

Stress: Facts and Theories through Literature Review

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Abstract

Introduction: Human everyday life is full of stress and strain, so that the present century is called stress era. Unfortunately, here is no literature integration about stress. The aim of the present paper is to make a theoretical integrative consensus in stress modalities.

Methods: The design of the present study was systematic review. Inclusion criteria were subjective relevance to study keywords (include stress, stress control, stress reduction, social stress, community stress, group stress, stress increase, stress side effects, stress resources, stress stages, stress types), being published by academic and/or scientific resource, and publication period (between January, 1, 1990 and March, 20, 2015). Using Jadad scale, those clinical trial papers with 2 and upper were selected. Delphi method used to form the structure of final results. Results were collected by content analysis.

Results: Eleven major definitions, three main classifications, three fundamental explanatory perspectives, occupational stress and related issues, job burnout and related issues, biological and neuropsychological bases, related constructs (anxiety, homeostasis, allostasis), spiritual/religious/Islamic perspectives, stress outcomes, and multiple relations between stress and culture were presented and discussed.

Conclusion: The present study was an effort to make a theoretical unity of thought in studies about stress. According to the results, it appears that stress cannot be investigated via unimodal studies, and there is a great need to incorporate BioPsychoSocioSpiritual perspective in analyses and future frameworks of stress studies.

Keywords: Stress, Hypothalamus-Pituitary-Adrenal (HPA) axis, Homeostasis, Allostasis, Cultural stress, BioPsychoSocioSpiritual model, Systematic Review, Jadad Method, Delphi Method

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1. Introduction

Stress is a widespread phenomenon all around during all human lifespan. All people have experienced it throughout their history and throughout human history. Stress is one the special characteristics of life and its presence has been much highlighted so that in fine arts and literature of all eras it has been addressed (1). The reason of the widen presence and inclusiveness of stress in human communities is the complexity of human social, personal, and ecological environment, multiple and simultaneously interactions of human with surrounding issues, and diversity in stress expression (2).

In psychological sciences, stress is a feeling of mental press and tension. Low levels of stress might be desired, useful, and even healthy. Stress, in its positive form, can improve biopsychosocial health and facilitate performance.

Furthermore, positive stress is considered as an important factor to motivation, adaptation, and reaction to surrounding environment. However, high levels of stress could result in biological, psychological, and social problems and even serious harms to people (3).

Stress may be either external with environmental source, or caused by internal perceptions of the individual. The latter form, in turn can produce anxiety, and/or other negative emotions and feelings such as press, pain, sadness, etc., and result in serious psychological disorders such as post-traumatic stress disorder (PTSD) (4).

Studies in the field of executive functioning and cognitive performance have investigated the role of different factors in the variance of quantity and quality of such processes. One of the major related factors in these studies, is the role of stress on cognitive and higher



cortical functions. Stress is the problem of the millennium. Today's life is mixed up with stress in all its aspects (5, 6).

External factors are not in their essence stressful and/or threatening; yet the individuals' perceptual systems interpret them as such. Stress triggering factors, such as sudden and horrible blares, or observing specific types of objects that resemble acute incidents for individuals, may be interpreted as strains. Human experience stress or percept issues as threatening/dangerous whenever she/he cannot believe to have adequate resources to cope with such obstacles (stimuli, people, situations, etc.) (7).

Despite day to day and frequent use of the term "stress", studies in this domain have not gained a suitable convergence yet which is in part because of ambiguity in defining stress and theoretical approaches to studying it. In other words, divergence in the research literature of stress which is derived from its complexity and multidimensionality, is resulted in a dissension in the phase of stress study.

The present study was aimed to aggregate various dimensions of bases, and theoretical issues as well as systematic literature review of stress studies. This review includes the state-of-the-art knowledge of stress in domains such as definition, concepts, history, models, and influences of stress in human every-day life.

2. Methods

The present study was classified as a systematic review in which the effort is to gather, recognize, evaluate, choose and combine all noteworthy evidence related to the study question. Having a sound understanding about systematic reviews and their application in all branches of science especially in health sector, is increasingly mandatory. The main aim of the present systematic review was to provide a detailed summary of literature related to stress. All systematic reviews have a regulated and objective approach to integrate results which is firstly aimed to minimizing the biases. Some systematic reviews make statistical analyses, whereas other use qualitative methods based on standard collection, analysis, and reporting of the evidence (8).

The population consisted of papers published in Persian and English about theoretical bases of stress. Inclusion criteria comprised subjective relevance to study according to keywords (stress, stress control, stress reduction, social stress, community stress, group stress,

stress increase, stress side effects, stress resources, stress stages, stress types), being published by academic and/or scientific resource, and publication period (between January, 1, 1990 and March, 20, 2015). In addition, if the paper was clinical trial, The Jadad Scale would be applied. Jadad Scale, also known as Jadad Scoring or Oxford quality scoring system, is a process to independently evaluation of methodological quality of the study (9).

According to the primary selection of the resources, 629 Persian and English documents were found which 536 were English (63 book chapters, 419 journal papers, 56 review articles, 6 systematic reviews, 8 meta-analysis, and 11 dissertations), and 66 were Persian (25 book chapters, 31 journal papers, 4 review articles). These results are presented in table 1. Because of the large amount of the findings, the final analysis was based on 32 papers with the highest scores of the inclusion criteria.

The findings of the study were extracted via historical method and content analysis. Furthermore, in order to increase validity of the results and reduce the bias in final analyses, Delphi method was implanted. Delphi method is based on the collective consecutive surveys among experts and is based upon a structured process of survey and knowledge classification to cumulative and gradual approach to a consensus (10). In order to find the most suitable structure for the present study, at first, five expert in the field of stress (Ph.D., either sociology, or psychology, with at least five published papers about stress and at least five years of experience in stress research and/or stress management) has been asked to give their written ideas about the theoretical issues of stress, separately. Then, these written ideas were combined together and formed the basic framework. In the second run, this basic framework was sent to these experts again and asked for confirmation/correction. The modified framework, was sent again for confirmation/correction the aforementioned experts for the second time (third run). These modifications were implemented again into the framework and the combined structure was sent to the experts for the fourth time. In this stage, all experts confirmed the structure, and hence, the procedure finalized (table 2).

The most important aspect of research ethics in the study was regarding the authors' copyright which has been respected throughout all parts of the study.

Table 1. Primary resources of the study

Resource Type	Book	Ordinary paper	Review Articles			Dissertation
			review	Systematic review	Meta-analysis	
Persian	25	31	4	-	-	-
English	63	419	56	6	8	11
Sum	88	440	60	6	8	11
Total	Persian= 66		Enlish= 563			Total= 629

Table 2. Delphi method procedure to find the most suitable framework of the study

Stages of the procedure	Desirable structure of the frame work of the study
First run	Stress definition, stress classification, stress research, history of stress research, types of stress, military stress, vocational stress, stress in religions, stress influences, stress models, individual differences in stress, stress in both sexes, physiology of stress, & psychological fundamentals of stress.
Second run	Stress definition, stress classification, stress research, types of stress, occupational stress, stress in military environments, history of stress research, stress influences, stress models, stress in Islam, Individual differences in stress, stress in women and men, physiology of stress, psychological foundations of stress, anxiety and stress, Homeostasis and stress, Allostasis and stress, Personality and stress, & anger and stress .
Third run	Stress definition, stress classification, history of stress research, epidemiology of stress, approaches to study stress, occupational stress, stress in military environments, stress and job burnout, sex differences in occupational stress, biological bases of stress, constructs related to stress (anxiety, homeostasis, allostasis, personality, anger), stress in Islam, side effects of stress, stress and illness, stress in early life, stress disorders, stress and culture.

3. Results

3.1. Definition and classification of stress

One of the most important issues in stress studies, is its definition. Stress is an ambiguous and wide concept which is attributed to varied phenomena and definitions. The variety of stress concept, is both its characteristic and its deficiency. Its characteristics is the multidimensionality and coverage of a wide range of every-day-life experiences. According to the study, 11 dominant definition have been found during review (table 3). In a comprehensive and simple definition “stress is any influence of internal and/or surrounding environment on living being which disrupt its homeostasis” (5).

Based on the review of the literature, stress could be classified according to the nature of the stressor (physiological, psychological), its influence on individual (positive eustress, negative distress), and the exposure time of stressor (acute or short-term, chronic or long-term). Table 4 demonstrates these classifications and their specifications.

3.2. Approaches to study stress

Generally, in stress literature, there are three broad and dominant approaches to study stress including response-based, stimulus-based, and cognitive-transactional based process perspectives (table 5). In response-based perspective, stress is based on the response of living being to demands of surrounding environment. This perspective distinguishes between stressor (stimulus) and stress (response). The most prominent representative of such approach is Hans Selye. Although interested in physiological response to stress and the course of disease in living being, Selye did not interested in the nature of stressor. This stress response follows a typical three stage pattern which is similar both in animals and humankind. Selye named this pattern as General Adaptation Syndrome (GAS) which comprises alarm reaction (fight or flight response), resistance stage (bearing chronic stress and

active use of body resources), and exhaustion stage (onset of tissue damages, onset of disease, and evacuation of body resources). Response-based perspective is mostly addressed in biological studies (29, 30).

The second perspective is stimulus-based and derived from the studies of Holmes and Rahe (31). In this point of view, according to the amount and severity of the stressors and evaluate their power to deplete individuals, it has been revealed that the average amount of needed effort to overcome some event might be a suitable index of its severity. One the fundamental deficiencies of such perspectives is using weighted means of events would result in neglecting individual differences among various peoples which lead to different perceptions of the same phenomenon (32, 33).

Transactional-cognitive process based perspective considers stress as a specific relation between individual and her/his surrounding environment in which individual perceives demands of the surrounding environment pressing and overwhelming on her/his resources and hence, threatening her/his health. Cognitive-transactional based process perspective of stress has three meta-theoretical assumptions of transaction, process, and context, respectively. Therefore, stress occurs as a special intervening factor of the relation of individual and environment and both have mutual influence on each other. Stress is ever-changing, and special transaction derives from the context of the event. Authors of this perspective, consider stress as an active and progressive process which include causal antecedents, intervening processes, and influences (34).

3.3. Occupational stress

In recent decades, stress and its influences have gained much attraction in organizations. Stress has many influences on performance and activities of members of any organization. Managers, staff, and clients of a given organization, under psychological stress, would stuck in specific psychological states and act in a way that directly

reflects in organizational outcome. Psychological strain has also physical impacts and makes vast damages to organizations. Acute stress impairs labor force of organizations and makes organizational goals wobbly (35, 36).

Literature review about occupational stress revealed seven major definition in this domain with the dominance of WHO's definition of occupational stress which acknowledges it as a response of individual whenever confronting to job demands that are not fit with their knowledge and capability and challenge their ability to (37).

Rapid changes in knowledge and technology results in vast alterations in structures and goals of organizations. These alterations in nature of organizations have in increase increase in the number of stressful workplaces which show themselves in different forms. These forms include uncontrollability on workplace, less holidays, more working hours, insufficient rewards, fragile future of occupational promotions, increase in time press, lack of support, withdrawal, harassment, role conflict, and issues related to job-life balance (38).

Table 3. Stress Definitions

Author(s)	Stress Definition
Shalev, Yehuda, & McFarlane, (2000) (11)	Stress is a normal psychophysiological response to events which result in the sense of threat, sadness, Dysphoria, and imbalance in people.
American Psychiatric Association (2014) (12)	Stress is described as a sense of being overwhelmed, worry, destruction, press, exhaustion, and lethargy. Therefore, stress can influence people in every age, sex, race, and situation and can result in both physical and psychological health
McEwen (2007) (13)	(In medicine and biology, stress is called to any physical, psychological, and/or emotional factor which results in physical, and/or psychological tension
Behnoudi (2005) (14)	Stress is a situation in which individual is forced to act, and cannot bear the received mental tension. In other words, stress means readjustment of individual with new situations and conditions. Whenever a change occur in life, individual is confronting with stress.
Kumari, et al. (2009) (15)	Stress is bodily response to any demand. Stress could be caused by either good or bad experiences.
Falsetti, Monier, & Resnick (2005) (16)	Stress is any unpleasant emotional experience which is accompanied with predictable biochemical, physiological, and behavioral changes
Silverman, et al. (2010) (17)	Stress is a bodily reaction to a change which needs response, regulation, and/or physical, psychological, and or emotional adaptation. Stress could derive from any situation, condition, thought, and/or state; just need to cause frustration, anger, nervousness, and or anxiety.
Sarafino (2002) (18)	Stress is considered as a situation which is the result of interactions of individuals and their surrounding environments and causes disharmony between situational demands and biopsychosocial resources.
Lazarus, & Folkman (1984) (19); Lazarus (1990) (20)	Stress is an exclusive relation between person and her/his surrounding environment which she/he perceives as taxing, or is gone far beyond her/his coping resources and threatening her/his health.
McEwen (2004; 1999; 1998) (21, 22, 23)	Stress is equivalent to allostasis. Allostasis is the process and capability of gaining stability in the moment of change. Whenever body stress systems are activated in response to high levels of stress, allostasis is evacuated and body exposes to harm.
Shahsavarani, et al. (2013) (5)	Any effect of change in surrounding environment on living being which results in disruption of homeostasis (internal balance) of that living being is called stress.

Table 4. Classifications of stress

Types of stress classification	Classes	Authors
According to the nature of stressor	Physiological stress	Daly, Walsh, & Moran (2012) (24)
	Psychological stress	Keil (2004) (25)
According to stress influence on individual	Positive eustress	Stericker, & Show (2013) (26)
	Negative distress	Selye (1974) (27)
According to exposure duration to stressor	Acute stress (short-term) Chronic stress (long-term)	Davidson, Mostofsky, & Whang, (2010) (28)

Table 5. Perspectives of study stress

Stress perspectives	Key words
Response-based perspective	<ul style="list-style-type: none"> ✓ Importance of the responding individual ✓ Selye's perspective ✓ Dominant in medical studies ✓ Ignoring the role of cognition and emotion ✓ General adaptation syndrome (GAS) with three phases of alarm reaction, resistance stage, and exhaustion stage
Stimulus-based perspective	<ul style="list-style-type: none"> ✓ Importance of stressor ✓ Holmes, & Rahe's perspective ✓ Ignoring individual, and biological, cognitive, and emotive factors ✓ Classification of stressors and their intensity to predict problems of stress
cognitive-transactional based process perspective	<ul style="list-style-type: none"> ✓ Concurrent importance of stressor and individual ✓ Lazarus, & Folkman's perspective ✓ Consideration of interaction between cognition, emotion, and biological reaction ✓ three meta-theoretical assumptions of transaction, process, and context ✓ dynamic perspective to stressor and stress response ✓ considering stress as an active and progressive process

Studies of occupational stress in Iran have provided magnificent information about job strain which reveals high levels of occupational stress in varied labor sectors and a great need to investigate the causes and methods of optimum reduction and prevention of occupational stress (39, 40, 41, 42, 43).

The economic and health costs of stressful workplaces exceeds far beyond the imagination. Coronary heart diseases (CHD) have gained the highest potential of risk as health outcomes of exposure to stressful workplaces. According to statistical surveys, only in England, CHD causes loss of 70 million working hours and 180 thousand death in each year (38).

In Iran, like other parts of the world, occupational stress impacts labors' health. In various therapeutic sectors, surveys revealed a proportion of 42.7% of serious (mental) health and over 50% of severe occupational stress in medical staff which has been resulted in significant absence of work. Moreover, occupational stress showed a direct and significant relation with problems of mental health (Vahed, et al, 2011). Impairments of occupational distress are mostly accompanied with physical and medical problems include CHD. In a recent study, occupational stress has been found to have relation with high triglyceride (11%), high cholesterol (21%), high LDL (41%), and low HDL (19%) in varied labor sectors (44). Another study showed that occupational distress leads to physical problems, anxiety problems, insomnia, incompetence in social roles, and depression in more than 70% of school teachers (45).

Stress has different effects on sexes. Results of various studies about occupational stress indicate that women experience more stress than men in their workplaces (46). Within occupational stress studies, usually employed women and men are confronted with alike range of stressors. However, it appears that women are more

sensitive to interpersonal conflicts, while men are more sensitive to issues that result in wasting time and effort. In addition, although women and men have no significant difference in receiving stress from the surrounding environment, women are more likely to deal with psychological distress, while men are more dealing with physical stress (47).

3.4. Job burnout

Job Burnout is a situation of emotional, psychological, and physical exhaust which is caused by prolonged exposure to occupational stress. In this definition, emotional burnout refers to evacuation of emotional resources. When emotional burnout occurs, individual gets suspicious. Following suspicion, individual becomes distant to her/his approach to her/his occupation and therefore, lose her/his occupational efficacy. This ends in a dissatisfaction of previous and current expectation (48).

High levels of stress causes job burnout. Whenever individual experiences high, continuous, and uncontrolled stress of workplace, demands of workplace exceed individual's capabilities and cannot reach her/his goals, whenever endurance threshold of individual is low and cannot cope with occupational strain, she/he is more exposed to job burnout (49). Job burnout does not occur at once, rather, it occurs gradually within five stages of honey moon, lack of energy, initiation of chronic signs of burnout, crisis, and reaching a stalemate, respectively (50).

Typically, job burnout occurs in labors of human services. These jobs, which have high levels of burnout, include social work, nursing, teaching, advocacy, engineering, medicine, representation of customer care services, and police officers. One of the reasons of high level of job burnout in these jobs is that the stress, demands, and emotional behest of such workplaces are

high, so that all affairs from staff is unable to respond such demands and pleas (51).

3.5. Biological bases of stress

Autonomic nervous system (ANS) has the central role in related mechanisms of stress in body. Sympathetic nervous system (SNS) is activated as primary response to stress and regulates many of physiological functions of body, so that the living being can adapt to surrounding environment as much as possible (52). In the process of stress response, hypothalamus secretes various hormones, among which is corticotropin releasing hormone (CRH) that is responsible to stimulate pituitary gland and initiation of the intensively-regulated pathway of stress response (53). Pituitary gland secretes hormones such as Adrenocorticotrophic hormone (ACTH) to bloodstream, which balances the intensively-regulated response to stress (54). It appear that Amygdale has role in emotional processes and acts as a regulator of feelings, such as anxiety and fear, during the stress response (55).

During stress, hippocampus becomes very important, because cognitive processes like last memories can have drastic impacts on facilitation, inhibition, and even generating distinct response to stress. In addition, hippocampus is a region in brain that during exposure to stress is prone to damage and atrophy (56). Prefrontal-cortex activities (regulation of processes of planning, attention, and problem-solving) are disrupted temporarily during stress response (57). Locus coeruleus, a region in pons, plays central role in producing norepinephrine neurotransmitter. Norepinephrine has the central role in the process of messaging in SNS in the time of fight-or-flight response. This region of brain receives inputs from hypothalamus, Amygdale, and raphe nucleus, and its neural extensions goes towards all parts of the brain and spinal cord (58). Raphe nucleus is a region in pons and has the central role of serotonin neurotransmitter. Serotonin regulates the mood, especially when stress is accompanied with depression and/or anxiety (59).

Adrenal glands are directly responsible of production of stress hormones which would be secreted in the time of stress response. The most important stress hormone is cortisol which is produced and secreted by adrenal glands. In addition to locus coeruleus which secretes norepinephrine in central nervous system (CNS), adrenal glands can secret noradrenalin (synonymous to norepinephrine in brain, but in blood) in blood in the time of stress (60).

Hypothalamus-pituitary-adrenal (HPA) axis is a complex set of influences and feedback between three endocrine glands of hypothalamus, pituitary, and adrenal glands. Mutual interactions between these three glands shapes HPA axis which form major part of the

neuroendocrine system, control body reactions to stress, and regulates many bodily processes include digestion, autoimmune system, mood, sexual cycles, and saving and consumption of energy (61). HPA axis is a multi-stage pathway in which information are transferred by chemical messengers from one point to another point of the body. Each stage, not only transfers the information to stimulate the next region, but also receives feedback from messengers which are been prodeuced in next satges in order to reinforce its previous stages and/or weaken them (feedback mechanism) (62).

3.6. Theoretical constructs related to stress

Stress is not a simple and unimodal phenomenon. On the contrary, various and different dimensions are assumed for it. Reaching a theoretical and practical understanding of diverse aspects of the stress is needed to study, assess, and manage the stress. According to the literature review, the most related constructs to stress are anxiety, homeostasis, and allostasis.

In short, it would be plausible to define stress as a painful and hurting feeling that is dependent to a traumatic condition of present or an expectation of a danger in future which is related to an undefined object. Stress and anxiety are not separated from each other. The continuum of stress is widespread and ranges from biological to social-psychological domains and is taken to account as an important antecedent of anxiety (63). Anxiety is a multidimensional concept and has varied levels and appears as a physical, cognitive, affective, and interpersonal phenomenon. Anxiety is a warning signal which alerts individual; it admonishes individual that a danger is forthcoming so that individual can prepare her/himself to cope with danger (64, 63). It shall be noted that mild levels of anxiety is necessary to survive and protect individual against threatening dangers (63). The difference between anxiety and stress is in the triggering agent and the focus of the initiation. Initiation of stress needs an external factor (stressor) to disrupt homeostasis of the living being, while anxiety is a subjective feeling which can be present without any determined external factor and its nature is not related to its producing objective external factor (12).

Homeostasis is the key feature of any system in which its variables are set in the way that internal states become stable and relatively constant throughout the time. This process is the most important trend of the body to maintain internal stability in response to changes of external situations (65). Authors suggest that homeostasis prevents severe and/or rapid changes in body and maintains our life in a steady and stable way, even if this would be harmful for the living being. According to psychological perspective, homeostasis could be considered as the

process of equilibrium between all biological and mental systems of the body which results in a relative stability of internal environment and derives from continuous and consecutive regulations. Homeostasis have limited margins in both sides of the equilibrium point. These ranges are considered as guidelines for assessment and diagnosis (66). Studies in psychophysiology revealed that the most important part of peripheral nervous system (PNS) involved in stress response is its autonomous branch which comprises sympathetic (SNS) and parasympathetic (PSNS) nervous systems. SNS with the secretion of adrenalin and noradrenalin causes arousal and physical changes (e.g., increase in heart rate), while PSNS maintains homeostasis by secretion of acetyl choline (ACh). Simultaneous activity of these two nervous systems are mutually exclusive; one cannot be aroused and relaxed at the same time. In other words, any kind of stress, perceived or unconsciously received by organism, by affecting SNS and preventing PSNS from activity, disrupt homeostasis (67).

The third theoretical construct in relation to stress is allostasis. Allostasis is the process of reaching to equilibrium and stability, or homeostasis, in the time of confronting stress via psychological and/or behavioral changes. This can be due to changes in the level of HPS axis hormones, autoimmune system, cytokines, and/or other involved systems in stress response, and in general, its goal is adaptation in optimally minimum time. Allostasis is a vital process to maintain homeostasis amid changing situations. The concept of allostasis is used to investigate the physiology of change (which is usually stressful), adaptation in different situations, and physiological and behavioral prediction of future events (68). Allostasis in its original meaning is in connection with varied and extended social demands; social contexts which develop and connect humans together and is beyond reflective dependence and deviations in physiology of set-point. In social domain with evolution kept in mind, optimum use of behavior and social skills are formed to better regulation and fitter adaptation to stresses of social demands (69). Allostasis is shaped on the basis of a need to the concept of adaptation to change and its stress, so that it can encompass all environmental urgencies and changing situations. Allostasis emphasizes on how human can survive and reach to homeostasis by adaptation to changing situations, with consideration of vital parameters of life processes, because chronic over-activity of regulative systems ends in vulnerability of individual to physiological harms (70, 71).

3.7. Stress in Islam

Holy Quran and Ahl-al-Bayt (PUT) have many (non)materialistic instructions to avoid mental problems, especially stress. In Quran words and Instructions of Ahl-

al-Bayt (PUT) several ways are suggested to avoid and reduce daily stress. In this doctrine, faith, remembrance of God, trust in God, virtue, piety, penitence, reliance on God's mercy, patience, prayer, worship, chastity, and continence are prescribed as ways of stress reduction and reaching to internal peace.

In viewpoint of Holly Quran, whoever has been nurtured through Islamic teachings, is inoculated from varied life stressors. Any human kind who has perceived the reality of the world and thought about God's creatures, would not fear from many things that other do and sees the facts is they are and accepts them. Such human depends upon absolute power of God and believes no power other than God's and fear from nothing. Holly Quran says "Nay, but whosoever surrendered his purpose to Allah while doing well, his reward is with his Lord; and there shall no fear come upon them neither shall they grieve" (Baqare/112).

Islamic teachings have methods to identify, assess, and cope with stress as well as adaptation with difficulties which could be divided into three parts of *cognitive*, *behavioral*, and *affective/spiritual* methods. *Cognitive methods* are ways that are dealing with cognitions, beliefs, and ideas. In These methods, individual uses religious cognitions to cope with stress and deal with problems with her/his own mental and thinking capabilities. Although cognitions and beliefs are represented in behaviors, their impression would be related to cognitive mechanisms of individuals. In *behavioral methods*, command and practical words, include codes of conduct, mutual relations, and their influence on coping with difficulties and stress are addressed. In *affective/spiritual methods* (prayers), individual develops a kind of affective relation with God and saints. These relations could support human in the process of identification and confrontation with problems and suitably resolve and fix them (72).

The most important stressors, form Islamic approach, are natural and beyond-human-power factors, personal (internal) factors, having no connectedness with God, egoism and oppression to self, fear and anxiety, bottlenecks, and monetary problems (73, 74, 75). The role of faith and religious beliefs as the most important factors in identification and reductions of stress has been noted from the past. The role of "faith in God" in treatment and healing of spiritual and mental discomforts and reaching to reassurance and internal peace, is great and effective (76) and is suggested in several verses of Holly Quran (e.g., Raad/28; Fath/3).

3.8. Stress outcomes

Whenever stress goes farther than optimum level, many problems occur to Individual ranging from unconscious

issue to conscious debilitating and pervasive disease. Stress can make problems to people in many varied ways.

In sudden occurrence of stress, all muscles contracted together, and when stress resolved, this tension would finish. Chronic stress keeps body muscles contracted for a long time in defensive and spasmodic state. When muscles are contracted for a long time, this can result in other physical reaction and even stress-related diseases such as Migraine headache, tension-type headache, musculoskeletal disorders (77).

Stress results in difficulties in respiration. Acute stress such as, death of beloved keens, can actually end in an asthma attack in which airways between nose and lungs are obstructed. Moreover, stress can increase frequency and speed of breathing (hyperpnoea) which leads to panic attack in predisposed individuals (78).

Chronic stress, can make problems to heart and veins. Constant and continuous increase in heart rate and high levels of stress hormones as well as blood pressure, can deliver many problems to body. Such prolonged stress exposure can end in blood hypertension, heart attack, heart stroke, or brain stroke (79).

Together with stress, cortisol, epinephrine, and adrenalin are secreted, and liver produces more glucose to make adequate levels of blood sugar for fight-or-flight response. In most of the people, if body is unable to consume excess blood sugar, this extra sugar would be recaptured, even if individual is confronted by stress frequently. However, in some people, especially those prone to diabetes type 2, increase in blood sugar means diabetes. Studies have shown that even in people prone to diabetes, learning stress management can control blood sugar and in some cases is equal to medications (80).

Exposing to stress, brain would be more sensitive to abdominal feelings. The stomach can react with butterfly in stomach or pain and even nausea. If stress is sever enough, individual may react with vomit. If stress becomes chronic with such severity, it can cause esophageal and gastric ulcers and/or severe abdominal pains without ulcers (81).

Chronic stress, experiencing stress for a long time, can result in long-term atrophy of body resources. As SNS continuous to triggering body reactions, this ends in body exhaustion. What chronic stress initiates in nervous system is not such costly, however, its consequence that is activation of various systems of the body, results in several problems (82).

High levels of blood cortisol which is found on chronic stress states can disrupt sperm generation in male genitals. Chronic stress can influence production of testosterone, sperm production and maturation, and even cause erectile problems and/or impotence, and hence reduce the potential and capability of fertility of male population (83).

Post-traumatic stress disorder (PTSD) is one of the most severe possible reactions of any individual to stress which usually occurs after exposure to trauma and/or an event with high levels of affective/emotive negative stress. Events such as being in battlefield, observing war crimes, being tortured, being imprisoned in difficult situations, rape, serious injuries, threat to death, natural disasters, etc. can cause PTSD signs and symptoms in individuals (12).

3.9. Stress and culture

In sociological definitions, culture is anything which is transmitted from a given generation to the next one without any intervention of genetic and heredity factors. The most important elements of any culture are its norms and values. The concept of culture comprise at least 14 principal components such as language, religion, cuisine, business practices, values, arts and aesthetics, codes of conduct, normative rules of action, and morals (84, 85). With such theoretical and practical extent, almost every element of culture can (in)directly influence individual/social stress and result in increase and/or decrease of it. Recently, researchers are gradually put their emphasis on identification of factors which moderate individual and social stress influences, contextually. Today, most of researches of the social domain believe that culture is a fundamental context to form individual and environment, and thus, influential on stress-increasing/decreasing interactions (86).

One of the newly emerging domains in stress studies, is investigation of inter-culture differences in stress and its augments and diminisher factors. However, these efforts are not unified and mostly are descriptive, rather than having a theoretical consolidated construct. It shall be noted empirical findings reveal that culture acts as an inclusive context for stress and copings to it. It appears that, both transactional and contextual factors between human and environment shall be taken to account, in the time of analyzing stress. The *Cultural Stress Model* (87) presented a model which shows the current transactions between environmental system (panel 1), and individual system (panel 2), and their mutual impact on tertiary outcome situations (panel 3), cognitive reappraisal and coping skills (panel 4), and health, welfare, well-being and hygiene (panel 5).

4. Discussion and Conclusion

Stress is one the most important subjects of mental health research and one of the most complex areas in psychology and sociology in the current century. Stress is considered as the main threat of health (88). The reason of such extent of stress in human societies, is complexity of social, personal, and ecological environments of human,

multiple and simultaneous transactions of human with surrounding factors, as well as diversity of stress expressions. Although stress is considered as a routine characteristic of the modern life, if stress become continuous and increasing, most of the individuals show problematic signs and symptoms which may endanger their health and even their surrounding people's and society's (2).

The current study systematically reviewed theoretical literature of stress. Eleven major definitions of stress, three methods of stress classification, three main explanation models of stress, occupational stress, job burnout, biological and neuropsychological bases of stress, related constructs (anxiety, homeostasis, & allostasis), religious and spiritual approaches to stress, stress outcomes, and mutual relations between stress and culture were discussed. The study reviews the bases of stress as a

multimodal construct in a BioPsychoSocioSpiritual manner to consolidate a theoretical integration for future studies about stress. It appears that state-of-the-art studies shall be revised and use BioPsychoSocioSpiritual framework in order to reach a better explanation of their subjects. These results reveal that unidimensional perspectives can neither represent the factual reality of stress nor providing with suitable solutions to the stressful situations.

Moreover, it appears that culture as a broad infrastructure of any given society, shall be considered in stress analyses and religious/spiritual issues and practices form many aspects of it, especially in social activities such as codes of conduct, morals, commercial practices, and cuisines. Therefore, the future studies seem to have the aim of incorporation of various aspects of culture into their stress analyses.

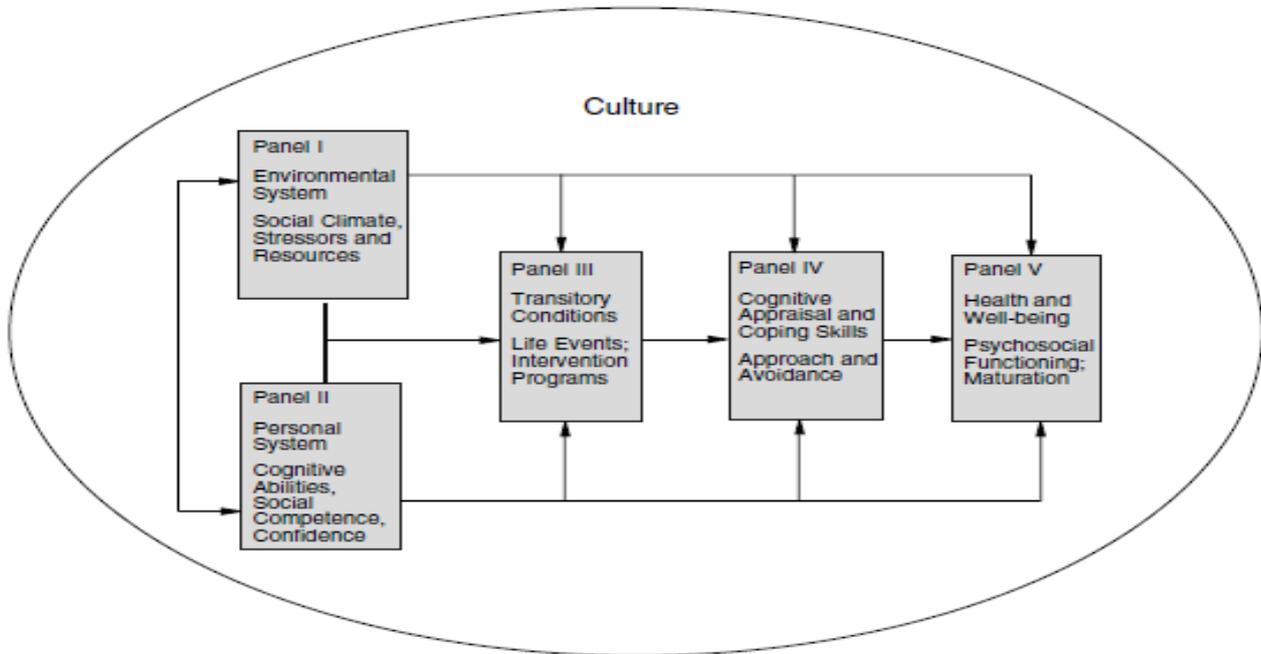


Figure 1. Cultural Stress Model (adopted from 87)

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