressors and strains. The term refers to the environmental stimulus and the term strain refers to individual's response which can be Physical, Psychological, or Behavioural indicators of ill health/well being of the individual. John M. Ivancevich and Michael (1987) – According to

them the word stress has been compared with the word “Sin”, both are short; emotionally charged words used to refer to something that is otherwise take many words to say. In the words of Szilagyi an internal experience that creates a Psychological imbalance within an individual and results from factors in the external environment, the organization and the individual (1990).

Stephen William (1990) in his book titled “Managing Pressures for Peak performance - posture approaches to stress defines or start of the process of stress, which is the final outcome or the possible response to pressures. According to him pressure becomes stress, and the process by which pressure becomes stress is called stress process”. According to

Dewe (1991) the concept stress, which dominates current research, is an extension of the appraisal hypothesis, that stress represents a relationship between a stressor and an individual’s reaction. The study conducted by James E. Driskel and Eduardo Salas (1991) investigated the effects of stress on status and decision-making in groups. The hypothesis stated that stress results in centralization of authority such that decision making is concentrated at higher level in the group hierarchy. Randall and Elizebeth (1994) define occupational stress as the interaction of the work conditions with the characteristics of the worker, such that the demands of work exceed the ability of the worker to cope with them:

Using network technology, Electronic Performance Monitoring (EPM) systems provide managers with access to their employees computer terminals and telephone, allowing managers to determine at any moment throughout the day, the pace at which employees are working, time taken and so on. Thus the study by John R. Aiello, Karthryn, J. Kolla (1995), which examined how productivity and stress are affected by EPM, showed that EPM is linked with increased stress and therefore decreased productivity. The study of Anita and

Carolyn (1995) tested the effects of various demographic and socio-economic variables on perceived stress among bank employees in both work and non-work environment and established significant correlation between perceived stress in the work and non-work environment among the same bank employees. Research Psychologist Sandi Mann of

University of Sal ford (1998) stated that employees who are under increasing pressure to appear enthusiastic, interested, cheerful, and friendly at all times in their work place are highly placed. Jennifer Smith (1998) stated that work place bullying consisting of victimization, pressure management, long hours, difficult duties, lack of support and unsought promotion results in stress. She advocated that managers should be aware of change in atmosphere among staff, hold agenda free meetings and conduct exit interviews to identify work place bullying.

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 tranquillity 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

Systematic theory: Selye’s Theory of Stress

Hans Selye has been regarded as the founder of modern stress theory (Capel & Gurnsey, 1987). One of the first attempts to explain the process of stress related illness was given in Selye (1976) whereby the individual experiences three stages during the stress response. The stereotypical response pattern, called the ‘General Adaptation Syndrome’ (GAS), proceeds in three stages shown in . Fig.1

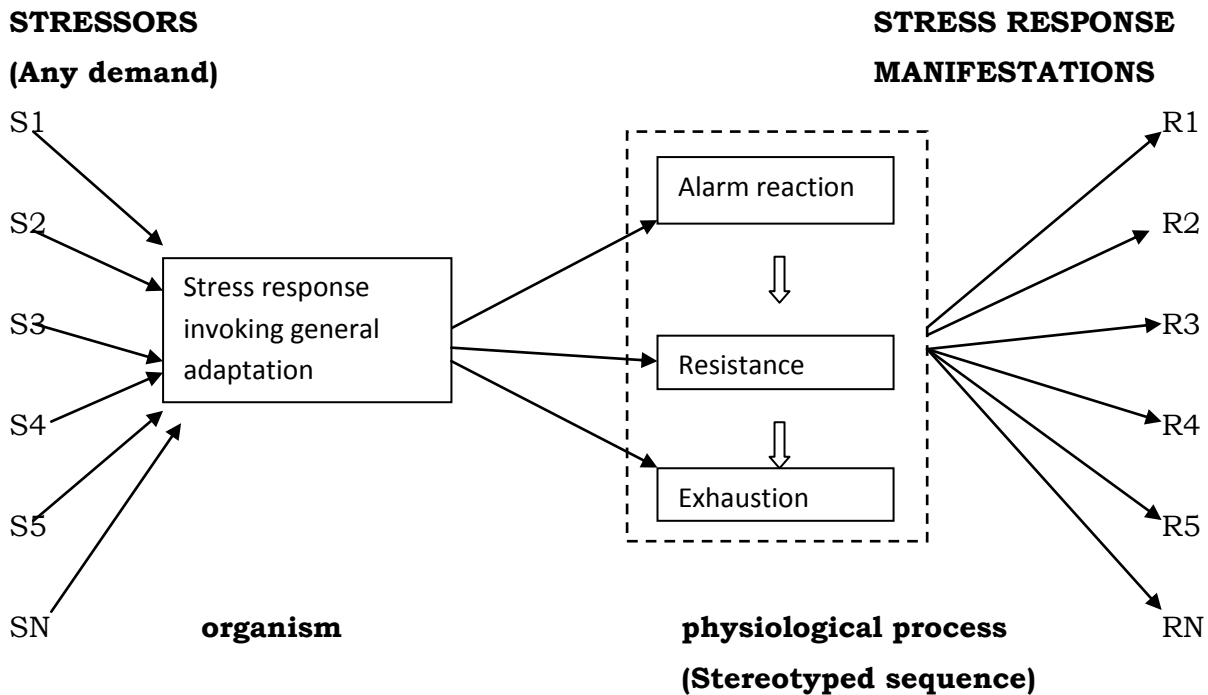


Fig 1: 'General Adaptation Syndrome' (GAS), Selye (1976)

The three stages were referred to as GAS or the Generalized Adaptation Syndrome and are as follows: 1. Alarm Reaction: In this first phase, resistance is lowered and is followed by a counter shock whereby the individual's defence mechanisms become more active. 2. Resistance Stage: this is the stage of maximum adaptation and should ideally represent a return to equilibrium for the individual. If the stress continues and defence mechanisms do not work, the individual moves to the third stage. 3. Exhaustion: – In this stage the adaptive mechanisms collapse. GAS is essentially a defence mechanism of the human body, a means of coping with stimuli which threaten its homeostasis or stability. Critics of Selye's work indicate that it ignores the psychological impact of stress on an individual and his/her ability to recognize stress and to act in ways to change the situation or the impact of that stress (Cartwright & Cooper, 1997). Selye is further criticized for ignoring the element of emotion in stress. Selye's views also emphasize the physiology of stress due to his use of animals in his research, neglecting the aspects unique to humans, such as perception and interpretation of stressful experiences (Brannon & Feist, 1997).

Psychological Stress: The Lazarus Theory

Two concepts are central to any psychological stress theory: *appraisal*, i.e., individuals' evaluation of the significance of what is happening for their well-being, and *coping*, i.e., individuals' efforts in thought and action to manage specific demands (Lazarus 1993).

Lazarus's research (in Brannon & Feist, 1997) revealed that the ability of people to think and evaluate future events makes them more vulnerable in ways that animals are not. Thus the effect that stress has on the individual is based on that individual's feelings of vulnerability and ability to cope. Lazarus recognized that individuals use three kinds of appraisal to analyze situations namely: Primary appraisal, Secondary appraisal and Reappraisal.

Primary Appraisal concerns the first encounter with the stressful event. At this point, the individual appraises the situation in respect of its effect on his/her well-being. The situation may be viewed as positive or negative or unimportant. A stressful appraisal would indicate the

individual sees the situation as harmful or threatening. This type of interpretation is likely to generate an emotion or what Lazarus refers to as “harm” which results in anger, sadness or disappointment. The interpretation of “threat” is seen as the anticipation of harm and the interpretation of “challenge” as the individual’s confidence in overcoming the demands of the situation. Within primary appraisal, three components are distinguished: goal relevance describes the extent to which an encounter refers to issues about which the person cares. Goal congruence defines the extent to which an episode proceeds in accordance with personal goals. Type of ego- involvement designates aspects of personal commitment such as self-esteem, moral values, ego-ideal, or ego-identity.

After the individual’s appraisal of the event, he /she forms an impression of his or her ability to control or cope with the situation, be it “harm” or “threat” or “challenge”. This stage is referred to as a secondary appraisal. Three secondary appraisal components are distinguished: blame or credit results from an individual's appraisal of who is responsible for a certain event.

The third type of appraisal is reappraisal. This implies that the individual’s appraisals of the situation may change as new information becomes available. Reappraisal does not always reduce the stress; it can increase it since a previously non-threatening situation may be viewed as threatening once more information has become available.

Since its first presentation as a comprehensive theory (Lazarus 1966), the Lazarus stress theory has undergone several essential revisions (cf. Lazarus 1991, Lazarus and Folkman 1984, Lazarus and Launier 1978). In the latest version (see Lazarus 1991), stress is regarded as a relational concept, i.e., stress is not defined as a specific kind of external stimulation nor a specific pattern of physiological, behavioral, or subjective reactions. Instead, stress is viewed as a relationship ('transaction') between individuals and their environment.

‘Psychological stress refers to a relationship with the environment that the person appraises as significant for his or her well being and in which the demands tax or exceed available coping resources’ (Lazarus and Folkman 1986, p. 63). This definition points to two processes as central mediators within the person–environment transaction: cognitive appraisal and coping.

Cox’ s Theory of Stress

According to Cox (1978, 1985) the individual becomes stressed when a discrepancy occurs between the perceived level of the stressful demands and his/her perceived ability to respond to and to cope with the demands. There is thus an imbalance between a perceived demand and a perceived capacity to cope. Cox (1985) notes that: The classic stressful situation is one in which the person’s resources are not well matched to the level of demand and where there are constraints on coping and little social support. Stress, itself, is an individual psychological state. It is to do with the person’s perception of the work environment and the emotional experience of it. Cox (1978, 1985) maintains that perception plays an important role in recognizing stressors. The individual’s ability to cope with environmental “threats” or adverse events is also emphasized. This view would suggest that if the individual can perceive environmental and psychological demands made on him, he can learn (for example, through counselling as a form of intervention) to recognize which are the best resources to call upon when confronted with perceived stressful demands. Cox (1985) emphasizes that the stress phases experienced by the individual involve a complex interactive process with various levels of appraisal, emotion and response, with the immediate response to a stressful situation being in the form of negative emotion, propelling the individual into flight or fight action. Cox (1978, 1985) maintains that stress is an imbalance between a perceived demand and a perceived capability, with the demands changing at various levels of appraisal during the phases of the stress process. An appraisal of capability takes into account external resources as well as

internal capabilities. In using the “capabilities” the individuals makes an assessment of the social support available (external factors) and appraises his or her internal strengths or limitations in order to deal with the stressor.

Resource Theories of Stress: A Bridge between Systemic and Cognitive Viewpoints

Unlike approaches discussed so far, resource theories of stress are not primarily concerned with factors that create stress, but with resources that preserve well being in the face of stressful encounters. Several social and personal constructs have been proposed, such as social support (Schwarzer and Leppin 1991), sense of coherence (Antonovsky 1979), hardiness (Kobasa 1979), self-efficacy (Bandura 1977), or optimism (Scheier and Carver

1992). whereas self-efficacy and optimism are single protective factors, hardiness and sense of coherence represent tripartite approaches. Hardiness is an amalgam of three components: internal control, commitment, and a sense of challenge as opposed to threat. Similarly, sense of coherence consists of believing that the world is meaningful, predictable, and basically benevolent. Within the social support field, several types have been investigated, such as instrumental, informational, appraisal, and emotional support. The recently offered conservation of resources (COR) theory (Hobfoll 1989, Hobfoll et al. 1996) assumes that stress occurs in any of three contexts: when people experience loss of resources, when resources are threatened, or when people invest their resources without subsequent gain. Four categories of resources are proposed: object resources (i.e., physical objects such as home, clothing, or access to transportation), condition resources (e.g., employment, personal relationships), personal resources (e.g., skills or self-efficacy), and energy resources (means that facilitate the attainment of other resources, for example, money, credit, or knowledge).

Different Perspectives, Different Theories

Attempt is not made to cover all of the (numerous) theories relating to stress, but rather to discuss a few major ones that have highlighted, different, albeit complementary, different perspectives. Each of the theories discussed offers a different perspective for understanding the transaction between the individual and the environment. Other theories have taken up the issues of “process.” For instance, the theory of stress outlined by Shupe and McGrath (2000) describes “a dynamic, adaptive process theory” (Cooper) which, when focused at the individual level, suggests a complex cycle connected by four processes: the appraisal process (interpreting events); the choice process (the choice of a coping response); the performance process (the coping phase); and the outcome process (the consequences for the individual; Shupe & McGrath, 2000). Shupe and McGrath go on to outline the complexity of these interconnected process and the implications this complexity has for researchers in terms of measurement and interpretation. Similarly, Cummings and Cooper (2000) offer a “cybernetic theory” of work stress. The emphasis here is on time, information, and feedback. Warr (2007) explored the way in which work leaves us feeling happy or unhappy. While acknowledging the definitional difficulties surrounding terms like happiness and unhappiness, and the preference at times to use the term well-being, Warr (Warr & Clapperton, 2010) suggests that happiness should be considered not just in terms of its energising and tranquil forms, but also in terms of whether it is being used in a contextual (work) sense or even a facet (work component) sense. When exploring work and happiness, Warr (2007) draws attention to the transaction between the person and the environment. When considering the environment, Warr (Warr & Clapperton, 2010) identifies 12 sources of work happiness, but recognizes that there is no correct number of work sources, as these will differ across and within jobs, and will depend also on individual differences.

The role of individual differences also plays a part in the work-happiness equation. While Warr (2007) and Warr and Clapperton (2010) point out the way different personality traits influence happiness, and how happiness also depends on the different sorts of comparisons

individuals make about themselves in relation to others, they also raise the issue of whether individuals have a consistency in their levels of happiness—“a baseline” that they keep coming back to (Warr & Clapperton , p. 10). This brief overview cannot capture the level of analysis, the scope of the research or the complexity that resides within Warr’s (2007) vitamin theory. The “overall message” that flows from this approach, however, is that happiness–unhappiness comes not just from the different work sources, but is also derived from within and that “possible improvements must be sought for both directions” (Warr & Clapperton, 2010, p. 177).

Another approach is offered by Nelson and Simmons (2003, 2004) and Simmons and Nelson (2007), who integrate into their holistic stress model the positive qualities of eustress and propose that the appraisal of any encounter can produce positive or negative meanings. This model “focuses on the positive responses and their effects on performance and health” (Simmons & Nelson, p. 40). Interestingly, these authors go on to point to their concept of “savouring the positive” (p. 40), and how this adds a new perspective on how people cope. Similarly, when individual differences are considered in terms of how they trigger positive beliefs, these authors point to how such beliefs aid individuals, create positive appraisals, develop resources for managing demanding encounters, and shift the focus towards those aspects of the work environment that help create the context for positive opportunities. While arguing that it is now time to include the positive as well as the negative into our theories of stress, these authors suggest that studying work stress should be “best thought of as a constellation of theories and models that each addresses a meaningful process or phenomenon” (Simmons & Nelson , p. 50).

Conclusions and Future Directions

The different theories reflect a number of perspectives, but all offer a lens through which the person–environment transaction can be explored. Each offers a dynamic view of the stress process, emphasising the importance of the context within which the transaction between the person and the environment takes place. Many of these theories draw attention not just to the “contribution of the person as opposed to the environment, in creating organizational stress” (Wethington, 2000, p. 641), but also to the way in which the demands of an encounter are appraised. If individuals are active participants in the stress process and if this “activity,” as seems generally agreed, is initiated through the process of appraisal, then perhaps by focusing on these meanings that individuals give to demanding encounters will help us identify an “organizing concept” for the future. Capturing the meaning individuals give to stressful encounters cannot, of course, be separated from measurement. So, it is important for researchers to continually evaluate whether current measurement practices allow these meanings to emerge, expressed in a way that captures their explanatory richness. It is the appraisal process that has the potential to provide a rich explanatory pathway, and one that enables us to begin the process of working towards the role of discrete emotions and away from the troublesome concept of stress fulfilling our moral responsibility to those who’s working lives we explore.

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