I. STRESS

It is difficult to define stress, as its meaning is different to different people. Some scientists see stress as any external stimulus that causes wear and tear, such as the pressure to perform at work. Competition and uncertainties of modern life, unemployment and job insecurity all such factors have made life increasingly stressful (Khokhar, 2003).

The present world is changing with incredible rapidity and established customs, traditions, and values are changing with it. Nearly all people suffer from stress. Every rich and also more educated people suffer more stress and also the executive (Wijewickreme, Karimian, & Honegger, 2009).

The key feature of “psychological stress” that distinguishes it from stress at the social and physiological level is the presumption that cognitive activities-evaluative perceptions, thoughts and inferences are used by the person to interpret and guide every adaptational interchange with the environment. There is elaborate empirical support for the mediating role of cognitive processes in psychological stress (Lazarus and Launier, 1978).

I.1. Definition of stress

Stress is how individual’s body response to pressure caused by a particular situation, such as a test, that requires you to adjust or respond. Stress can refer to the stimulus that causes person to react- such as the test. For example, if you feel yourself getting anxious and nervous about a test, the test is a stressor. Your reaction to the test can be thought of as stress. You are worried about the test, and you are exhibiting stress by feeling anxious and nervous (Miller, 2010). Stress is the consequences of person’s appraisal processes that is the assessment of personal resources whether or not is sufficient to meet the demands of the environment. According to Lazarus and Folkman (1984) stress is a function of degree of person-environment fit. When our resources are more than adequate to deal with difficult situation, we may feel little stress. When we perceive that our resources will probably be sufficient to deal with event but only at the cost of great efforts, we may feel a moderate amount of stress. But when the individual perceive that his resources are not probably sufficient to meet an environment stressor, he may experience a great deal of stress. So we may conclude that stress is process of
appraising events (as harmful, threatening, or challenging), of assessing potential responses, and of responding to those events.

Stress is a multiphase phenomenon that may also have a beneficial effect. Selye (1980) has described four basic variations of stress. Stress due to harmful effect of event can be correctly labeled “distress”. Generally all the stress in modern society is distressful. Stress due to beneficial effect like new job, marriage, and joining exciting sport may have stimulating effect, can be labeled “Eustress” or good stress (Selye, 1980). Good stress may sound like an oxymoron, but it’s true that a small amount of stress can actually be a positive thing (Miller, 2010). When stress due to events, including positive ones, cross the boundary limits of our adaptability can be labeled as “hyper-stress” or excessive stress. Bad stress, on the other hand, occurs when a stressful situation is acute or continues overtime. It could be that the person has moved to a new school and has become a target for teasing and bullying from kids in his/her classes. These sorts of situations cause chronic or long-term stress, which can produce very negative results such as physical and emotional effects (Miller, 2010). Whenever we are lacking stimulation or stimulation has not of sufficient potency to stimulate the individual such as event produces insufficient stress, which is labeled “hypo-stress” (Selye, 1980).

I.2. Types of stress

According to Karl (1979) there are four types of stress: Time stress, Anticipatory stress, Situational stress, and Encounter stress.

I.2.a. Time Stress: People experience time stress when they worry about time, or the lack thereof. They worry about the number of things that they have to do, and they fear that they will fail to achieve something important. They might feel trapped, unhappy, or even hopeless. Common examples of time stress include worrying about deadlines or rushing to avoid being late for a meeting.

I.2.b. Anticipatory Stress: Anticipatory stress describes stress that the individuals experience concerning the future. Sometimes this stress can be focused on a specific event, such as an upcoming presentation that the persons are going to give. However, anticipatory stress can also be vague and undefined, such as an overall sense of dread about the future, or a worry that "something will go wrong."
I.2.c. Situational Stress: Individuals experience situational stress when they are in a scary situation that they have no control over. This could be an emergency. More commonly, however, it's a situation that involves conflict, or a loss of status or acceptance in the eyes of their group. For instance, getting laid off or making a major mistake in front of person’s team are examples of events that can cause situational stress.

I.2.d. Encounter Stress: Encounter stress revolves around people. You experience encounter stress when you worry about interacting with a certain person or group of people – you may not like them, or you might think that they're unpredictable. This type of stress also occurs from "contact overload": when you feel overwhelmed or drained from interacting with too many people (Karl, 1979).

I.3. Symptoms of stress

All of us respond in our own individual way when the pressures build up. Some people become more and more irritable and moody, while other people become more inactive and cannot make decisions. The following are typical symptoms of stress (McNamara, 2004).

I.3.a. Thoughts symptoms including: Finding it hard to concentrate, memory becomes poor, sense of time urgency, finding it hard to make decisions, loss of self-confidence, muddled thinking, forgetting things, making mistakes, unable to think far ahead, predicting the worst, worrying or ruminating rather than solving problems, becoming rigid or inflexible in an effort to keep control.

I.3.b. Physical reactions including: headaches, tense muscles especially in the neck and shoulders, extreme tiredness, butterflies in stomach, nausea, feeling shaky (e.g. shaky hands or shaky voice), clenching teeth or fists, heart beat is faster, palpitations/feel like heart is missing a beat, sweaty palms, cold fingers, dry mouth, frequent urination, dizzy spells, and erratic breathing.

I.3.c. Feelings symptoms including: irritability, aggressive, withdrawn, lowered self-esteem, moody, crying, cynical, guilty, anxious or panicky, depressed, over-sensitive to criticism, edgy, angry, feeling hopeless, hostile, and miserable.

I.3.d. Behavioral symptoms including: worse at managing the time, rushing around without getting much done, change in sleep patterns (can’t sleep or oversleep), change in
eating patterns (eating more or eating less), doing things in a hurry, losing touch with friends, fidget/bite nails/ fiddle with hire, non-stop talking, obsessive-compulsive disorders, and missing school a lot (McNamara, 2004).

I.4. Causes of stress

The causes of stress are known as stressors and there are literally hundreds of different types of stressors. Any event in life that a person finds threatening, difficult to cope with or causes excess pressure can be a potential cause of stress. It is important to bear in mind that stress is an individualistic, subjective experience and therefore what one person finds stressful need not be stress for another.

Stress can be caused either by internal and external sources (stressors). According to Rubin, Peplau & Salovey (1993) things that cause individual stress are called stressors. Stressors can produce adaptive (positive) responses or maladaptive (negative) responses which called the first model of classifying stress. The defense mechanisms of the body determine the degree to which the responses are healthy and positive and maladaptive. The second classification model of stress comprises acute and chronic stress. The third model of classifying stress is according to the type of human response stimulated by the stress, e.g. physical, physiological, and psychosocial.

**Internal stressors** originate within a person. They include lifestyle choices, such as the use of caffeine; an overloaded schedules; negative self-talk, such as self-criticism and overanalyzing; unrealistic expectation; taking things personally; all-or-nothing thinking, exaggerating; and rigid thinking; being a perfectionist; and workaholic. Internal stressors precipitated by physiological or psychological stimuli, for example, cancer, stroke, depression, and anxiety, occurring within the individual.

**External stressors** originate outside the body and are precipitated by changes in the external environment. They can be triggered by the actual physical environment, for example, by noise, bright lights, heat, or confined space: Social environment, for example, rudeness, bossiness or aggressiveness organizational environment, such as rules, regulations, deadlines; or the educational environment, such as school, university and teachers (refers to academic stress); major life events, such as, the birth of a baby or the sudden death of a parent; and by trauma, such as, that experienced with severe burns, a motor vehicle crash, or other catastrophic events such as hurricanes, floods and fires.
Daily hassles (The day-to-day causes of stress are called daily hassles; they are those daily, minor irritations such as commuting long distances, misplacing keys, time pressures, lack of sleep, loneliness, and experiencing mechanical break downs, also act as external stressors.

Stress also classified as Acute and Chronic. Acute stressors are brief and involve a tangible threat that is readily identified as a stress such as rape, combat, natural disasters, going parachute jumping, and etc; whereas chronic stressors have a longer duration and are not readily identified as stressors because they are often ambiguous and tangible. Chronic stressors (e.g. permanent disabilities, parental discord and etc.) have become a part of modern life that they may be taken for granted and can, therefore, pose a serious health risk if they are not recognized and properly managed. Dienstbier (1989) described this phenomenon as physiological toughening. According to him stressors vary in their duration and are intermittent in nature, alternating between periods of stress and calm. If an intermittent stressor is viewed as a challenge, it may improve one’s physiological resistance to stress by causing repeated, periodic increases in sympathetic arousal, which conditions the body to better withstand subsequent stressors. Emergencies are, therefore, transformed into routine situations, decreasing the intensity of the stressful situation (Mandler, 1982).
### Table 2.1

Some examples of physical, physiological, and psychosocial causes of stress

<table>
<thead>
<tr>
<th>Physical stressors</th>
<th>Psychological stressors</th>
<th>Psychosocial stressors</th>
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<tbody>
<tr>
<td>Sleep debt</td>
<td>Excess anger</td>
<td>Fear of crime</td>
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<td>Excess/too little exercise</td>
<td>Unrealistic beliefs</td>
<td>Poverty</td>
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<td>Poor diet</td>
<td>Excess pessimism</td>
<td>Low social support</td>
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<td>Drug misuse</td>
<td>Health worries</td>
<td>Bureaucracy/red tape</td>
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<td>Alcohol misuse</td>
<td>Unrealistic expectations</td>
<td>Rude, aggressive, unhelpful people</td>
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<td>Excess heat</td>
<td>Excessive worrying</td>
<td>Victim of crime</td>
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<td>Excess caffeine</td>
<td>Unhappy childhood</td>
<td>Problem neighbors</td>
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<td>Chronic hyperventilation</td>
<td>Unemployment</td>
<td>Racial harassment</td>
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<td>Excess cold</td>
<td>Perfectionism</td>
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<td>Illness</td>
<td>Loneliness</td>
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<td>Smoking</td>
<td>Low self esteem</td>
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<td>Hypoglycemia</td>
<td>Low levels of assertion</td>
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<td>Lack of relaxation</td>
<td>People pleasing</td>
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<td>Surgery</td>
<td>Boredom</td>
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<td>Chronic pain</td>
<td>Negative self talk</td>
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<td>Personality</td>
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<td>Rigid thinking style</td>
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<td>Excessive self criticism</td>
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<td>Exams</td>
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<td>talks/presentations</td>
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(Lazarus & Folkman, 1984)

### I.5. Theories of stress

1. Cannon (1932) defined stress as fight or flight response. Cannon proposed that when the organism perceives a threat, the body is rapidly aroused and motivated via sympathetic nervous system and endocrine system. Receptors in hypothalamus and brain storm are activated that stimulate the nervous associated with the autonomic system and some striking transformation occurs. The adrenal glands begin pumping hormones into the blood stream. These substances in turn have powerful effects upon the nervous that controls lungs, heart and stomach. Heart rate speeds up; blood pressure increase, blood sugar and respiration increase; the circulation of blood to the skin is reduced whereas to muscles, it is increased.

One of the most comprehensive models of stress is the Bio-psychological model of stress (Bernard & Krupat, 1994). According to the Bio-psychological model of stress,
stress involves three components: an external component (it refers to psychological stress developed within the field of cognitive psychology; Lazarus, 1966); an internal component (this component refers to systemic stress based on physiology and psychobiology; Selye, 1976); and the interaction between the external and internal components.

The external component of the Bio-psychosocial Model of stress involves environmental events that precede the recognition of stress and can elicit a stress response. A previously mentioned, the stress reaction is elicited by a wide variety of psychosocial stimuli that are either physiologically or emotionally threatening and disrupt the body's homeostasis (Cannon, 1932). We are usually aware of stressors when we feel conflicted, frustrated, or pressured. Most of the common stressors fall within four broad categories: personal, social/familial, work, and the environment. These stressful events have been linked to a variety of psychological and physical complaints. For example bereavement is a particularly difficult stressor and has provided some of the first systematic evidence of a link between stress and immune functioning. Bereavement research generally supports a relationship between a sense of loss and lowered immune system functioning. Health problems and increased accidents are also associated with stressful work demands, job insecurity and changes in job responsibilities (Bernard & Krupat, 1994).

The internal component of stress involves a set of neurological and physiological reactions to stress. Selye (1985) defined stress as "nonspecific" in that the stress response can result from a variety of different kinds of stressors and he thus focused on the internal aspects of stress. Selye noted that a person who is subjected to prolonged stress goes through three phases: Alarm Reaction, Stage of Resistance and Exhaustion. He termed this set of responses as the General Adaptation Syndrome (GAS). This general reaction to stress is viewed as a set of reactions that mobilize the organism's resources to deal with an impending threat. The Alarm Reaction is equivalent to the fight-or-flight response and includes the various neurological and physiological responses when confronted with a stressor. When a threat is perceived the hypothalamus signals both the sympathetic nervous system and the pituitary. The sympathetic nervous system stimulates the adrenal glands. The adrenal glands release corticosteroids to increase metabolism which provides immediate energy. The pituitary gland releases adrenocorticotropic hormone (ACTH) which also affects the adrenal glands. The
adrenal glands then release epinephrine and nor-epinephrine which prolongs the fight-or-flight response. The Stage of Resistance is a continued state of arousal. If the stressful situation is prolonged, the high level of hormones during the resistance phase may upset homeostasis and harm internal organs leaving the organism vulnerable to disease. There is evidence from animal research that the adrenal glands actually increase in size during the resistance stage which may reflect the prolonged activity. The Exhaustion stage occurs after prolonged resistance. During this stage, the body's energy reserves are finally exhausted and breakdown occurs. Selye (1985) has noted that, in humans, many of the diseases precipitated or caused by stress occur in the resistance stage and he refers to these as "diseases of adaptation." These diseases of adaptation include headaches, insomnia, high blood pressure, and cardiovascular and kidney diseases. In general, the central nervous system and hormonal responses aid adaptation. However, it can sometimes lead to disease especially when the state of stress if prolonged or intense.

The third component of the bio-psychological model of stress is the interaction between the external and internal components, involving the individual’s cognitive processes. Lazarus (1984) has proposed a cognitive theory of stress which addresses this interaction. He refers to this interaction as a transaction, taking into account the ongoing relationship between the individual and the environment. His theory places the emphasis on the meaning that an event has for the individual and not on the physiological responses. Lazarus believes that one’s view of a situation determines whether an event is experienced as stressful or not, making stress as the consequence of appraisal and not the antecedent of stress (Gordon, 1997).

2. Systemic stress: Selye’s theory

The popularity of the stress concept in medical and social science stems largely from the work of the endocrinologist Selye (1976). According to Selye, the ‘stress’ responses of the organism represented a common set of generalized physiological responses that were experienced by all organisms exposed to a variety of environmental challenges like temperature change or exposure to noise. From his perspective, the stress response was nonspecific; that is, the type of stressor experienced did not affect the pattern of response. In other words, a wide variety of external stressors elicited an identical or general stress response. He termed this nonspecific response as General Adaptation Syndrome (GAS), which consisted of three stages (Alexander, 2008).
a. The alarm phase: the body mobilizes the sympathetic nervous system to meet the immediate threat, the release of adrenal hormones, epinephrine and nor-epinephrine, occurs with any intense emotion and produces a boost in energy and tense muscles reduced sensitivity to pain, the shutting down of digestion, along with a risk of blood pressure.

b. The resistance phase: this stage is a continued stage of arousal. If the stressful situation is prolonged, the high level of hormones during the resistance stage may upset homeostasis and harm internal organs leaving the organism vulnerable to disease.

c. The exhaustion phase: in this stage, persistent stress lowers the body of energy, and increases vulnerability to physical problems and eventually illness. The same reactions that allow the body to respond effectively in the alarm and resistance phases are unhealthy as long-range responses. Tense muscles can cause side effects such as headache and neck pain along with increased blood pressure and digestive disorders (Koslowsky, Kluger, & Reich, 1995).

3. Mandler’s interruption theory

Mandler’s (1982) interruption theory of stress provides a transition between the internal component of stress and the interaction component of stress. Mandler defines stress as an emergency signaling interruption. The basic premise is that autonomic activity results whenever some organized action or thought process is interrupted. The term interruption is used in the sense that any event, whether external or internal to the individual, prevents completion of some action, thought sequences, or plan and is considered to be interrupted.

4. Psychological stress: the Lazarus theory

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

The concept of appraisal consists of a continuously changing the set of judgments which is evaluative in a personal sense about the significance of the flow of events for the person’s well-being. Such judgments are always taking place.
with the environment is continual and ever-changing-through appraisal having often repetitious features.

Cognitive appraisal can simply be understood as the mental process of placing any event in one of the series of evaluative categories related either to its significance for the person’s well-being (primary appraisal) or to the available coping resources and options (secondary appraisal).

**Primary appraisal:** In a person’s primary appraisal, he or she evaluates two aspects of a situation: the motivational relevance and the motivational congruence (Smith & Kirby, 2009). When evaluating motivational relevance, an individual answers the question, “How relevant is this situation to my needs?” Thus, the individual evaluates how important the situation is to his or her well-being. The motivational relevance aspect of the appraisal process has been shown to influence the intensity of the experienced emotions so that when a situation is highly relevant to one’s well-being, the situation elicits a more intense emotional response. The second aspect of an individual’s primary appraisal of a situation is the evaluation of motivational congruence. When evaluating the motivational congruence of a situation, an individual answers the question, “Is this situation congruent or incongruent (consistent or inconsistent) with my goals?” (Smith & Kirby, 2009). Individuals experience different emotions when they view a situation as consistent with their goals as when they view it as inconsistent.

**Secondary appraisal** involves people’s evaluation of their resources and options for coping (Lazarus, 1991). One aspect of secondary appraisal is a person’s evaluation of who should be held accountable. A person can hold herself, another, or a group of other people accountable for the situation at hand. Three secondary appraisal components are distinguished: blame or credit results from an individual’s appraisal of who is responsible for a reaction event. By coping potential Lazarus means a person’s evaluation of the prospects for generating certain behavioral or cognitive operations that will positively influence a personally relevant encounter. Specific patterns of primary and secondary appraisal lead to different kinds of stress. Three types are distinguished: harm, threat, and challenge (Lazarus & Folkman, 1984). Harm refers to the psychological damage or loss that has already happened. Threat is the anticipation of harm that may be imminent. Challenge results from demands that a person feels confident about mastering. Lazarus (1991) distinguished 15 basic emotions. Nine of
these are negative (such as anger, fright, anxiety, guilt, shame, sadness, envy, jealousy, and disgust), four are positive (such as happiness, pride, relief, and love) and two more emotions, hope and compassion, and have a mixed valence.

Coping is intimately related to the concept of cognitive appraisal and, to the stress relevant person-environment transactions. Most approaches in coping research follow Folkman and Lazarus (1980), who define coping as the cognitive and behavioral efforts made to master, tolerate, or reduce external and internal demands and conflicts among them (Krohn, 1996). Coping potential is potential to use either problem-focused coping or emotion-focused coping strategies to handle an emotional experience. Problem-focused coping refers to one’s ability to take action and to change a situation to make it more congruent with one’s goals. Thus, a person’s belief about their ability to perform problem-focused coping influences the emotions they experience in the situation. On the other hand, emotion-focused coping refers to one’s ability to handle or adjust to the situation should the circumstances remain inconsistent with one’s goals (Smith & Kirby, 2009).

5. Cognitive activation theory

The cognitive activation theory of stress (CATS) (Ursin and Eriksen, 2004) offers a psycho-biological explanation for the assumed relationships between health and external and internal events referred to as “stress”. It is a cognitive theory since (1) physiological and psychological consequences all depend on cognitive evaluations of the situation and what a person can do about it; (2) the psycho-biological consequences of cognitive activity are explained by increases in arousal (activation); and (3) it includes and integrates data from both animals and humans.

The crucial concept in CATS is “expectancy”. Expectancy is an essential element in many reformulations of learning theory. When a rat learns an instrumental response for food, it typically first learns that certain cues predict food and then learns that certain response produce food, for instance, pressing a bar in the Skinner operant box. What is stored in the brain may be referred to as “expectancies”, when the brain has established that one event precedes another, the brain “expect” the second event after the first event has been presented or the response has been performed. This is also referred to as the “two process” theory of learning. The brain first establishes that there is a relationship between stimuli, one stimulus preceding the other. In CATS, these cognitive
reformulations of stress theory and learning are necessary to explain how the brain determines the health consequences of “stress” (Reme, Eriksen & Ursin, 2008).

6. Theories of cognitive costs

Cognitive cost theory explains that any stressful event requires an individual to extend the cognitive resources to cope with the stress. This approach is named cognitive cost hypothesis given by Glass and Singer (1972). They believe that any stress requires an individual to extend cognitive resources in order to cope with stressful situation. The person tries to understand what the stressful event is, and to what extent bad it can be? Will it be ongoing or not? All these efforts made by individual get assistance from other aspects of life that reduce the both time and energy of individual to focus on other tasks or problems and consequently performance decreases.

7. Theory of arousal of stress

Psychological arousal determines the potency of effects of stress as per the viewpoint of Cohen (1987). It is an established fact that high level of arousal narrows the focus of attention. If the task is simple, moderate arousal improves the performance because it concentrates the attention on task demands. On complex tasks, however, arousal can interfere with performance because important cues may escape attention. Thus, as arousal increases with stress, task performance should improve or decline depending on the complexity of the task. The arousal increases is thought to be unpleasant. Sudden arousal increase in a characteristic feature of physiological component, at least in human begins. The perception of this arousal and accompanying thoughts to the danger are the subjective components of anxiety (Cohen, 1987).

8. Theory of helplessness and stress

This theory viewpoint maintains that stress produces feelings of helplessness. Stress results when the demand of the environment exceeds the individual’s resources. The controllable events produce less stress than uncontrollable events indicate that is experience or appraisal determines stress. Seligman (1975) gave the model of helplessness in his theory of learned helplessness. The essence of learned helplessness is that when one’s efforts of his control repeatedly results in vain, the individual not only stops strive the particular outcome but also loses control of the other situation where he easily can. In other words people can learn to be helpless by experiencing repeated
instances of their lack of control. Learned helplessness creates three deficits within the individual.

*Motivational lack:* first is creates lack of motivation in the person. The learned helplessness person makes no efforts to change the outcomes and becomes passive.

*Cognitive deficit:* secondly it creates a cognitive deficit, in that helpless person fails to learn the new responses that can help him to avoid the negative situation or stimuli.

*Emotional disturbance:* the third one is emotional, in that learned helplessness can produce mild or severe depression whenever he is exposed to any new or aversive situation (Seligman, 1975).

**9. The diathesis-stress model**

Evidence that the stress response is more specific and varies with how a particular stressor is perceived has led researchers to propose several other models that highlight the interaction of biological and psychosocial factors in health and illness. The diathesis-stress model (Monroe & Simons, 1991) proposes that two continuously interacting factors jointly determine an individual’s susceptibility to stress and illness: *predisposing factors* that establish a person’s vulnerability to illness and *precipitating factors* from the environment. Some individuals are more vulnerable to illness because they react more strongly to specific environmental triggers. This reactive predisposition (diathesis) is customarily believed to be genetic in origin, but some theories have suggested that acquired behavioral or personality traits (such as being overly aggressive or prone to anger) may also make some persons more susceptible to stress-related illness. For example, every student experiences test anxiety to varying degrees. Most of us, however, learn to cope with the stress of exam-taking by studying and keeping things in perspective. In some rare instances, however, test anxiety can be out of control, causing a student to react to exams with an increase in heart rate and blood pressure. After years of stressful exams, these abnormally intense cardiovascular disorders (diathesis) may make the student more vulnerable to cardiovascular disorders than a student with better coping resources. The diathesis-stress model highlights the fact that different people have different vulnerabilities, resulting in many possible health consequences due to stress combined with diathesis.
I.6. Stress response as moderators

A number of internal and external coping resources along with constraints exist that ultimately influence the selection or use of any specific coping. These factors are called “moderators” of the stress experience because they influence how stressful an experience will be and what coping strategies individual will bring to bear the stressful experience. Internal coping resources consist of coping style and personality factors. The external resources include money, time, and social support (Straub, 2002).

I.6.A. Personality factors: Perhaps certain personality characteristics (such as extraversion-introversion, hardiness and sense of coherence) predispose people to cope in certain ways when they confront adversity (Straub, 2002).


Arousal theory of stress (Bullock & Gilliland, 1993) explains the differences in preference for social contact between introverts and extroverts. Social interaction and interpersonal intimacy increase arousal level, thus, the stimulus seeking extroverts will be positively influenced by social contact. Degree of extroversion is a modifier of response to stress. The extroverts are seen as geared to respond and will attempt a response when given the opportunity. Introverts react more negatively and suffered greater tension than extravert. However, extraverts are more likely to participate in behaviors that may both intensify the response to stress and constitute an additional source of stress (e.g. drinking alcohol, smoking cigarette, consuming more spicy foods). Thus the extrovert is at risk of heart and liver diseases because he is more likely to consume alcohol and is also less tolerant of the effects of it than introvert (Khokhar, 2003).


Hardiness is considered to keep a person healthy despite the experience of stressful life events. Maddi and Kobassa, 1991; cited in Straub (2002) have identified three stress-buffering traits: commitment, challenges, and control—that have a substantial effect on how people react to threatening events. Together, these traits form a personality style called hardiness.

According to Maddi and Kobassa (1991), hardy people tend to view the everyday demands of life as challenges rather than as threats. They are also committed to their
families, jobs, communities, or other groups or activities that give their lives a sense of meaning. And, most important, they have a sense of control over their lives, of having access to needed information, and of being capable of making good decisions regarding the demands of life. Sense of coherence (SOC) is a closely related concept to hardiness and has been defined and developed by Antonovsky (1987). SOC refers to how an individual sees the world and one’s life in it. It is a personality characteristic or coping style rather than a response to a specific situation. The three components of SOC are: comprehensibility; means that stimuli derived from one’s internal and external environments are structured, predictable, and explicable; Manageability implies that resources are available to meet the demands posed by these stimuli; Meaningfulness suggests that the demands are challenges worthy of investment and engagement. An individual with a strong SOC has an enduring tendency to see one’s life as ordered, predictable, and manageable (Straub, 2002).

I.6.B. Resilience as moderator of stress

Closely related to hardiness is the concept of resilience, a term that has been applied to children who show a remarkable ability to develop into competent, well-adjusted people despite having been raised in extremely disadvantaged environments. Research points that resilience comes from two groups of factors. One group relates to individual traits, the other to social support. Resilient children have well-developed social, academic, or creative skills, easy temperaments, high self-esteem, self-discipline, and strong feelings of personal control. These elements of social cognition seem to foster healthy relationships with others that help such children adjust to otherwise adverse conditions. They also help these children to deflect many of the problems they may face at home (Straub, 2002).

I.6.C. Explanatory style as moderator of stress

Explanatory style- person’s general personality to attribute outcomes always to positive causes or to negative causes, such as personality, luck, or another one’s actions-determines individual response. People who look on the bright side of life—who see a light at the end of the tunnel-have a positive explanatory style. People who see the dark side—who expect failure because they believe that conditions that lead to failure are all around them or even within them-have a negative explanatory style. The research
literatures view these two explanatory styles as extremes along a single continuum of optimism, although in common usage people with negative explanatory styles are referred as pessimism.

Optimism: People with an upbeat, optimistic explanatory style, tend to enjoy good health. They lead healthier, longer lives than do their gloom-and-doom counterparts. (Straub, 2002).

Why is optimism beneficial to health? According to the broaden-and build theory (Frederickson, 2001), positive emotions increase people’s physical, cognitive, and social resources, which in turn helps them cope more effectively with stressful experiences and live healthier lives.

Pessimism: Those with a negative explanatory style tend to explain failures in terms that are global (“everything is awful”). Anger, hostility, suppressed emotions, anxiety, depression, and pessimism are all associated with a negative explanatory style and are believed to lead to harmful health-related behaviors (smoking and drug abuse, for example) and disease (Straub, 2002).

I.6.D. Social support as an external influencing resource on coping: no doubt, social support works as a protector against adverse environmental forces or negative life events. Social support is companionship from others that conveys emotional concern, material assistance, or honest feedback about a situation. In stressful situations, people who perceive a high level of social support may experience less stress and may cope more effectively. During times of stress, many students may seek social and emotional support from their family and friends. Social support or receiving emotional, informational and or/tangible support from other individuals has been linked positively with the maintenance of physical health during stressful situations. According to the buffering hypothesis, social support mitigates stress indirectly, by providing resources “on the spot” to help the individual cope more effectively. For instance, people who perceive strong social support are less likely to ruminate in an effect to cope with stressful experiences.

Another theory is direct effect hypothesis (Jemmott & Locke, 1984). According to this, social support enhances health and well-being irrespective of stress level. Such a direct benefit could occur as a result of the perception that others will provide aid in the
event of stressful occurrence or merely as a result of integrated membership in a social
network. The perception that others are willing to help could result in increased overall
positive affect and in elevated sense of self-esteem, stability, and control over the
environment. These psychological states may in turn influence susceptibility to physical
illness through their effects on neuro-endocrine or immune system functioning or
through changes in health-promoting behaviors (e.g. decreased cigarette, smoking,
decreased alcohol use, and improved diet or exercise patterns).

1.7. STRESS IN ADOLESCENTS

The idea of adolescence being a period of ‘storm and stress’ – a perspective
which was introduced by Hall (1904) and supported by the psychoanalytic tradition
(Freud, 1930) and Erikson’s (1968) definition of adolescence as a time of identity crisis –
was popular for most of the 20th century. In this view, adolescence is characterized as an
inevitably turbulent process; accompanied by negative moods, a problematic relationship
with parents and risky behavior, including delinquency (Goossens, 2006). Even though
the notion that adolescents would have a despondent temper is (cautiously) supported –
adolescents experience slightly more negative emotionality than children– it was also
determined that for most adolescents, the relationship with parents does not become
troubled (Boer, 2004; Deković & Buist, 2004).

Adolescence is a time of transition/moving from the immaturity of childhood into
the maturity of adulthood. There is no single event or boundary line that denotes the end
of childhood or the beginning of adolescence. Rather, experts think of the passage from
childhood into and through adolescence as composed of a set of transitions that unfold
gradually and that touch upon many aspects of the individual's behavior, development,
and relationships. These transitions are biological, cognitive, social, and emotional
(Lerner & Steinberg, 2004).

1.7.a. Puberty

The biological transition of adolescence, or puberty, is perhaps the most
observable sign that adolescence has begun. Technically, puberty refers to the period
during which an individual becomes capable of sexual reproduction. More broadly
speaking, however, puberty is used as a collective term to refer to all the physical
changes that occur in the growing girl or boy as the individual passes from childhood into adulthood.

The timing of physical maturation varies widely. Menarche (onset of menstruation) typically occurs around age 12, although some youngsters start puberty when they are only eight or nine, others when they are well into their teens. The duration of puberty also varies greatly: 18 months to six years in girls and two to five years in boys.

The physical changes of puberty are triggered by hormones, chemical substances in the body that act on specific organs and tissues. In boys a major change incurred during puberty is the increased production of testosterone, a male sex hormone, while girls experience increased production of the female hormone estrogen. In both sexes, a rise in growth hormone produces the adolescent growth spurt, the pronounced increase in height and weight that marks the first half of puberty. Perhaps the most dramatic changes of puberty the development of primary sexual characteristics, adolescents become capable of sexual reproduction. And secondary sexual characteristics appear, girls and boys begin to look like mature women and men. In boys primary and secondary sexual characteristics usually emerge in a predictable order (Lerner & Steinberg, 2004).

**a.1. Cognitive Transition**

A second element of the passage through adolescence is a cognitive transition. Compared to children, adolescents think in ways that are more advanced, more efficient, and generally more complex. This is evident in five distinct areas of cognition.

First, during adolescence individuals become better able than children to think about what is possible, instead of limiting their thought to what is real. Whereas children's thinking is oriented to the here and now (i.e., to things and events that they can observe directly), adolescents are able to consider what they observe against a backdrop of what is possible—they can think hypothetically.

Second, during the passage into adolescence, individuals become better able to think about abstract ideas. For example, they find it easier than children to comprehend the sorts of higher-order, abstract logic inherent in puns, proverbs, metaphors, and analogies. Abstract thinking permits the application of advanced reasoning and logical processes to social and ideological matters. This is clearly seen in the adolescent's
increased facility and interest in thinking about interpersonal relationships, politics, philosophy, religion, and morality—topics that involve such abstract concepts as friendship, faith, democracy, fairness, and honesty.

Third, during adolescence individuals begin thinking more often about the process of thinking itself, or meta-cognition. As a result, adolescents may display increased introspection and self-consciousness. Although improvements in meta-cognitive abilities provide important intellectual advantages, one potentially negative byproduct of these advances is the tendency for adolescents to develop a sort of egocentrism, or intense preoccupation with the self. Acute adolescent egocentrism sometimes leads teenagers to believe that others are constantly watching and evaluating them. Psychologists refer to this as the imaginary audience.

A fourth change in cognition is that thinking tends to become multidimensional, rather than limited to a single issue. Whereas children tend to think about things one aspect at a time, adolescents describe themselves and others in more differentiated and complicated terms and find it easier to look at problems from multiple perspectives. Being able to understand that people's personalities are not one-sided, or that social situations can have different interpretations, depending on one's point of view, permits the adolescent to have far more sophisticated and complicated relationships with other people (Lerner & Steinberg, 2004).

### a.2. Emotional Transition

Adolescence is also a period of emotional transition, marked by changes in the way individuals view themselves and in their capacity to function independently. As adolescents mature intellectually and undergo cognitive changes, they come to perceive themselves in more sophisticated and differentiated ways. Compared with children, who tend to describe themselves in relatively simple, concrete terms, adolescents are more likely to employ complex, abstract, and psychological self-characterizations. As individuals' self-conceptions become more abstract and as they become more able to see themselves in psychological terms, they become more interested in understanding their own personalities and why they behave the way they do.

For most adolescents, establishing a sense of autonomy, or independence, is as important a part of the emotional transition out of childhood as is establishing a sense of
identity. During adolescence, there is a movement away from the dependency typical of childhood toward the autonomy typical of adulthood. For example, older adolescents do not generally rush to their parents whenever they are upset, worried, or in need of assistance. They do not see their parents as all-knowing or all-powerful, and often have a great deal of emotional energy wrapped up in relationships outside the family. In addition, older adolescents are able to see and interact with their parents as people, not just as their parents. Many parents find, for example, that they can confide in their adolescent children, something that was not possible when their children were younger, or that their adolescent children can easily sympathize with them when they have had a hard day at work (Lerner & Steinberg, 2004).

a.3. Social Transition

Accompanying the biological, cognitive, and emotional transitions of adolescence are important changes in the adolescent's social relationships. One of the most noteworthy aspects of the social transition into adolescence is the increase in the amount of time individuals spend with their peers. There is a sharp increase during adolescence in the sheer amount of time individuals spend with their peers half of the typical adolescent's waking hours are spent with peers, as opposed to only 15 percent with adults, including parents. Second, during adolescence, peer groups function more often without adult supervision, and more often involve friends of the opposite sex.

One of the most important social transitions that take place in adolescence concerns the emergence of sexual and romantic relationships. In contemporary society, most young people begin dating sometime during early adolescence. Dating during adolescence can mean a variety of different things, from group activities that bring males and females together (without much actual contact between the sexes); to group dates, in which a group of boys and girls go out jointly (and spend part of the time as couples and part of the time in large groups); to casual dating as couples; and to serious involvement with a steady boyfriend or girlfriend. More adolescents have experience in mixed-sex group activities like parties or dances than dating, and more have experience in dating than in having a serious boyfriend or girlfriend (Steinberg, 1996).
a.4. School Transitions

Adolescence is said is a transitional period (the transition from childhood, and the transition from middle school to high school). Several scholars and policymakers have argued that this school transition is linked to negative changes in the functioning of many adolescents, particularly in the realm of academic achievement. According to person-environment fit theory (Eccles et al, 1993), individual’s behavior, motivation, and mental health are influenced by the fit between the characteristics individuals bring to their social environments and the characteristics of these social environments. Individuals are not likely to do very well, or be motivated, if they are in social environments that do not fit their psychological needs; so, person-environment fit theory predicts a decline in the motivation, interest, performance, and behavior of adolescents as they move into this environment. Since in this period of life there are a lots of factors that are pressured the adolescent, such as parent and teachers expectations, peers pressures, and society pressures as accepting the social principles and acting according to them, it is generally regarded as an emotionally intense and often stressful period (Eccles et al, 1993).

I.7.b. Stress in high school students

Stuart (2006) and De Anda et al., (2000) showed that school related issues are not only a major contributor to adolescent stress, but also are the sources of stress for this age group (Rodney, 2008). A recent nationwide survey (Kaiser Family Foundation, 2005) revealed that 63% of teenagers, between fourteen and eighteen years of age, feel that school is the greatest cause of stress, and that 27% of teenagers frequently experience stress in their daily lives. Barnes, Bauza, and Treiber (2003) suggested that stress has been linked with increases in Internalizing problems among teenage students, such as depression, aggression, anxiety, anger, and externalizing problems such as bullying, unexcused absences and etc. (Rodney, 2008). High school students have a great need for restorative and stress reducing environments, and this need may be growing.

I.7.C. Internalizing problems during adolescents

Internalization is the incorporation into the self of guiding principles (as values or patterns of culture) through learning or socialization (adapted from a standard dictionary). Kochanska (1993) suggests that internalization comes about in early childhood through parent-child communication with a focus on developing feelings of
empathy, guilt, and pro-social affect such as concern for others, and cause and effect of behaviors as demonstrated in how one’s behavior makes others feel. In psychoanalytic theory, anxiety and guilt are the internalized emotions that replace parental control of behavior (Muuss, 1996). In the present usage, internalizing refers to problems or disorders of emotion or mood (including depression, anxiety, and anxiety disorders such as post traumatic stress disorder and acute stress response).

There are three models that are frequently discussed and may be particularly salient for understanding why internalizing problems arises during adolescence and why some youth are at greater risk than are others. These models are (a) cumulative or simultaneous events models (Petersen, Sarigiani, & Kennedy, 1991), (b) accentuation or diathesis-stress models (Caspi & Moffitt, 1991), and (c) differential sensitivity or vulnerability models (Graber & Brooks-Gunn, 1996).

*Models of cumulative and simultaneous events* posit that when individuals experience major events or transitions such as school changes or pubertal development, either in close sequence (cumulatively) or simultaneously, those individuals are more likely to have negative behavioral and emotional outcomes from the confluence of events. In this case, presumably, coping resources are overwhelmed and thus internalizing symptoms increase. *Accentuation models*, in turn, posit that major developmental transitions accentuate existing problems, resulting in increased problems and poor outcomes after the transition (Elder & Caspi, 1990). In refinements of this model, Caspi and Moffitt (1991) have also considered the interaction of prior problems with the type or nature of the transition (e.g., making the transition earlier than one’s peers do) in predicting who experiences a worsening of problems during adolescence. There has been interest in the extent to which particular developmental periods or processes result in differential or heightened sensitivity to stress, resulting in periods of increased vulnerability for health risks more generally. The heightened sensitivity models have often been based on understanding how women’s reproductive transitions (puberty, pregnancy, and menopause) result in changes in mental and physical health. Biological systems may be more sensitive to environmental or contextual influences during times of rapid change, as seen in reproductive transitions.

*Models of differential sensitivity*— also like accentuation models—suggest that individuals with preexisting characteristics are potentially more sensitive to
developmental transitions and challenges. In this case, the transition or challenge need not be biologically based to confer risk; rather, the individual brings to the situation physiological (reactive responses to stress) or psychological (emotion regulation, temperament) characteristics that make the challenges of adolescence more difficult and hence more likely to lead to internalizing problems or disorders during this time (Lerner & Steinberg, 2004).

**I.7.d. Symptoms of Stress in Children and Adolescents**

- Irritability or unusual emotionality.
- Sleep difficulty or nightmares.
- Inability to concentrate.
- Drop in grades or other functioning.
- Toileting or eating concerns.
- Headaches or stomachaches.
- Unexplained fears or increased anxiety (that also can take the form of clinging).
- Regression to earlier developmental levels.
- Isolation from family activities or peer relationships.
- Drug or alcohol experimentation (National association of school psychologists, 2009).

**II. Academic stress**

According to Fink (2010) children and adolescents become anxious about many things, but youths become particularly stressed by difficult family and school situations. School-related stressors may involve global and specific issues. Global school-related stressors include large class size, threats of victimization and violence, changes in academic and social status, excessive homework, and tedious curricula. Specific school-related stressors include teachers and other school officials, peer interactions, examinations, performances before others, social gatherings, and use of cafeterias and public restrooms. School-related stressors are quite prevalent among youths, and many youths experience concomitant and cognitive symptoms as a result. Common physiological symptoms include headaches, stomach aches, and shortness of breath, trembling, dizziness, and heart palpitations. Common cognitive symptoms include catastrophic thoughts about losing control, going insane, suffering humiliation or harm, experiencing negative evaluation from others, appearing foolish, having few friends, having trouble concentrating, and lacking competence in various areas (Fink, 2010).
Academic stress is a significant source of stress for many students (Hashim, 2003), covering not only examinations but also other academically related stressors such as fear of logging behind in the homework, writing assignment, working on individual and group projects, time pressure, lack of financial support, concern about academic ability, scheduling classes and required motivation to study (Tyrrel, 1992). For many students, the pursuit of higher education is a time of transition marked by a set of demands germane to the setting. Academic stress is the product of a combination of academic related demands that exceed the adaptive resources available to an individual. If a student is unable to cope effectively with academic stress, then serious psycho-social-emotional health consequences may result (Scott, 2008).

Some academic stress is normal for students, new stressors may arise because of exposure to new educational concepts for the first time on their life (such as mass media, internet, computer and so on), adjusting to new social setting (for example; change in medium of instruction, changing of residence, migration, peers pressure and shifting from one school to another one) and taking on a larger workload. Too much academic stress can contribute to depression, anxiety and physical illness (including headache and stomach ulcer) which can in turn negatively affect academic performance (Dedeyn, 2008). In other word, if school-related stress becomes severe, then some youths may refuse to attend school to avoid these unpleasant symptoms (Fink, 2010).

II.a. Causes of academic stress

It is common for kids of all ages to experience school anxiety and school related stress. This is often most apparent when school is about to start, but it can occur year around. Where does the stress come from? There are some factors that cause the academic stress.

II.a. 1. Social factors

Many students experience some amount of stress in social situations they encounter in school due to:

1) Teachers: while most teachers do their best to provide students with a positive educational experience, some students are better suited for certain teaching styles and classroom types than others. If there is a mismatch between teachers’ expectation and students’ performance (i.e. simplified performances and overworking), a child can form
lasting negative feelings about school or his own abilities (e.g. pessimism towards teachers and education, feel of lack of ability to study).

2) Friends: concerning about not having enough friends, not being in the same class as friends, not being able to keep with friends in one particular area, interpersonal conflicts (e.g. blame others, When people use words such as, "He's such a slob," they are engaging in blame the other behavior; and adopting a win-lose mentality, focusing on each individual's goals/outcomes will help avoid using a win-lose strategy) and peer pressures (negative peer pressures such as underage drinking and smoking, pressure to steal, pressure to fight/physically harming someone, pressure to have sex, and positive peer pressures such as pressure to follow the roles, pressure to respect others, pressure to come to school on time ) are a few of the very common ways children can be stressed by their social lives at school. Dealing with these issues can cause anxiety in even the most secure children.

3) Bullies: Many students use the internet, cell phones and other media devices to bully students and this type of bullying often become very aggressive. One reason is that bullies can be anonymous and enlist other bullies to make their victims miserable; another reason is that they don’t have to face their victims, so it’s easier to shed any empathy that they may otherwise feel (Scott, 2008).

4) Examination system: thinking about the type of taking exams such as explanatory examinations, and strict proctors in the exam sessions can be lead to academic stress.

5) Achievement anxiety: Parents worry about their child’s academic performance because they believe good academic results will provide more carrier choices, job security and boost their reputation. Thus lack of ability to fulfill the parent’s expectations can cause the academic stress. The most common form of anxiety causing academic stress is achievement anxiety. Achievement anxiety is a fear of failure in academic setting that arises when parents, teachers or the students own expectations exceed what the students believes that he/she can realistically achieve. Source of achievement anxiety include failure to satisfy ambitions or overall critical parent’s expectations in early childhood as well as early exposure to overachieving siblings or peers. Seeing others receive praise and rewards for their achievements can give students a false impression of teachers and parents expect of them (Michelle, 2010).
II. a. 2. Individual factors

1) Poor coping strategies: According to Lazarus and Folkman (1984) coping is the process of managing demands (external or internal) that are appraised as taxing or exceeding the resources of the person. People usually use two forms of coping in virtually every type of stressful encounter. (1) Problem focused coping where action is taken to solve, remove or circumvent the source of stress and (2) in emotion focused coping an attempt is made to reduce or eliminate the emotional distress associated with stressful event.

Some students are not aware of the effective ways to cope with stress and experience more negative consequences of stress than the others who use socially appropriate coping styles. Redhwan et al, (2009) study showed that some students use the following inappropriate coping ways when they faces to stressful situations, that in turn increases their stress, anxiety, depression and decreases their functions, especially academic achievement.

Overeating or under eating, zoning out for hours in front of TV or computer, withdrawing from friends, family and activities, using pills or drugs to relax, sleeping too much, procrastinating, filling up every minute of the day to avoid facing problems, taking out the stress to others (lashing out, angry outbursts, and physical violence (Redhwan et al, 2009).

2) Anxiety: One of the most common causes of academic stress is anxiety. Mirsa 2007, reports that anxiety, ineffective time management and lack of recreation activities outside of academia are strong predictors of academic stress. Further, the study showed that female students experienced the high levels of stress and anxiety while they managed their time more effective than male students.

3) Sleep deprivation: Researchers believe that one of the main contributing factors to academic stress is sleep deprivation. A study by Yoo (2007) showed sleep deprivation alone is enough to make the emotional brain behave as if an extreme danger were present. This reaction initiates the body’s defense mechanisms and causes the nausea, tension, heart palpitations and shortness of breath, anxiety and psychological stress. Over a longer duration, this state of heightened alertness may alter the neural connections in the brain and cause serious psychiatric disorders (Brogaard, 2010).
4) Self efficacy: It refers to student’s beliefs about their abilities to study and perform academic tasks. The Roman poet Virgil observed that "they are able who think they are able." Students with low self efficacy may believe that academic subjects are tougher than they really are a belief that fosters anxiety, stress, depression and a narrows the vision of study that in turn leads to decrease of educational motivation (Pajares, 1996).

III. STRESS-RELATED PROBLEMS

Stress may cause a number of problems for individuals such as physical (e.g. lack of sleep, illnesses), psychological (e.g. low self efficacy, depression, and poor academic performance) and psychosomatic (digestive difficulties, headache, est.) problems. In this part an attempt is made to renew those stress-related problems (here academic stress) and its effect on depression, self efficacy, and academic performance.

III.1. DEPRESSION

Depression may be described as feeling sad, blue, unhappy, miserable, or down in the dumps. Most of us feel this way at one time or another for short periods. True clinical depression is a mood disorder in which feelings of sadness, loss, anger, or frustration interfere with everyday life for an extended period of time (Ballas, 2009). A Mood Disorder, also referred to as an Affective Disorder, is a condition impacting mood and related functions. In a mood disorder, moods range from extremely low (depressed) to extremely high or irritable (manic).

Mood disorders can lead to changes in sleeping and eating patterns. Some people, especially children, may have physical symptoms of depression, like unexplained headaches or stomachaches (APA, 2000).

III.1.a. Adolescent depression

Adolescent depression is a disorder that occurs during the teenage years, and involves persistent sadness, discouragement, loss of self-worth, and loss of interest in usual activities (such as hobbies and games). Adolescents are at the greatest risk for depression, with community prevalence ranging from 2.9% to 8%, and as many as 25% of youth meeting criteria for a diagnosis of major depression by late adolescence (Lewinsohn et al, 1993).
III.1.b. Symptoms of depression in adolescents

Symptoms of depression among children and adolescents include depressed or irritated mood, anhedonia (loss of interest or pleasure in activities), thinking and concentration problems (i.e. dichotomous thinking or negative automatic thoughts), appetite and weight loss (i.e. anorexia and/or hyperorexia), sleep problems (i.e. late sleeping and early waking up, nightmares), psychomotor agitation or retardation, fatigue or lack of energy, feelings of worthlessness or excessive guilt, and thoughts of death. Some evidence suggests that adolescents are most likely to report depressed mood, sleep disturbance, difficulty with concentration, weight or appetite disturbance, and anhedonia. In addition, children and adolescents who are depressed are likely to present as irritable and energy rather than sad and such behavior may be mistaken for oppositionality (APA, 2000).

III.1.c. Depression and normal moods

There is little agreement among authorities regarding the relationship between depression and changes in mood experienced by normal individuals. The term mood is generally applied to a spectrum of feelings extending from elation and happiness at one extreme, to sadness and unhappiness at the other. The particular feelings encompassed by this term, consequently, are directly related to either happiness or sadness. Subjective states, such as anxiety or anger that do not fit into the happiness-sadness categories are not generally included. Some authors (Hinie and Campbell, 1960) believed that all individuals have mood swings and that normal individuals may have “blue” hours or “blue” days. This belief has been supported by systematic studies of oscillations in mood in normal subjects (Wessman and Ricks, 1966).

The episodes of low mood or of feeling blue experienced by normal individuals are similar in a number of ways to the clinical states of depression. First, there is a similarity between the descriptions of the subjective experience of normal low mood and of depression. The words used to describe normal low mood tend to be the same used by depressive to describe their feelings-blue, sad, unhappy, empty, and lonely. It is possible, however, that this resemblance may be due to depressed individuals using familiar vocabulary to describe a pathological state for which they have no other available words. Some individuals, in fact, state that their feelings during their depressions are quite
distinct from any feelings they have ever experienced when not in a clinical depression. Second, the behavior of the depressed individuals resembles that of a person who is sad or unhappy, particularly in the mournful facial expression and the lowered voice. Third, some of the vegetative and physical manifestations characteristic of depression are occasionally seen in individuals who are feeling sad but would not be considered clinically depressed. A person who has an examination, lost a job may not only feel discouraged and forlorn, but also experience blue states that seem to oscillate in a consistent or rhythmic fashion, independently of external stimuli, suggestive of the rhythmic variation in the intensity of depression (Beck & Alford, 2009).

III.2. Vulnerability factors for depression

The chance that any person may develop a particular disorder is related to risk factors in the environment, or person’s biological vulnerabilities, and the presence or absence of factors that promote resilience. Risk factors for depression include, age, gender, genetic factors, heredity and psychological factors (such as negative cognitive style, personality traits, interpersonal and social support factors, negative life events, and coping ways (Sarason & Sarason, 2007).

III.2.a. Age

One risk factor for developing depression is age. The risk for a first episode of any degree of depression is highest in women between the ages of 20 and 29. For men, the similar risk period is between the ages of 40 and 49 (Rorsman et al, 1990). Studies shows (e.g. Kesler et al, 2003) that by age 24, those born in the years 1966 to 1975 had a much greater chance of experiencing a depression than those born from 1936 through 1965(Kesler et al, 2003). Explanations given about why younger people are more likely to be at risk for depression include changes in the stability of marriages and the structure of families, fewer employment and promotion opportunities, urbanization, and the effect of increasing pollution(Sarason & Sarason, 2007).

III.2.b. Gender

During adolescence, there is a tangible shift in the relative risk of depression in girls and boys. Before the age of 13, girls and boys have fairly equal levels of depressive symptoms and rates of Depressive disorders. Between ages 13 and 15, girls’ rates of symptoms and disorders rise precipitously, while boys’ rates remain relatively stable
(Galambos, Leadbeater, & Barker, 2004). Meta-analysis of studies conducted in various countries has shown that women are roughly twice as likely as men to experience depression (Nolen-Hoeksema, 1990). The reason for this sex difference is not entirely clear, although most researchers today suggest that it is a combination of several factors, like: the effects of estrogen on the stress hormone, (Leibenluft, 2001); the prevalence of the victimization of women (Roesler & McKenzie, 1994); and the tendency of women to ruminate over their problems (Nolen-Hoeksema, 1990). These explanations point to differences between men and women biologically, environmentally, and psychologically. While all these factors seem to play roles in accounting for the higher rates of depression in women.

**III.2.c. Genetic Factors**

Behavioral genetics studies indicated that depression, including adolescent-onset, is caused in part by genetic factors that interact with various aspects of the environment. In addition, some specific genes like serotonin transporter gene have been identified that are associated with adolescent depression. Genetic factors seem to account for more variance in depressive symptoms in older adolescents compared to younger children (Rice, Harold, & Thapar, 2002). This suggests that the hormonal cycling and other changes of puberty may ‘turn on’ some of the genes that influence depression. A recent genetic epidemiological study of female adolescent twins reported that 40% of the variance in depression was accounted for by genetic factors and the remaining variance was accounted for by non-shared environmental factors (Glowinski et al, 2003), and other research has suggested that shared environmental factors account for much of the variance in depressive symptoms, especially for adolescent girls (Eley & Stevenson, 1999).

**III.2.d. Heredity**

An important risk factor for mood disorder is heredity. Studies of twins and families (e.g. Craddock & Jones, 1999; Patrick et al, 2000; Hughes et al, 2005) clearly suggest a genetic component in mood disorders.

The importance of heredity in mood disorders is shown by strong association between the closeness of the biological relationship (the percent of shared genes between two people) and the likelihood that if one of them has a good mood disorder, chances of
the biological relative being diagnosed with similar disorder is more likely. For instance, there is a greater risk of developing a major depression if one’s identical twin has had this disorder. The chances of developing the disorder are less if a person has no close relatives with similar diagnosis (Nolen-Hoeksema & Hilt, 2009).

**III.2.e. Neurotransmitter Dysregulation**

One of the ways in which genetic factors may affect mood is through neurotransmitter regulation. For example, the serotonin transporter gene is important for the regulation of serotonin, which has many functions in the brain including mood regulation, while the Brain-derived neurotrophic factor (BDNF) gene is important for regulating BDNF in the brain, which also functions to regulate mood and has important cognitive functions (Egan et al., 2003). BDNF is a secreted protein that, in humans, is encoded by the BDNF gene (Binder & Scharfman, 2004).

**III.3. Psychosocial Factors**

There are also several psychosocial risk factors that may be present before puberty which interact with stresses caused by the pubertal transition to cause increases in depressive symptoms, especially for adolescent girls. Review some of the literature on negative cognitive style, interpersonal orientation, and negative life stress are discussed to show how these risk factors may interact with the changes of puberty to put girls at increased risk for developing depression.

**III.3.a. Negative Cognitive Style**

Certain maladaptive patterns of thinking that develop in the beginning of childhood predict increases in depression in adolescents and adults. One example is negative attributional style.

The concept of attributional (or cognitive) style was discussed by Abramson, Seligman & Teasdale (1978) in the reformulated model of learned helplessness and was defined as the habitual way people explain positive or negative events in their lives. Seligman (1990) refers to attributional style as a developmentally acquired personality characteristic and proposes two types of style, the optimistic explanatory style (OES) and the pessimistic explanatory style (PES). People who are characterized by an OES usually attribute failures to external, unstable and specific causes and successes to internal, stable and global ones (e.g., *I did poorly on the test because I’m not smart*). On the other hand,
people who have a PES often attribute bad events to internal, stable and global factors and good events to external, unstable and specific causes (e.g. I did strongly on the test because the questions were very easy). Seligman (1990) also suggests that attributional style 'stems from your view of your place in the world - whether you think you are valuable and deserving, or worthless and hopeless' directly relating attributional style to self-esteem (Xeniko et al, 1997). Studies have shown that a negative attributional style interacts with negative life events (i.e., diathesis-stress model) to predict increases in depression over time, especially hopelessness depression, by mid-adolescence (Hankin & Abramson, 2002).

Rood, Roelof, Bogels, & Meesters (2012) have shown that Stress-reactive rumination was strongly related to depressive symptoms. Negative cognitive style (i.e., tendency to make negative inferences) in the domains of achievement and appearance was more strongly and consistently related to depressive symptoms in girls compared to boys. Negative cognitive style in the interpersonal domain was positively related to depressive symptoms in both girls and boys, except in early adolescent girls reporting few stressors.

Hankin and Abramson (2002) found that high school girls had a more negative attributional style than boys, and this cognitive vulnerability mediated the gender difference in depression. The findings regarding gender difference and attributional style may reflect the different measures of attributional style used which vary widely in their reliability (Conley, Haines, Hilt & Metalsky, 2001). There are other maladaptive cognitive styles that have been associated with depression, including dysfunctional attitudes (which are negatively biased assumptions and beliefs regarding oneself, the world, and the future); and negative inferences about the self (e.g. we doom ourselves to failure before we even being in that situation); and consequences of negative events (Abramson, Metalsky, & Alloy, 1989).

### III.3.b. Personality traits

Nolen-Hoeksema and Girgus (1994) suggest that girls have certain traits that interact with the stresses of being a teenage girl that produce depression and lower self-esteem. The traits are thought to be emotional dependence on relationships, less assertiveness, and passivity (or an inclination to worry about a problem situation rather
than do something about it quickly and decisively, as a boy might do). Thus, maturing young girls may get distressed when interacting with desirable but sexually aggressive scary, young males; when they dislike or don't know how to handle their own bodily changes; when sexually teased, used, or abused; when their social activities are restricted more than boys; when peers, culture, and parents start emphasize attractiveness, sexiness, and friendships more than intelligence, genuine caring, and preparing for one's life work.

**III.3.c. Interpersonal Orientation and Social Support**

Many of the stressful transitions of early adolescence concern interpersonal relationships: changes in friendship patterns, as students move from one school to the next or change in interests, new romantic relationships, and changes in adolescents’ relationships with their parents. Girls tend to show a more interpersonal orientation compared to boys, and their strong emotional relationships with others are important sources of support for girls during early adolescence. Some girls cross a line, however, from emotional closeness to emotional dependency on their relationships with others (Rose & Rudolph, 2006). When these relationships are going well, these girls feel good about themselves, but when the relationships falter, as they often do, these girls sometimes sacrifice their own needs to please others (Rudolph & Conley, 2005). They may engage in excessive reassurance seeking, a pattern of desperate attempts to seek reassurance of others’ love that can annoy and alienate others. According to Helgeson (1994) an interpersonal orientation leads women to develop strong social support networks that can buffer them against adversity. Some women cross a line from an interpersonal orientation to an excessive concern about their relationships with others, which leads them to silence their own wants and needs in favor of maintaining a positive emotional tone in the relationships, and to feel too responsible for the quality of the relationship. This leads these women to have less power and to obtain less benefit from relationships. Women do score higher than men on measures of excessive concern with relationships, and high scores on these measures have been correlated with depression. Similarly, studies on children and adolescents find that girls who have greater need for social approval, engage in more reassurance seeking, and have greater social-evaluative concerns and are more prone to develop symptoms of depression (Little & Garber, 2005; Rudolph & Conley, 2005). For example, Rudoph and Conley (2005) found that social evaluative concerns fully mediated the gender difference in depression among a group of adolescents.
III.3.d. Coping ways in boys and girls

The way girls and boys cope with depressed mood, differ. Boys tend to have an action-oriented approach that may distract them from their symptoms, but girls tend to use emotion focused strategy in which they discuss problems with others and ruminate (continue to think) about them. This ruminative response style is associated with longer periods of depression (Shih, 2006). Men also tend to express different symptoms of depression than women, and they cope with depression in different ways. For instance, men are more likely to abuse drugs and alcohol to deal with depression. They may be ashamed of feeling depressed, and may behave recklessly, as well as show anger or aggression in response to depression (Chris, 2011).

III.3.e. Negative Life Events

The presence of negative life events is a reliable risk factor for depression in adolescent boys and girls. In addition to the stressors associated with pubertal changes, girls appear to be at greater risk for depression in adolescence because they have a greater genetic risk experiencing more negative life events (especially in interpersonal domains), and are more distressed by negative life events. As discussed earlier, Silberg et al (1999) found that girls had a greater genetic risk for experiencing negative life events after puberty and this helped to explain the higher rate of depression in adolescent girls. Both boys and girls report increases in negative life events in adolescence compared to childhood. However, the increase in exposure to negative life events (e.g. troubles with parents, increased workload at school, lower grades than expected, serious argument with a teacher, sex problems, change in sleeping habits, troubles with bullies, and etc.) is especially pronounced for adolescent girls. Studies have suggested that girls experience higher level of interpersonal stress (Shih et al., 2006) and it may be due to gender difference in subjective distress (Liu & Kaplan, 1999), whereas boys experience more academic stress.

Girls may also engage in more stress generation. Hammen’s (1991) model of stress generation conceptualizes certain stressors as dependent (i.e., contributed to, in part or in whole, by the individual), and women are more likely than men to experience dependent stressors. Studies with adolescents have also found that adolescent girls are more likely to report dependent stressors (especially within the interpersonal domain such as peer conflict) compared to adolescent boys (Shih et al., 2006). Further, Shih et
al., (2006) found that dependent interpersonal stress mediated the gender difference in adolescent depression. There was also evidence of higher stress reactivity among the adolescent girls in their study as they were more likely than adolescent boys to become depressed when experiencing stressful life events.

**III.4. Academic factors**

Understanding academic correlates of depression is essential to implementing treatment programs within the school setting. Academic factors such as school violence, class wellbeing, and lack of teacher’s support, grades, and peer pressure may play roles as predisposing factors to depression. Students who do not achieve as readily as their peers are at risk for developing a poor academic self-concept, negative self-perceptions and cognitions related to school and to their ability to succeed more globally. Elbaum and Vaugh (2001) proposed that because of the significant role that school play in shaping student’s self-perceptions, those students who experience severe difficulties in school setting are considered at-risk for developing poor self concept. These students are, therefore, likely to experience the adverse consequences of a poor self-concept, such as a diminished self-image. School plays a prominent role in a student’s life experience, and negative feelings about academic identity would therefore significantly reduce a one’s sense of self-competence and alter his or her self-perceptions (Mennuti, Freeman, and Christner, 2006).

**III.5. THEORIES OF DEPRESSION**

**III.5.1. Psychoanalytic theories of depression**

The psychoanalytic theory of depression have focused on unexpressed and unconscious (not perceived by the depressed individual) rage as a reaction to being helpless or dependent on others or to loss of a loved one. In such situations, it is argued, the patient cannot express his anger either because of fear of antagonizing the person on whom he is dependent, or because he does not want to recognize that the relationship with a deceased (or otherwise departed) person was not entirely positive. Presumably, in both instances, the unexpressed anger is kept in and bottled up, producing depressed feelings. In cases of loss that are accompanied by genuine mourning, what distinguishes depression from grief is that the component of anger is directed inward. Psychoanalytic evidence has been limited and inconclusive. Klein & Wender (2005) have suggested that
abuse and neglect in early childhood can predispose the individual into depression in later life. The information about abuse and neglect has come from reports by adults. There are great difficulties in evaluating retrospective evidence and this remains an unconfirmed theory.

Two major forms of psychotherapy, less intense psychological treatments than psychoanalysis, have advanced different theories of what causes depression. Two that are particularly popular at present are the cognitive-behavioral and interpersonal theories. **The cognitive theory** (Beck, 1967): states that individuals developed the depression because of errors in thinking—unrealistic attitudes about themselves and the world. The three major types of thinking “errors” are: (1) undervaluing oneself—low self-esteem stemming from the belief that one is inadequate and of little value; (2) a negative view of one’s current experience—depressed people perceive themselves as unable to achieve their goals and unable to experience pleasure; (3) pessimism—the belief that things will not improve. A depressed person feels depressed because he is constantly putting himself down. Examples of such attitudes are: “I never get anything right,” or “Every job has to be perfect or it’s no good at all,” or “Things will only get worse.” These unrealistic expectations supposedly lead to a person’s recurrent dissatisfaction with himself, which in turn leads to the feeling of depression. The job of the cognitive therapist is to convince the patient that there is no evidence for him self-defeating beliefs. The theory states that such persuasion will change the patient’s distorted attitudes and help to lift her depression.

**The interpersonal theory** holds that the basic reason for the individual to become depressed is that he does not know how to get along with his intimate partners. As a result he becomes increasingly disappointed and frustrated. The interpersonal therapist therefore focuses on the patient’s key relationships (Thomas & Hersen, 2010).

There are some vulnerability factors that are currently serving to maintain a depressive episode. Psychological maintenance factors can be categorized as cognitive, behavioral, and interpersonal/family factors, any of which can interfere with the adolescent’s ability to cope effectively with stress, and thus maintain the depressive condition.
Cognitive Factors: A variety of cognitive correlates of adolescent depression has been identified in psychopathology research guided by social cognitive learning theory or cognitive processing theory. In the classic cognitive theory of depression (Thomas & Hersen, 2010), cognitive processes at different levels of awareness are proposed as contributing factors for depression. At superficial level of cognition, automatic thoughts are proposed as rapid ideas, reactions, or images triggered by certain situations. For example, an adolescent boy who fails in Maths test may experience the thought “I am dumb.” Automatic thoughts are related to underlying dysfunctional attitudes or conditional beliefs, such as “Unless I am an excellent student, I am incompetent.” At fundamental level of cognition the adolescent’s core belief such as “I am worthless.” Negative beliefs may pertain to the self, the world, or the future (Kaslow et al, 1992).

Behavioral Factors: Research based on operant or multifactorial models of depression has emphasized the importance of social withdrawal or general inactivity to the maintenance of depression (Clarke, DeBar, & Lewinsohn, 2003). By avoiding potentially gratifying mastery activities and social interaction, depressed adolescents deprive themselves of pleasure, or positive reinforcement that can counter depressed mood or anhedonia. In addition, depressed adolescents tend to engage in more unpleasant activities than do non-depressed adolescents (Carey, Kelley, Buss, & Scott, 1986).

Interpersonal and Family Factors: Interpersonal problem-solving deficits have been identified in some studies of depressed adolescents, particularly suicidal depressed adolescents. Such deficits can prevent resolution of interpersonal conflicts that are, themselves, quite normal for adolescents. Interpersonal loss can be another factor contributing to or maintaining adolescent depression. Bereavement following parental death has been found to be associated with increased psychiatric symptomatology in the first 2 years following death, with complex bereavement (parental death and additional stressors) more likely to be associated with depression (Cerel et al, 2006). Loss of relatives or close friends has been associated with elevated depressive symptoms. Adolescents can experience traumatic grief reactions to the death of a peer by suicide, which in turn predicts subsequent depression (Melhelm, et al., 2004).

Further, family factors that can maintain adolescent depression include excessively high parental expectations of the adolescent, coupled with low levels of praise or positive
reinforcement, poor family problem-solving, negative parent–adolescent affect, or high parent–adolescent conflict and mutual criticism (Thomas & Hersen, 2010).

III.5.2. Beck’s cognitive theory of depression

Beck, Rush, and Emery (1979) proposed that the content of depressed individual’s cognition is self-blaming and self-deprecating and here a “negative cognitive triad” exists, which consists of negative thoughts about oneself, the world, and the future. In Beck’s cognitive theory of depression there are three components leading to emotional disturbances. The first component is negative automatic thoughts. These thoughts are often looked as immediate and valid, that is the person has accepted these thoughts as a fact without analyzing them. Under the effect of these thoughts, the mood will be disturbed and then the more thoughts and images surround the mind and therefore may lead to despair.

The second component is systematic logical errors. Some of the logic errors are: 1) arbitrary inference: refers to drawing a conclusion when there is little or no evidence to support it. (E.g. the boy may say that my girlfriend did not answer my phone, thus she certainly has gone out with someone else). 2) Selective abstraction: consists of focusing on one insignificant detail while ignoring the more important features of the situation (e.g. his compliment of me in not true, because his occasional criticism shows that what really he think about me). 3) Overgeneralization: refers to drawing global conclusions about worth on the basis of a single fact (e.g. this event is always happened for me. 4) Magnification and minimization: are errors in evaluation (e.g. if I get late to session they will thought that I am not a capable one; or my boss respected me because he was happy. 5) Personalization: refers to incorrectly taking responsibility for bad events in the world (e.g. it was my fault). 6) Dichotomous thinking: refers to seeing things as white and black (e.g. I will die if she leaves me).

The third component is schemata. The term "schema" refers to a mental framework that allows the person to make sense of aspects of his/her environment. Schemas enable individuals to interact with their environment in an automatic manner without effortful thought. For example, a student may have developed a schema that exam’s proctors are very strict and rough. We tend to look for information that supports our schemas while discarding information that contradicts them. Beck (1979) believed
that the negative thoughts of depressed individuals are integrated into a depressed schema about the world, which serves to distort reality and allows the person to maintain negative thoughts, despite objective evidence of positive experiences in one’s life. The self-schema model of depression elaborates on this notion and posits that the level of depression that one is experiencing “mediates both the content of the self-schema and the efficiency of self-referent processing” (Mennuti, Freeman & Christner, 2006).

**III.5.3. Lewinsohn’s behavioral model (1974)** accounts for behavioral aspects of depressed individual. Here, depressive behaviors are related to a reduction in response-contingent positive reinforcement. Essentially, an individual over time does not get reinforcement for adaptive behaviors (extinction) and reinforcement is then received for the lack of production of adaptive behaviors. This low instance of response-contingent positive reinforcement leads to dysphoric mood, fatigue, and somatic complaints that are primary signs of depressive disorders (Mennuti, Freeman & Christner, 2006).

**III.5.4. The humanistic-existential perspective of depression**

Existential theories tend to focus on loss of self-esteem, and humanistic theorists (Rogers, 1950s) focus on the discrepancies between a person’s views of the ideal, self and his or her actual self.

For existential theorists, instead of emphasis on the loss of a loved object or an important person as central to depression, they emphasize that the loss can be symbolic-power, social rank, or money, for example.

A humanistic theorist such as Carl Rogers (1951, 1980) emphasizes the source for depression and anxiety to discrepancy between a person’s ideal self and his/her perceptions of the actual state of things. They believe that depression is likely to result when the discrepancy between the ideal and the real self becomes too great for the individual to tolerate. This discrepancy occurs frequently, especially among people who have high aspirations for achievement and are trying to fill several roles simultaneously (Sarason & Sarason, 2007).

**IV. SELF EFFICACY**

Self-efficacy is defined as a self-evaluation of one’s competence to successfully execute a course of action necessary to reach desired outcomes (Bandura, 1986). Self-
efficacy theory is an important component of Bandura’s (1986) social cognitive theory, which suggests high interaction between individual’s behavior, environment and cognitive factors. According to Bandura (1986), human functioning is the result of the interaction of all these factors, as embodied in his *triadic reciprocal determinism (TRD)*. While it may seem that one factor is the major, there are numerous factors that play a role in human behavior. Furthermore, the influencing factors are not equal in strength, nor do they all occur concurrently. For example, student’s performances (behavioral factor) are influenced by how the students themselves are affected (cognitive factor), by school strategies (environmental factors). The figure below illustrates triadic reciprocal determinism (Remond, 2010).

![Figure 2.1: Bandura’s triadic reciprocal determinism](image)

Bandura’s self-efficacy is a social construct (e.g. can be part of a ‘class spirit’): “collective systems develop a sense of collective efficacy and group shared belief in its capacity to attain goals and accomplish desired tasks. For example, schools develop collective beliefs about the capacity of their students to learn, of their teachers to teach and otherwise enhance the lives of their students, and of their administrators and policymakers to create environments conducive to these tasks (Pajares, 2006). As defined in social cognitive theory, all efficacy belief constructs— student, teacher, and collective—are future-oriented judgments about capabilities to organize and execute the courses of action required to produce given attainments in specific situations or contexts (Bandura, 1997).
IV.1. Sources of Self-Efficacy

According to Bandura (1997) People's beliefs about their efficacy can be developed by four main sources of influence.

**IV.1.1. Performance accomplishment:** The most effective way of creating a strong sense of efficacy is through mastery experiences. Several successes build will robust the belief in one's personal self-efficacy. Failures undermine it, especially if failures occur before a sense of efficacy is firmly established. If people experience only easy successes they come to expect quick results every time and are easily discouraged by failure. A resilient sense of efficacy requires experience in overcoming obstacles through perseverant effort. Some setbacks and difficulties in human pursuits serve a useful purpose in teaching that success usually requires sustained effort. After people become convinced they have ability and skills to succeed, they persevere in the face of adversity and quickly rebound from setbacks. By sticking it out through tough times, they emerge stronger from adversity.

**IV.1.2. Vicarious experience:** The second way of creating and strengthening self-beliefs of efficacy is through the vicarious experiences provided by social models. Seeing people similar to one succeed by sustained effort raises observers' beliefs that they too possess the capabilities to master comparable activities required to succeed. By the same token, observing others' fail despite high effort lowers observers' judgments of their own efficacy and undermines their efforts. The impact of modeling on perceived self-efficacy is strongly influenced by perceived similarity to the models. The greater the assumed similarity the more persuasive is the models' successes and failures. If people see the models as very different from themselves their perceived self-efficacy is not much influenced by the models' behavior and the results its produces.

Modeling influences do more than provide a social standard against which to judge one's own capabilities. People seek proficient models that possess the competencies to which they aspire. Through their behavior and expressed ways of thinking, competent models transmit knowledge and teach observers effective skills and strategies for managing environmental demands. Acquisition of better means raises perceived self-efficacy.
**IV.1.3. Social persuasion:** Social persuasion is a third way of strengthening people's beliefs that they have what it takes to succeed. People who are persuaded verbally that they possess the capabilities to master given activities are likely to mobilize greater effort and sustain it than if they harbor self-doubts and dwell on personal deficiencies when problems arise. To the extent that persuasive boosts in perceived self-efficacy lead people to try hard enough to succeed, they promote development of skills and a sense of personal efficacy. It is more difficult to instill high beliefs of personal efficacy by social persuasion alone than to undermine it. Unrealistic boosts in efficacy are quickly disconfirmed by disappointing results of one's efforts. But people who have been persuaded that they lack capabilities tend to avoid challenging activities that cultivate potentialities and give up quickly in the face of difficulties. By constricting activities and undermining motivation, disbelief in one's capabilities creates its own behavioral validation. Successful efficacy builders do more than convey positive appraisals. In addition to raising people's beliefs in their capabilities, they structure situations for them in ways that bring success and avoid placing people in situations prematurely where they are likely to fail often. They measure success in terms of self-improvement rather than by triumphs over other (Bandura, 1994).

**IV.1.4. Physiological and emotional states:** People also rely partly on their somatic and emotional states (e.g. anxiety) in judging their capabilities. They interpret their stress reactions and tension as signs of vulnerability to poor performance. In activities involving strength and stamina, people judge their fatigue, aches and pains as signs of physical debility. Mood also affects people's judgments of their personal efficacy. Positive mood enhances perceived self-efficacy, despondent mood diminishes it. The fourth way of modifying self-beliefs of efficacy is to reduce people's stress reactions and alter their negative emotional proclivities and is interpretations of their physical states.

It is not the sheer intensity of emotional and physical reactions that is important but rather how they are perceived and interpreted. People who have a high sense of efficacy are likely to view their state of affective arousal as an energizing facilitator of performance, whereas those who are beset by self-doubts regard their arousal as a debilitator. Physiological indicators of efficacy play an especially influential role in health functioning and in athletic and other physical activities (Bandura, 1994).
IV.2. Social Cognitive Theory Components

The Social Cognitive Theory is composed of four processes of goal realization: self-observation, self-evaluation, self-reaction and self-efficacy. These components are interrelated and each has an effect on motivation and goal attainment (Remond, 2010).

IV.2.1. Self-observation - Observing oneself can inform and motivate. It can be used to assess one’s progress toward goal attainment as well as motivate behavioral changes. There are two important factors with regards to self-observation: regularity and proximity. Regularity means the behavior should be continually observed whereas proximity means the behavior should be observed while it occurs, or shortly after. Alone, self-observation is insufficient because motivation depends on one’s expectations of outcomes and efficacy (Zimmerman & Schunk, 2001).

IV.2.2. Self-evaluation - Self-evaluation compares an individual's current performance with a desired performance or goal. It is affected by the standards set and the importance of the goals. Goals must be specific and important; therefore, goals such as, "do your best" are vague and will not motivate. Zimmerman & Schunk, 2001 state "specific goals specify the amount of effort required for success and boost self-efficacy because progress is easy to gauge." If one has little regard for their goal they will not evaluate performance. There are two types of self-evaluation standards: absolute and normative. For example, a grading scale would be an example of a fixed or absolute standard. A social comparison such as evaluating one’s behavior or performance against other individuals is an example of a normative standard (Zimmerman & Schunk, 2001). People
gain satisfaction when they achieve goals that they value. When individuals achieve these goals, they are more likely to continue to make every effort, since sub-standard performance will no longer provide satisfaction (Bandura, 1989).

**IV.2.3. Self-reaction** - Reactions to one’s performance can be motivating. If progress is deemed acceptable, then one will have a feeling of self-efficacy with regards to continuing, and will be motivated towards the achievement of their goal. A negative self-evaluation may also be motivating in that one may desire to work harder providing that they consider the goal as valuable. Self-reaction also allows a person to re-evaluate their goals in conjunction with their attainments (Bandura, 1989). If a person has achieved a goal, they are likely to re-evaluate and raise the standard (goal); whereas, if a person has not achieved the goal they are likely to re-evaluate and lower the standard (goal) to an achievable goal.

**IV.2.4. Self-efficacy** - Refers to one’s belief in the likelihood of goal completion can be motivating in itself (Remond, 2010).

![Figure 2.3: Processes of goal realization](image)

**IV.3. Self-efficacy and stress**

Self-efficacy and stress are closely related concepts. In Lazarus’ cognitive model of stress (Lazarus & Folkman, 1984), a personal belief such as self-efficacy is crucial in evaluating demands from the environment. Each external demand is evaluated as a “threat” or a “challenge”, and persons with high self-efficacy beliefs are more likely to evaluate the demands as a challenge (Chemers, Hu, and Garcia, 2001). That is, the extent
to which a person feels confident about his or her competence to handle a given situation affects whether a given task is perceived as stressful or threatening, rather than as a challenge. When a task is appraised as a challenge, one is more likely to select an effective coping strategy and to persist at managing the task. Self-efficacy thus affects the perception of external demands and mediates the relation between external stressors and psychological stress (Bandura, 1995). Using a path analytic model, Chemers, Hu, and Garcia, 2001) found that the effect of academic self-efficacy on stress was completely mediated by evaluations of demands as threat or challenge. In other direction, physiological arousal states associated with stress and anxiety offer information affecting self-efficacy judgments (Pajares, 1996). Similarly, Hackett et al (1992) suggested that stress and anxiety may depress self-efficacy judgments of students. Judgments in self-efficacy determine how much effort an individual is willing to put forth, and the duration of their effort when face with obstacles or aversive experiences. The stronger their perceived self-efficacy the more vigorous and persistent are their efforts in completing the task. Another aspect of self-efficacy is that when a person feels that a particular task is above their capabilities they tend to avoid the task or situation, but they undertake and perform activities that are in their perceived capabilities. In seeking solutions to hardships, those who perceive themselves as highly efficacious view their failures as insufficient effort, whereas, those who have low self-efficacy view failures as lacking the ability to perform the tasks (Bandura, 1986).

High level of stress can either negatively or positively affect a student’s self-efficacy, depending on how they perceive and internalize stress. Events become stressful when the successful performance of a stress provoking event involves extending oneself over one’s perceived capabilities (Torres & Solberg, 2001). Students may encounter academic stress when they are working to meet course requirements, writing academic papers and getting alone with peers. Individuals with high levels of self efficacy tend to view a stress provoking tasks as challenges while those with low levels of self-efficacy view the same tasks or situations as a threat (Bandura, 1986).

**IV.4. Self-Efficacy and Related Ideas**

**IV.4.1. Personality Traits:** Personality is considered a fairly stable pattern of psychological behavior (thoughts, feelings, and actions) and influences how one will act in response to diverse circumstances. According to Berens et al., (2001), personalities
reflect the requirements of the contexts as well as our innate tendencies and how we have adapted to these contexts over time. In other words, an individual’s behavior is determined by the requirements of the situation. Efficacy beliefs do not share the major properties ascribed to personality traits. While self-efficacy is not considered a personality trait, it is considered a situation-specific construct. This is context dependent and functions as, a “cognitive mediator of action”. Self-efficacy is a related but subtly different personality characteristic. Self-assessments of ability contribute to self-efficacy but do the individual's personality (Griffin & Moorhead, 2010). (For example, a student may have a high self-efficacy for performing an exercise in physical education, but due to a personality trait such as shyness which has low self-efficacy for training a new student to do the same exercise. According to the self-efficacy theory, the student would exert more effort on performing the exercise themselves than on training a new student on how to perform the exercise). Bandura (1997) upholds that efficacy beliefs can be changed and that, psychological procedures, whatever their form, serve as a means of creating and strengthening expectations of personal efficacy. An efficacy expectation is defined by Bandura (1997) as, the conviction that one can successfully execute the behavior required to produce the outcomes.

IV.4.2. Self-efficacy and Self-esteem: Self-esteem and self-efficacy are often thought of as synonymous, however they vary greatly. Self-efficacy differs from self-esteem in that it’s a judgment of specific capabilities rather than a general feeling of self-worth (Beck, 2008; cited in Remond, 2010). (For example, a student may have low self-efficacy for training a new practice, but this will not cause any ill feelings of perceived self-worth). Even though the two concepts are different, they are connected. The philosophy behind Bandura’s Triadic Reciprocal Determinism is that all determinants of motivation are functionally dependent, interacting and influence one another. Therefore, an individual who has high self-efficacy and is successful in most of the tasks he/she undertakes will most likely build a high self-esteem. Vice-versa, self-esteem could also influence self-efficacy. "It is true, however, that people tend to cultivate their capabilities in activities that give them a sense of self-worth. If empirical analysis are confined to activities in which people invest their sense of self-worth, they will inflate correlations between self-efficacy and self-esteem, because the analysis ignore both domains of functioning in which people judge themselves inefficacious but could not care less and those in which
they feel highly efficacious but take no pride in performing the activity well because of its socially injurious consequences”.

**IV.4.3. Self-efficacy and Self-concept:** self-efficacy is concerned with beliefs of personal capability; they are judgments of one’s capabilities to perform given actions. Self-concept, however, is measured at a more general level of specificity and includes the evaluation of such competence and the feelings of self-worth associated with the behaviors in question (Remond, 2010).

**IV.4.4. Valence, Instrumentality, and Expectancy (VIE) Theory:** The expectancy theory, also known as the VIE-theory, is based on the beliefs that an individual’s effort will lead to performance, which in turn, will lead to a specific outcome. Comprehensively, self-efficacy is based on an individual’s belief about their ability to perform specific behaviors. Expectancy theory explores how rewards affect motivation, whereas self-efficacy explores how beliefs about capabilities affect motivation. According to Bandura (1997), “People take action when they hold efficacy beliefs and outcome expectations that make the effort seem worthwhile. They expect given actions to produce desired outcomes and believe that they can perform those actions.” To successfully achieve the desired outcome, individuals must possess the necessary skills as well as a buoyant self-belief that they are capable of controlling the specific situational factors. People with high self-efficacy are more likely to respond with renewed effort (expectancy) when feedback shows that they are not reaching their goals by developing more successful strategies. However, individuals with low self-efficacy, given the same circumstances, may perform poorly because their low self-efficacy impairs their motivation and effort. (For example, a student with high self-efficacy and ability for performing a practice, but low self-efficacy for training a new student will most likely be an inadequate trainer). On the whole, perceived self-efficacy can be distinguished as being competence-based, prospective, and action-related as opposed to related ideas that only share some these elements (Remond, 2010).

**IV.5. Academic self-efficacy**

A person’s confidence in their ability to organize, executes, and regulates performance in order to solve a problem or accomplish a task at a designated level of skill and ability. Academic self-efficacy refers to a person's conviction that they can
Individuals typically select tasks and activities in which they feel competent and avoid those in which they do not. Students who are confident in their ability to organize, execute, and regulate their problem-solving or task performance at a designated level of competence will demonstrating high self-efficacy. Self-efficacy is generally regarded as a multidimensional construct (e.g. self-esteem and self-concept) differentiated across multiple domains of functioning. The construct of self-efficacy helps explain the finding that the behavior of individuals is not always accurately predicted from their capability to accomplish a specific task. Academic self-efficacy refers to an individual's belief (conviction) that they can successfully achieve at a designated level on an academic task or attain a specific academic goal (Eccles & Wigfield, 2002).

Academic self-efficacy is grounded in self-efficacy theory of Bandura, 1977. According to his theory, self-efficacy is an “individual’s confidence in their ability to organize and execute a given course of action to solve a problem or accomplish a task” (Eccles & Wigfield, 2002, p.110). Self-efficacy theory suggests that academic self-efficacy may vary in strength as a function of task difficulty—some individuals may believe they are most efficacious on difficult tasks, while others only on easier tasks. Furthermore, self-efficacy is believed to be situational in nature rather than being viewed as a stable trait. Students make reliable differentiations between their self-efficacy judgments across different academic domains which, collectively, form a loose hierarchical multidimensional structure. Self-efficacy should not be confused with self-esteem or self-concept. Self-efficacy is a task-specific evaluation while self-esteem and self-concept reflect more general affective evaluations of self.

Causally, self-efficacy is believed to effect performance via the influence on task perceptions. For example, Eccles (2005) suggests high self-efficacy creates a feeling calmness or serenity when approaching difficult tasks while low self-efficacy may result in an individual perceiving a task as more difficult than reality, which, in turn, may create anxiety, stress and a narrower idea on how best to approach the solving of a problem or activity. It is further believed that an individual's interpretation of a successfully completed mastery experience is important to the development of high self-efficacy as individuals use these interpretations to develop perceptions that they then act
in concert with. Further, it suggests that vicariously observing others perform tasks can facilitate the development of self-efficacy, particularly when individuals are uncertain regarding their abilities or specific tasks and they perceive similar attributes with the observed model (Eccles, 2005).

Two general categories of academic expectancy beliefs have been postulated. (a): Academic outcome expectations are a student’s beliefs that specific behaviors will lead to certain outcomes (e.g., “If I do homework my grades will improve”). (b): Academic efficacy expectations are a student’s beliefs in their ability to perform the necessary behaviors to produce a certain outcome (e.g., I have enough motivation to study hard for this test”). Understanding the difference between these two forms of expectancy beliefs is important as “individuals can believe that a certain behavior will produce a certain outcome (outcome expectation), but may not believe they can perform that behavior (efficacy expectation)” (Eccles & Wigfield, 2002, p.111).

Self-efficacy beliefs effect behaviors through important means. Self-efficacy beliefs effect choices of persons about whether will they be in a similar occupational activities in the future or not (Turner & Shallert, 2001)? These beliefs, not only effect the choice of activities, but also help persons in determining how much will they strive for achievement, how long will they exert themselves against difficulties, and how will they handle troubles and maintain their course(Pajares, 2002).

In the case of education, self-efficacy is seen to be related with effort, persistence and achievement. Chemers, Hu & Garcia (2001), in their work on mathematical problem solving, have shown that children with higher self-efficacy strived for longer periods and used more effective problem solving strategies than students with lower self-efficacy.

V. ACADEMIC PERFORMANCE

The academic or school performance is the level of knowledge and development of abilities and skills that an individual has at a certain level of education. In educational institutions, success is measured by academic performance, or how well a student meets standards set out by local government and the institution itself. As career competition grows ever fiercer in the working world, the importance of students doing well in school has caught the attention of parents, legislators and government education department alike (Michell, 2010).
V.1. Benefits of Academic Success

Academic success benefits people socially, economically, and personally. Social benefits include increased civic and community engagement, increased political involvement, better racial understanding, and increased social networking (Pascarella & Terenzini, 2005). Economic benefits include higher lifetime earnings that, in turn, positively affect living standards and provide more opportunities for education, health care, and family development (Weinberg, 2004). Personal benefits include seven areas of college student development: achieving competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal relationships, establishing identity, developing purpose, and developing integrity (Chickering & Reisser, 1993).

V.2. Predictors of academic performance:

V. 2.1. Family background and family structure

Investigations that have adopted refined measures of family influences have tended to show that they are related more strongly to academic outcomes than are more global measures of family background. Kellaghan and his colleagues (1993) conclude, for example, that family social status or cultural background need not determine a child's achievement at school. They propose that for academic success, it is what parents do in the home, and not children's family background, that is significant. Similarly, Redding (1999) indicates that in relation to academic outcomes, the potential limitations associated with poor economic circumstances can be overcome by parents who provide stimulating, supportive, and language-rich experiences for their children.

It is important, however, to recognize the nature of the interrelationships between family background characteristics and more refined family influences. In a model of human development, for example, Stephen and his colleagues (1997) propose that the efficacy of a family influence for academic success is determined to a large degree by a child's family background. They observe that parent-child interactions are the forces that lead to academic performance. In addition, they claim that academic success is achieved only if family background resources can be accessed to maximize the association between family influences and outcomes: relationships between family influences and academic achievement need to take into account the potentially constraining or
expanding opportunities provided by children's family backgrounds (Marjoribanks, 2003).

**V.2.2. Single-parent families:** Research that has examined relationships between changing family structures and students' school-related outcomes, indicates that in compared to two-parent families, children in single-parent families (broken families) have lower academic performance, are more susceptible to peer pressure to engage in deviant behavior, have higher dropout rates from high school, and have greater social and psychological problems. Although the differences are generally small, a number of theories have been proposed to explain the variations. The no-impact perspective claims, for example, that the association between changing family structures and children's academic outcomes can be attributed to a combination of family background factors such as parents' education and incomes and the ethnicity/race of the family. Further, some researchers propose that much family structure research is inconclusive because it has failed to differentiate among various types of single-parent families such as whether they result from marital disruption (divorce or separation), parental death, or a never-married parent. In addition, it is suggested that many studies fail to take into account the timing in a child's life of a family disruption, the duration of the effects of that disruption, and whether the lone parent is the father, mother, or a guardian (Marjoribanks, 2003).

An economic deprivation theory (Coleman, 1997) suggests that economic hardship in single-parent families is likely to require adolescents to work long hours and to take greater responsibility for younger brothers and/or sisters. As a result, these time-consuming activities are likely to be related to lower school achievement. In a family socialization perspective, it is proposed that the absence of a parent is probably associated with a decrease in total parental involvement, which in turn is related to poorer school outcomes. It is often claimed that the absence of fathers has particularly negative socialization influences, which may be especially detrimental for boys (Coleman, 1997).

**V.2.3. Sibling structure:** There has been a long-standing fascination with exploring associations between sibling variables, such as the number of children in a family and a child's birth-order position in the family, and children's academic achievement. Typically, these sibling variables have small but significant inverse associations with academic outcomes, especially verbal measures of achievement. A number of theoretical
Perspectives have been proposed to explain these relationships, including the resource dilution hypothesis and the confluence model (Marjoribanks, 2003).

The resource dilution hypothesis proposes that sibling variables are related to the quality and quantity of parent-child interaction in families, and that such variations in parent resources are associated with sibling differences in academic achievement. That is, the greater the number of children in a family or the later the birth-order position, the more those children have to share family resources. As a result, children have lower scores on those academic outcomes affected by the diluted family influences. An alternate perspective is the confluence model which proposes that children's academic development is affected by the number of children in families, the age-spacing among children, and whether children are only, first, or last born in families. The model claims, for example, that with short birth intervals between children, increasing birth order is related to lower academic performance. In contrast, with sufficiently large intervals, the birth-order pattern may be mitigated or even reversed.

Generally, sibling research suggests that relationships between sibling structure variables and children's academic performance can be attributed to differences in family background, variations in family economic resources, and variations in the quality of parent-child interactions (Marjoribanks, 2003).

V.2.4. Steinberg’s family model: Steinberg (1996) proposes that to understand family influences, it is important to disentangle three different aspects of parenting. These include: (1) parenting style, which provides the emotional context in which parent-child interactions occur; (2) the goals that parents establish for their children; and (3) the practices adopted by parents to help children attain those goals. It has been shown, for example, that authoritative parenting is related to positive academic motivation and successful academic achievement (Darling and Steinberg 1993). Such a style creates a context in which parents encourage their children's independence and individuality, and also provide opportunities for children to be involved in family decision making, expect setting high standards for their children, parents have warm relationships with their children.

V.2.5. Family achievement syndrome: In one of the most significant attempts to construct a framework for the study of family influences, Rosen (1959, 1973) developed
the concept of the family achievement syndrome. He proposes that achievement-oriented families can be characterized by variations in the interrelated components of achievement training, independence training, achievement-value orientations, and educational-occupational aspirations. Whereas achievement training aims at getting children to do things well, independence training attempts to teach children to do things on their own. Further, research indicates that achievement and independence training act together to generate achievement motivation, which provides children with the impetus to excel in situations involving standards of excellence. In the achievement syndrome, it is proposed that achievement values help to shape children's behavior so that achievement motivation can be translated into successful academic achievement. Rosen states, however, that unless parents express high aspirations for their children, other family influences may not necessarily be associated with academic success. In analyses of social mobility, it has been shown that families from various social status and ethnic/racial groups place different emphases on the dimensions of the family achievement syndrome, and the variation in mobility are related to these group differences in family-achievement orientations (Marjoribanks, 2003).

V.2.6. Bloom's sub-environment model: Bloom (1964) and a number of his students examined the family correlates of children's affective and academic outcomes tend a school of research emerged to investigate the relationships between family influences and academic outcomes. Bloom defines family environments as the conditions, forces, and external stimuli that impinge on children. He proposes that these forces, which may be physical, social or intellectual, provide a network that surrounds, engulfs, and plays on the child. Bloom model suggests that the total family context surrounding a child may be considered as being composed of a number of sub-environments. If the development of particular characteristics, such as academic motivation and academic achievement, are to be understood, then it is necessary to identify those sub-environments that are potentially related to the characteristics. The analysis guided by the sub-environment model indicates that it is possible to measure family influences that, when combined, have medium associations with children's academic motivation and large associations with their academic achievement (Marjoribanks, 2003).

V.2.7. Alterable family influences: In an extension of his family model, Bloom (1980) proposes that the objective of family research should be to search for those variables that
can be altered, and therefore make a difference in children's learning. The findings from family learning environment research suggest that children's academic success is influenced by the interrelationships among high parental educational and occupational aspirations; a language environment that is characterized by strong reading habits and rich parent-child verbal interactions; academic involvement and support, where parents become actively involved in their children's schooling; an intellectually stimulating home setting, in which parents provide opportunities for children to explore ideas and encourage their children to become involved in imagination provoking activities; and parent-child interactions that support the pursuit of excellence in academic and cultural experiences, and that allow independent-oriented behavior. Marjoribanks(2003) suggests that when attempts are made to help families develop more enriched learning environments, the strategies adopted acknowledge the significance of the interrelationships among such influences.

V.2.8. Classroom Social Experiences as Predictors of Academic Performance: School is an important context for children’s academic and social development. Everyone accepts that reading, writing, and arithmetic are three fundamental aspects to school success. Teachers regularly provide instruction in these basic subjects to promote children’s academic success. But what about the fourth aspect? Are student’s relationships with peers also important for their academic achievement? If so, what connects social experiences to learning and performance in school?

Previous researches have shown that the quality of peer relationships has its influence on their academic achievement (Guay, Boivin, & Hodges, 1999); both with students’ academic orientations and school performance (Wentzel & Watkins, 2002). However, Problematic peer relationships, in particular, have consistently been linked with poor academic outcomes (Welsh, Parke, Widaman, & O’Neil, 2001). Further, behaviors such as classroom participation and pro-social behavior have been examined as mediators of the association between classroom social experiences and learning and performance (Buhs & Ladd, 2001).

Flook, Repetti, & Ullman (2005) proposed a model linking children’s peer acceptance in the classroom to academic performance via academic self-concept and internalizing symptoms was tested in a longitudinal study. This model focuses instead on aspects of children’s psychological development that may have important implications.
for their school functioning: representations of the self—in particular, the academic self-concept—and psychological well-being—in particular, internalizing symptoms.

V.3. Academic Self-Concept

Middle childhood is a critical period for self-concept formation (Byrne & Shavelson, 1996). While at school, children are developing a sense of themselves both as students and as social beings, and the beliefs that they form about their academic abilities affect their classroom performance. In fact, academic self-concept has been identified as a predictor of academic achievement beyond what can be explained by prior achievement (Marsh & Hau, 2003). Children who are secure and confident in their ability to succeed are likely to put forth the effort required to master schoolwork. When the material is challenging, they work even harder and, as a result, earn high grades, which reinforces their belief in their abilities. However, children who are uncertain about their abilities, regardless of objective indicators of their academic performance, might be inclined to give up easily or not put forth as much effort.

It is reasonable to hypothesize that social experiences in the classroom play a role in shaping a child’s academic self-concept. School-age children’s views about themselves are formed in part from their relationships. Children who are isolated from their peers may come to think about themselves in negative terms, and their negative self-evaluations may extend beyond the social domain to include internalized negative beliefs about their core self-worth. The negative feedback they receive from peers may color their view of their abilities, such as when another child calls them names that demean their ability (e.g., stupid or dumb). Children who lack acceptance from peers may also be excluded from group activities and harbor negative attitudes about school. Consequently, such children may lack motivation and confidence and disengage from classroom activities. Thus, socially maladjusted children may form a poor academic self-concept that adversely affects their performance in the classroom. The model in Figure 1 proposes that a weakened academic self-concept contributes to the indirect association between a lack of social acceptance at school and subsequent declines in academic performance (Flook, Repetti, & Ullman, 2005).
V.4. Internalizing Symptoms

Diminished psychological well-being may also contribute to the indirect association between social experiences and academic performance in the classroom. In particular, Figure 1 focuses on a constellation of problems often grouped under the general heading of internalizing symptoms, which include signs of behavioral inhibition and negative emotions such as anxiety and sadness. Children who are rejected and lack acceptance from peers are prone to feelings of loneliness and depressed mood (Brendgen, Vitaro, Turgeon, & Poulin, 2002). It free from psychological distress, a child can maintain focus and concentrate on school-related tasks and challenges. Reduced vulnerability to depression in children contributes to their scholastic achievement (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996).

However, the intentional resources of a child suffering from psychological distress may be shifted to other problems, leaving the child less able to attend to lessons in class. Negative mood states have, in fact, been found to interfere with students’ learning at school (Roeser, Wolf, & Strobel, 2001). The role of internalizing symptoms is supported by another research analysis of cross-sectional data in which perceived peer harassment correlated with low self-worth, feelings of loneliness, and depressive symptoms. These indicators of psychological distress, in turn, predicted poorer school outcomes among high-school students (Juvonen, Nishina, & Graham, 2000).
V.5. Stress and academic performance

A frequently reported source of stress that most students experience is receiving a lower grade than they expected. Too much stress can interfere with student’s preparation, concentration, and performance, but positive stress can be helpful to students by motivating them for peak performance. Students also have a fear in relation to their grades and academic work. Others expectations in school, or any other activity one risks (both external and internal costs) serves as threat to academic or career prospects, disapproval, rejection, humiliation, guilt and blow to self-esteem (Saipanish, 2003).

V.6. Stress, memory, concentration, and learning

Cognitive changes occur in response to acute, uncontrollable stress. One can become distracted and disorganized, and the working memory abilities worsen, leaving habitual response to control behavior. Neurological research now can begin to explain many of these cognitive changes in response to stress. The neurotransmitters called catecholamine’s (dopamine, norepinephrine, and epinephrine) are released through the peripheral and central nervous system during stress. Just as catecholamines “turn on” the heart and muscles and “turn off” the stomach to prepare for fight-or-flight response during stress, similar opposing actions in the brain may turn on a structure called the amygdale known to be essential for the expression of emotion and the formation of associations between stimuli and emotions. and turn off the prefrontal cortex (a higher cognitive center), allowing posterior cortical and sub cortical structures to control behavior. In contrast, the prefrontal cortex expands greatly and permits working memory to guide behavior, inhibiting inappropriate responses or distractions and allowing one to plan and organize effectively. Thus it can be concluded that stress has substantial effects on the brain, particularly on memory. Typically, one who is experiencing severe stress suffers loss of concentration and may become inefficient at work, home, and education. It also been shown that the immediate effect of acute stress impairs short-term memory, particularly verbal memory. Prolonged exposure to cortisol, the major stress hormone, causes shrinkage in the hippocampus, the center of memory (Watson, 2009).

V.7. Gender and Academic Achievement

In adolescence, gender differences associated with peer relationships begin to emerge, including preferred communication styles used with peers, peer group
composition, and the assigned importance given to friendships as a support source. Due to these differences, it is possible that females and males academic achievement may be differentially associated with peer group acceptance. Muller, Riegle-Crumb, and Farkas (2005) examined how male and female friendship groups was related to their grades in maths, science, and English, by studying 2,500 high school students’ transcripts. They found that "having high-performing same-sex friends are beneficial for girls whose friendships can promote success in high school". However, they also found that this relationship was not present with the male students in their study. They suggested that this difference may have resulted due to variations in competitiveness between genders. The Girls seem to know they can work together and support one another, where the boy's tends to take a winner-takes-all approach. They see a zero-sum game where there can be only one winner (Bryant, 2005).

In a longitudinal study, Roberts (1986) investigated the relationship between gender variations and achievement. He concentrated on how self-image of both genders related to overall academic achievement in 243 suburban adolescents. Cross-sectional analyses indicated that high achievement for adolescent males was associated with better self-image perceptions, while low achievement was associated with poorer self-image perceptions. High achievement in adolescent females, however, was linked with a decline in self-image. Roberts (1986) suggested that peer acceptance is most likely a factor contributing to gender difference, for the effects stronger in relation to stereotypical male courses. In the Walters and Bowen (1997) study of peer group acceptance and academic achievement with participants in a middle and high school dropout prevention program, peer group acceptance was demonstrated to be more predictive of academic performance in females than in males. The researchers suggested that this result indicated "peer group acceptance may be particularly important for adolescent females" (Walters & Bowen, 1997).

V.8. Academic attributional style (AAS)

One of the outstanding problems of today's youth is the loss of motivation for academic activities. Many students find themselves lacking the desire to carry out required academic tasks (Legault, Green-Demers, & Pelletier, 2006) which in turn results in low academic performance. In response to this, educators and psychologists have debated how to promote academic achievement and have attempted to determine the
factors that affect students' responses to academic success and failure. Outcome of this effort is the development the concept of academic attributional or explanatory style (AAS). Attributional or explanatory style refers to how a person explains personally relevant events and it may influence the tasks the people choose to perform and the way they assess their performance (Camgoz, 2008).

Attributional style is a widely studied concept and is considered to be successful in predicting high academic performance as well as high course grades and high performance in objective tests. Further, researchers have attempted to identify a strong connection between high academic achievement and positive/optimistic attributional style, referring to the use of external, unstable and specific explanatory dimensions in explaining the causes of negative events (Camgoz, 2008).

AAS may affect students’ characteristic approach to motivation, studying and learning. If their attributional style is internal, stable and global (pessimistic) in terms of negative outcomes, then they are not going to work hard for long periods. But if their style is external, unstable and specific (optimistic), then they are more likely to keep trying to succeed. Hence, studies investigating the relation between AAS of university students and their academic performance show that those students who are pessimists perform worse in their courses than those who have optimistic attributional styles (Satterfield, Monahan & Seligman, 1997).

V.9. Student’s characteristics and academic achievement

Until recently, there has been very little empirical evidence regarding how students become masters of their own learning, a topic that has become known as self-regulated learning. Within the last few years, however, researchers have begun to identify and study some of the key processes by which students direct their acquisition of academic knowledge. A self-regulated learning perspective on student’s learning and achievement is not only distinctive, but it also has profound implications for the way teachers should interact with students and the manner in which schools should be organized. This perspective shifts the focus of educational analyses from student’s learning ability and environments as “fixed” entities to their personality and initiated processes and responses designed to improve their ability and their environments for learning. At one time or another, we have all observed self-regulated learners. Self-
regulated students approach educational tasks with confidence, diligence, and resourcefully. Unlike their passive classmates, self-regulated students proactively seek out information when needed and take the necessary steps to master it. When they encounter obstacles such as poor study conditions, confusing teachers, or abstruse textbooks, they find a way to controllable process, and they accept greater responsibility for their achievement outcomes (Zimmerman, 1990).

When defining self-regulated learning, it is important to distinguish between self-regulation processes, such as perceptions of self-efficacy, and strategies designed to optimize these processes, such as intermediate goal setting, self-regulated learning strategies (i.e. actions and processes directed at acquisition of information or skills that involve agency, purpose, and instrumentality perceptions by learners). Undoubtedly, all learners use regulatory processes to some degree, but self-regulated learners are distinguished by (a) their awareness of strategic relations between regulatory processes or responses and learning outcomes and (b) their use of these strategies to achieve their academic goals.

A second feature of most definitions of self-regulated learning is a “self-oriented feedback” loop. This loop entails a cyclic process in which students monitor the effectiveness of their learning methods or strategies and react to this feedback in a variety of ways, ranging from covert changes in self-perception to overt changes in behavior such as altering the use of a learning strategy. Phenomenological theories of self-regulated learning depict this feedback loop in terms of covert perceptual processes such as self-instruction, and self-reinforcement responses. Social cognitive theories caution against viewing this control loop in terms of only negative feedback (i.e. seeking to reduce differences between one’s goals based on observed outcomes). Regardless of theoretical differences in what is monitored and how outcomes are interpreted; virtually all researchers assume that self-regulation depends on continuing feedback of learning effectiveness (Zimmerman, 1990).

A third feature of definitions of self-regulated learning is an indication of how and why students choose to use a particular strategy or response. Because self-regulated learning involves temporally delimited strategies or responses, student’s efforts to initiate and regulate them proactively require preparation time, vigilance, and effort. Unless the outcomes of these efforts are sufficiently attractive, students will not be motivated to
self-regulate. They may choose not to self-regulate their learning when the opportunity arises-an outcome that requires a comprehensive accounting of academic motivational processes. Operant theorists (e.g. Mace et al, 1989) claim that all self-regulated learning responses are ultimately determined by contingent external rewards or punishment such as social approval view students as motivated by a global sense of self-esteem or self-actualization (Zimmerman, 1990).

VI. COGNITIVE BEHAVIOR THERAPY

Cognitive behavior therapy (CBT) is an approach to human problems that can be viewed from several interrelated perspectives: philosophical, theoretical, methodological, assessment oriented, and technological.

Philosophically, CBT can be viewed as being associated (or, according to some who put it more strongly, derived) with one or another variety of behaviorism. The behaviorisms are generally philosophies of science and philosophies of mind—that is, ways of defining, approaching and understanding of the problems traditionally associated with psychology.

There are at least two broad issues at the philosophical level: (1) What particular form of behaviorism is being embraced and (2) what is the nature of the relationship or association between this philosophy and the practice of CBT? Some have argued that behaviorism is irrelevant to behavior therapy—that one can practice behavior therapy or reject behaviorism or be agnostic with regard to all forms of it (O'Donohue & Kitchener, 1999).

The second aspect of cognitive behavior therapy is its theoretical structure. Here the issues are less philosophical—less about general epistemic issues—and more about substantive assertions regarding more specific problems as well as the principles appealed to in making these assertions. For example, what is stress? What are its causes? What is the role of operant conditioning in children’s oppositional behavior? How does one prevent relapse? Should cognitions be modified or accepted?

The third aspect of CBT is its program for knowledge generation. In the main, CBT is experimental and relies on a mixture of group experimental designs (e.g., the
randomized controlled trial) and single-subject experimental designs (although in the largest perspective it can be seen to include correlational designs and even case studies).

The fourth aspect of CBT is its approach to measurement. Here, a key issue is how to accurately detect and quantify variables of interest. CBT is associated with both a distinctive delineation of the domain of interest and distinct methods for measuring this.

The final aspect of CBT is a *technique*—a skilled practice. Cognitive behavior therapists need to be skilled in the execution of their techniques. In fact, an interesting set of research questions involves the relationship between the degree of skill (e.g., poor, novice, experienced, master) and therapy outcome. This may also be a function of specific technique (e.g., progressive muscle relaxation may have different relationship with skill level than emotional regulation training) (O'Donohue & Fisher, 2009).

In recent years the cognitive techniques introduced by Beck (1967) have been merged with the techniques developed earlier by the behavior therapists to produce a body of theory and practice which has come to be known as 'cognitive behavior therapy'. There are two main reasons why this form of treatment has come to be so important within the field of psychotherapy. First, cognitive therapy for depression, as originally described by Beck (1967) and developed by his successors, has been subjected to the strictest scientific testing; and it has been found to be a highly successful treatment for a significant proportion of cases of depression. Not only has it proved to be as effective as the best alternative treatments (except in the most severe cases, where medication is required), but some studies suggest that people treated successfully with CBT are less likely to experience relapse of depression than people treated successfully with other forms of therapy (such as antidepressant medication). Second, it has become clear that specific patterns of thinking are associated with a range of psychological problems and that treatment which deal with these styles of thinking are highly effective. So, specific cognitive behavioral treatments have been developed for anxiety disorders, like panic disorder, generalized anxiety disorder, specific phobias and social phobia, obsessive compulsive disorders, and hypochondriacs (health anxiety), as well as for other conditions such as compulsive gambling, alcohol and drug addiction, and eating disorders like bulimia nervosa and binge-eating disorder. Many people suffer silently and secretly for years. Sometimes appropriate help is not forthcoming despite their efforts to find it. Sometimes they feel too ashamed or guilty to reveal their problems to anyone.
For many of these people the cognitive behavioral self-help manual will provide a lifeline to recovery and a better future (Gilbert, 2001).

**VI.a. The CBT model in children**

The CBT model with children, as with adults, suggests that emotions and accompanying behaviors are the result of the connection between a given situation, the child’s belief system (through which he or she interprets given situations), and the child’s thoughts about the event (positive and negative). It is important to view this connection as multidirectional rather than linear, which suggests that there is not a cause-and-effect relationship but, instead, a dynamic interactional process between situational, cognitive, affective, and behavioral components. Having awareness of the situational factors (e.g., social aspects) that activate a student’s belief system, being able to link the beliefs with the child’s cognitive process, and translating these concepts into clear and helpful strategies for the child are essential for effective interventions. CBT focuses on the way in which a child interprets his or her experiences and how these thoughts ultimately influence his or her emotional or behavioral functioning. For example, consider a 9-year-old girl who presents with significant anxiety before any testing situation at school. Although it is important to understand the context of her anxiety (e.g., when taking tests), knowledge of her physiological reactions (e.g., nausea, sweaty palm, feeling dizzy), automatic thoughts (e.g., “I didn’t study enough; I’m gonna fail.”) and her beliefs (e.g., “If I don’t get an A, I’m a failure.”) are more important to developing interventions than just “combating her anxiety.” CBT represents two interacting perspectives (cognitive and behavioral), which are combined to understand the child or adolescent and to develop interventions to address presenting problems. Behavioral components can be viewed in two ways—environmental influences or skill deficits. Clinicians should examine environmental influences and experiences (e.g., teacher or parent interactions, ineffective parenting, past trauma, etc.) to help conceptualize the student's problems, and, in some cases, changes to the environment will be the necessary intervention (e.g., positive behavioral support, token economies, etc.). Alternatively, many problems experienced by students are the result of behavioral skill deficits (e.g., poor self-regulation, underdeveloped social skills, etc.). From the cognitive perspective, there are also two factors to consider—cognitive distortions and cognitive deficiencies. Cognitive distortions involve the errors in thinking, which lead the
individual to misinterpret or misperceive a situation or event. Children who display cognitive distortions often experience internalized difficulties (e.g., anxiety and depression). The second cognitive factor, called “cognitive deficiency” by Kendall and MacDonald (1993), suggests deficits in a student’s cognitive-processing abilities. Thus, students with cognitive deficiencies may have minimal forethought or problem-solving skills, resulting in impulsiveness and attention problems. Keeping in mind the role of various cognitive and behavioral factors, school-based professionals using a CBT framework will assist students by initiating the acquisition of new skills (both cognitive and behavioral), and also offering opportunities to facilitate a change in cognitive processes and thinking (Mennuti, Freeman & Christner, 2006).

**VI.b. School based cognitive behavioral framework**

In recent years, significant advances have occurred in the use of cognitive-behavioral interventions for child and adolescent emotional and behavioral difficulties. Specifically, cognitive-behavior therapy (CBT) has been applied to a number of common clinical problems in youth, including anxiety, attention-deficit/hyperactivity disorder, conduct disorder, depression, eating disorders, and oppositional defiant disorder, to name a few. However, despite the growth of literature on the use of CBT with young subjects, there remain few resources on its use with children in educational or school settings. Given the critical role schools and school staffs have in the cognitive, behavioral, emotional, social, and interpersonal development of children and adolescents, it is only fitting that school-based clinicians and school systems begin considering the implementation of CBT intervention services to help children and adolescents in need. With the growing evidence-base supporting the use of cognitive-behavioral interventions with young subjects, CBT or cognitive-behavioral interventions are promising for use within school settings (Mennuti, Freeman & Christner, 2006).

**VI.c. Rationale for school- based cognitive-behavioral service**

The need for school-based behavioral health services is greater than ever, as a child’s or adolescent’s health and abilities to learn are built on his or her emotional or behavioral well-being. Research has demonstrated that youth with identified emotional or behavioral disturbances in schools often have less academic success and positive social interactions, as well as higher frequencies of truancy, suspensions, tardiness,
expulsions, attention-seeking behaviors, and poor peer relationships. If these issues are left untreated or treated ineffectively in youth, they can progress to debilitating mental illness that impacts an individual’s functioning as an adult (Mennuti, Freeman & Christner, 2006).

VI.1. COGNITIVE-BEHAVIORAL INTERVENTION TECHNIQUES

When using CBT interventions with youth, a number of valuable strategies are available to address various problems of children. In fact, quite a few detailed approaches exist to address specific disorders in children, which will be highlighted in this Part.

VI.1.1. Self-awareness

Self-awareness is the ability to know and understand ourselves, particularly our feelings, our inherent weaknesses, the latent talent that we have not yet developed, areas of our life that we need to improve or change. We need to know whether we have been guided by our moral values, whether our principles have come about through conditioning, and whether our thoughts and actions have been in harmony with the principles that we possess. The ability to be self-aware is one of our great endowments. Although our feelings are easily perceived or understood, very often we are not conscious of them. Being aware of how we feel is important. It enables us to turn inward to evaluate, change, or control our emotions. Hence, we are able to get rid of our negative feelings. We just have to have the willingness to take action. Through awareness of ourselves we can carry out personal improvement, though initially it may be disappointing or even scary to become fully aware of the shortcomings, faults, defects and the ugliness that have been existing inside us. If we could accept them with the common knowledge that none of us is born perfect and that these are just areas of weaknesses which we need to address, we are on course to becoming a better person.

Trusting our self-awareness is as important as developing it. It helps reveal the imperfections that have deeply embedded in us and which we are likely to be unaware of. They are not compatible with what we believe in. We are definitely better off living our lives without them. They have to be eliminated. We can come up with and replace them with those essential attributes that agree with our ethical values. However, there are positive values that we inherit and we need only to retain them. Denying instead of
acknowledging the existence of our shortcomings or choosing to ignore them by believing they will gradually disappear is certain to stop us altogether from taking corrective actions. When we seek no corrective actions, we are unlikely to make real personal improvement. Personal problems will continue to persist. We will not increase our self-confidence significantly, and lasting personal happiness will remain elusive.

Trusting our self-awareness is as important as developing it. Just as likely we will come to uncover our inner resources - our qualities, natural aptitude, and talents that have remained latent and dormant, which needed to be worked on for greater success. We must be willing to accept that we have them as well as those qualities which we know we already possess, like being very knowledgeable in a particular branch of study or skillful in a sphere of activity, or our classic good looks, or attractive appearance. Being honest with our own selves helps to build up our confidence and encourage the full development of ourselves (Jaw, 2012).

**VI.2.1. Meichenbaum’s Self-instructional training model (MSITM)**

Self-instructional training was an outgrowth of ideas in the developmental literature. Self-instructional training is a form of self-management that focuses on the importance of a person’s self-instructions. An explicit assumption is that an individual’s self-instructions mediate behavior and behavior change. In many cases maladaptive self-statements may contribute to a person’s problems. The learning and application of more adaptive self-instructions are the goals of self-instructional training.

Self-instruction can play two roles in governing desired behaviors. In the acquisition of new skills, self-instructions can serve as useful cues for the recall of appropriate behavior sequences or for redirecting and correcting behavior errors. In the correction of maladaptive behavior, self-instructions can interrupt automatic behavioral or cognitive chains and can prompt the use of more adaptive responses. It may be very useful in enhancing the performance of adaptive responses.

Meichenbaum (1977) has described three phases of self-instructional training that outline his general approach to therapy. The first phase consists primarily of information gathering, which allows an accurate conceptualization of the problem. This process involves a cooperative venture between the client and the therapist, each contributing experience and expertise in such a way that the therapist can clearly
understand the nature of the presenting problem and the client can feel that he or she had direct input into the therapeutic process and has been understood. In addition to assessing the nature, extent, and duration of the presenting problem, the therapist will begin to assess the role of maladaptive cognitions. Cognitive processes occurring in problem situations may be quite automatic and initially difficult for the client to identify clearly. Formal assessment strategies may be useful to evaluate the role of maladaptive cognitions and to teach the client to pay attention to his or her covert language activity during problem situations. Common strategies for assessment include in-session imaginable techniques and extra-session self-monitoring assignments. A therapist can ask a client to imagine a problem situation and describe his or her probable internal dialogue to the therapist. Discussion of the quality of these statements, and of their relationships to affect and behavior, is a useful assessment and instructional procedure.

The second phase of self-instructional training has been described as a process of “trying on” the conceptualization of the problem. Discussion of the rationale and treatment plan, in the context of ongoing observation of the problem, allows the client the opportunity to test the logic of the rationale and to see whether it “fits”. The rationale of self-instructional training focuses on helping the client develop skills that will allow him or her to change the problem behavior or cope in problem situations, and especially on learning more adaptive self-statements, which can be substituted for the negative self-statement that are currently contributing to the problem.

The third stage of self-instructional training is directed toward promoting change. This promotion occurs through active attempts to change the client’s self-statements to modify behavior (Dobson, 2001).

**VI.3.1. Stress inoculation training (SIT)**

Meichenbaum (1980) had developed a training procedure called Stress-Inoculation Training (SIT). SIT was designed to prepare subjects for interventions, motivate them to change, and deal with issues such as resistance and relapse. SIT is a flexible, individually tailored, multifaceted form of cognitive-behavioral therapy. Given the wide array of stressors that individuals, families, and communities experience, SIT provides a set of general principles and clinical guidelines for treating distressed individuals, rather than a specific treatment formula or a set of “canned” interventions.
SIT is not a panacea, and it is often used as a supplemental tool to other forms of interventions, such as prolonged exposure with traumatized patients or environmental and community supports with individuals confronting chronic stressors (Meichenbaum, 2007).

SIT consists of three interlocking and overlapping phases: (1) the conceptual phase aims to developing a working relationship with subjects by educating them to develop their understanding of the nature of stress and to think through it in social interaction terms.

2) Skills acquisition, consolidation, and rehearsal is the second phase where subjects learn and rehearse coping strategies Some of these specific techniques include relaxation training; cognitive restructuring; problem solving; social skills training; time management; self-instructional training; guided self-dialogue; and lifestyle changes such as reevaluating priorities, developing support systems, and taking direct action to alter stressful situations. subjects are taught these skills and asked to use them during the arousal of stressful situations. Activities may include meditation, yoga, tensing and relaxing muscle groups, and breath-control techniques (Corey, 2008; cited in Donohue &Fisher, 2009)

3) Application and follow-through is the third phase of Meichenbaum’s Stress Inoculation Training. The purpose of this phase is to focus on transferring of knowledge and maintenance of change from the therapeutic situation to daily life. The assumption is that coping skills will not automatic generalize to everyday life situations; therefore, subjects are expected to participate in a variety of activities including imagery and behavior rehearsal, role playing, modeling, and graduated In vivo practice. subjects are expected to write down homework assignments, or personal experiments, that they are willing to complete. Outcomes of these assignments are checked and the trainer will follow-up with other group members to collaborate on the outcomes. The ways that these SIT phases are implemented will vary depending on both (1) the nature of the stressors (e.g., acute time-limited stressors, such as a medical procedure, vs. prolonged ongoing repetitive stressors, such as working in a highly stressed occupation or living in a high-risk violent environment) and (2) the resources and coping abilities of the subjects (Meichenbaum, 2007).
VI.4.1. Problem solving therapies

Problem solving therapy or problem solving training (PST) is a part of cognitive behavioral process by which a person attempts to identify or discover affective or adaptive solutions for stressful problems encountered during the course of everyday living. PST provides for systematic training to help individuals cope more effectively with stressful events (such as loss of a friend or spouse, academic failure, getting a divorce and being fired from a job) by teaching them to apply a variety of skills geared to help them either (a) alter the nature of the problem (e.g. overcoming obstacles to a goal), (b) change their distressing reactions to the problem (e.g. acceptance that a problem cannot be changed), or (c) both (Spry, 2003).

People use predominantly two forms of coping in virtually every type of stressful encounter: 1) Problem-focused coping; and 2) Emotion-focused coping

Problem-focused coping skills

a. Time management: Many students are overwhelmed by the quantity of demands put upon them and either procrastinates or avoid tasks due to inability to manage their time appropriately. Time management is simply the way person regulates or schedules his/her time. It is an important skill to master because it can help the student manage the various responsibilities in life, school, work, family, and many other activities. If this skill is correctly learned and applied, it can actually save the student time (Blerkom, Solomon & Tyler, 2008). Students are taught to schedule, prioritize, and breakdown larger tasks into smaller units in order to reduce the stress associated with managing their time (Dobson, 2001). Time management is a very important tool for a student’s tool belt, and it can be applied by using a few simple steps:

First, a student must think about everything he or she does in a typical day. This can be done by providing a student with a blank schedule and asking him or her to write everything down; this includes meals, bathing, travel time, family time, work, classes, and anything else that may occur during the day. Often, there is one to two hour blocks of time available that the student never realized existed prior to this activity. Some students may view this time as free or available time, but these time blocks should be seen as available study time. Bringing the student’s attention to these available blocks of time will help him or her realize there is enough time in the day to study.
Next, it is important to help the student prepare for how much study time is required per class taken. The usual rule of thumb is two hours of studying for every one credit hour of the class. So, a class with three credit hours will require six hours of studying. This formula helps the student find the minimum amount of time needed to study for a class. Study time will have to be adjusted to compensate for course difficulty, grade goals, and time needed to complete certain assignments. The two to one is just a starting point for the student. As the quarter progresses, the student will be able to adjust this time to fit his or her needs.

Organization is the key when it comes to time management. The more organized the student is, the better he or she will be able to apply time management skills. The first step in this organization is to create an assignment calendar. An assignment calendar is a blank calendar in which the student can write all of his or her assignments for the month. It is important to include all assignments, quizzes, and exams. This calendar should be posted where the student can easily see it. The assignment calendar provides a visual aid for the student so he or she can easily reference it and know what tasks need to be done.

Another great organization tool is a weekly task list; a list of all assignments, quizzes, and exams due for the following week. This list can be made by using the assignment calendar. It helps the student see the smaller “chunks” that need to be accomplished during the week. Oftentimes, the student will look at the assignment calendar and feel overwhelmed at the amount of work he or she has to do. The student is too focused on the “big picture.” By creating the weekly task lists, the student is better able to see that the tasks are manageable in smaller pieces. From the weekly task list, the student can create daily “to-do” lists; lists of what the student plans to accomplish each day. These daily “to-do” lists break down the tasks even further for the student. At this point, the student may be wondering why he or she created all of these lists and calendars. The answer is simple – now the student can assign these tasks to the available time identified earlier. As mentioned before, it is important to not ignore the one-hour time blocks; many tasks can be complete during this time. The student will start to realize there is enough time in the day for school and everything else; time management skills just need to be fine-tuned (Blerkom, Solomon & Tyler, 2008).
B. Assertiveness training: For individuals who experience stress from difficulties with interpersonal communication, assertiveness training can be helpful (Dobson, 2001). Assertive behavior usually centers on making requests of others and refusing requests made by others that have been judged to be unreasonable. Assertiveness is conceptualized as the behavioral middle ground, lying between ineffective passive and aggressive responses. Passiveness is characterized by an over attention to the opinions and needs of others and the masking or restraining of personal opinions and needs. This over attention to and compliance with the opinions and needs of others may serve as a strategy for conflict avoidance or maintenance of particular sources of social reinforcement. Aggressiveness often involves the imposition of one’s opinions and requirements on another individual. Implicit in the discussion of assertiveness is the suggestion that assertive behavior is the universally behavioral alternative, and that assertive behavior necessarily leads to preferred outcomes. The degree to which assertive behaviors are to be considered superior to either a passive or an aggressive stance is determined by the situational context. The success of assertiveness does not always lie in tangible outcomes (e.g., request fulfillment). The success of assertiveness sometimes lies in the degree of personal control and personal respect that is achieved and maintained throughout the assertive exchange (O’Donohue & Fisher, 2008). Subjects are taught the difference between being assertive, nonassertive, and aggressive. Assertiveness training provides subjects with skills to express their wishes effectively without being disrespectful or aggressive toward the other party (Dobson, 2001).

c. Self-monitoring of stress intensity: The clinician will find during assessment that some individuals are unable to generate the environmental triggers that act as stressors or are unable to identify their bodies physiological response to stress (e.g., “I feel my stomach clench. I start to sweat.”). For these individuals it can be helpful complete self-monitoring of their stress intensity as associated with antecedents and consequences. The gathered from self-monitoring can then be used within the intervention to enhance an individual’s behavioral plan (e.g., “When I feel my stress level rise to a 5, I will do deep breathing for 2 minutes”) (Donohue & Fisher, 2009).

Self-monitoring is a straightforward intervention that involves two processes: self-observation and self-recording. Self-observation requires students to pay attention to specific aspect of behavior and to discriminate whether the behavior being monitored has
occurred. For example, a student who calls out an answer during teacher instruction may be taught to ask himself, “Did I raise my hand?” after he provides an answer in class. Alternatively, a student who engages in high levels of off-task behavior may assess whether or not he was paying attention in response to a specific prompt (e.g. when a prerecorded tone sounds). Next, the student records whether the behavior being monitored has occurred such as checking “yes” or “no” on a self-monitoring form placed at this desk (Gretchen, Ruth, Edward & Kennet, 2010). In general, monitoring behavior involves awareness of and attention to certain classes of events, an ability to make accurate discriminations among them, and an awareness of the importance of relationships among events (Dobson, 2001).

Problem solving training as a specific treatment has a rich history of applications with both youth and adults. Many formulations of specific problem-solving steps are consistent with the sub-skills articulated by Spivack and Shure (1978). A typical problem-solving training format might include the following skills.

1. Problem definition

The first rational problem solving skill can be likened to “mapping” a guide for the reminder of the problem-solving process. The major focus of this task is better understanding the nature of the problem and to set clearly defined and reasonable goals. Training in problem definition focuses on the following tasks-gathering necessary additional information about a problem, using clear language, separating facts from assumptions, setting realistic problem-solving goals, and identifying those factors that exist that prevent one from reaching such goals. On the other word, teaching the client to become more skilled at recognizing or identifying problems (Donohue & Fisher, 2009) (e.g. “slow down”. “what’s the problem”), (Dobson, 2001).

2. Generating alternatives

When generating alternatives solutions to a problem, PST encourages broad-based, creative, and flexible thinking. In essence, subjects are taught various brainstorming strategies (e.g. “the more the better”, “defer judgment of ideas until a comprehensive list is created”, “think of a variety of ideas”, “what are my choices”). Using such guides helps to increase the likelihood that the most effective solution ideas will be ultimately identified or discovered (Donohue & Fisher, 2009).
3. Evaluating emotional and behavioral consequences (decision making)

Once a list of alternative options has been generated, the individual is taught to systematically evaluate the potential for each solution to meet the defined goals (e.g. “what would happen with this choice”? “How might I feel”? And, now, “how do I carry out the best choice”?) (Dobson, 2001). Training in this skill helps individuals to use the following criteria to conduct a cost-benefit analysis based on the utility of each alternative solution—the likelihood that the solution will meet the defined goals, the likelihood that the person responsible for solving the problem can actually carry out the solution plan optimally, personal and social consequences, and short-and long-term effects (Donohue & Fisher, 2009).

4. Solution verification

This last rational problem-solving task involves monitoring and evaluating the consequences of the actual outcome after a solution plan is carried out (Donohue & Fisher, 2009). (e.g. “how did that choice work”? “Should I make another choice next time”? (Dobson, 2001). In addition PST encourages subjects to practice carrying out the solution as a means of enhancing the probability that it will be carried out in its optimal form. At times, it may be advisable for the PST counselor to include training in various other skills if relevant (e.g. communication skills, assertiveness skills, and interpersonal skills). Once the plan is underway, the client is encouraged to monitor the actual results. Depending on the results, individuals are then guided to either troubleshoot where in the problem-solving process they need to extend additional effort toward if the problem is not adequately resolved or to engage in self-reinforcement if the problem is solved (Donohue & Fisher, 2009).

**VI.5.1. Cognitive Restructuring**

Distorted thoughts and irrational beliefs must be addressed and specific alternative adaptive thoughts or coping statements should be included in a client’s behavioral plan. Students are taught the ABC model of thinking and emotion and are introduced to the common cognitive distortions and irrational beliefs that may impact their emotional reactions to stressful events. Our thoughts have a very powerful effect on our feelings and therefore on the level of stress we encounter. Not everybody exposed to a challenging event will find it stressful. Most of us tend to think that challenging events
occur and they automatically trigger the fight/flight response, however this is not correct. There is another stage that happens after the event and influences whether the event will trigger the fight/flight response. Ellis (1994), founder of a form of talking therapy called Rational Emotive Behavior Therapy (very similar to Cognitive Behavioral Therapy), identified the role that our thoughts, beliefs and self-talk play in triggering the fight/flight response. He called this the ABCDE model. A = Activating Events: are the triggers that cause us potential stress; B= Beliefs; are used to interpret what is happening to us; and C= Consequences: refer to the feelings that occur as a consequence of our beliefs and self-talk in response to the activating event; The consequences can be in the form of stress, anxiety, depression, anger, irritability, aggression, fear, worry, and frustration etc); “D” stands for disputes or arguments against our irrational beliefs; “E” stands for new effect or the new more effective emotions and behaviors that result from more reasonable thinking about the original event (Cooper & Dewe, 2004).

The basic elements of cognitive restructuring in adolescents are similar to those used with adult subjects. Attribution retraining is an example of early efforts at cognitive restructuring with children. This form of cognitive restructuring was based upon the cognitive theories of motivation proposed by Bandura (1969) and Weiner (1979). These theories emphasized how the child’s causal explanations for why he or she performing well or poorly had implications for his or her behavioral experiences for future performance, and affective reactions to success and failure. Most efforts at attribution retraining attempts to creative a training environment in which the child learns to take more individual credit for his or her academic or other achievements, thus encouraging the child’s experience of positive control or self-efficacy (Dobson, 2001).

In addition to attribution retraining, efforts more like those associated with Beck’s cognitive therapy for depression have also been employed with children and adolescents (Wilkes et al, 1994). The therapist elicits negative self-statements in various ways. Once these self-statements have been identified, the client and the therapist then collaborate in examining the evidence that supports or refutes this negative interpretation, the question “what’s the evidence to support this view?” may be one of the most basic tools of cognitive restructuring followed by the question “is there another way of looking at or explaining this observation?”. With this second question, the therapist helps the adolescent explore alternative explanations that could account for his
or her troubling observations (e.g. a friend did not say hello in the morning). A third common question used in cognitive restructuring involves asking “what if...?” or, put another way, “even if the observation is true and there’s not an alternative explanation, is this really so terrible?” (E.g. your friend didn’t say hello. She may or may not be mad at you, but even if she is mad, is that so catastrophic?). Stark, Boswell and Hoke (2000) pose that, clinicians working with adolescents must be cautious in the use of “what if…?” questions, for if there is not a solid therapist-client relationship or the statement is made in a sarcastic manner, the client may feel that the therapist is mocking him or her. Beyond using these standard questions for discussion, the therapist may also help the client formulate a behavioral experiment to gather evidence for or against a particular viewpoint. Wilkes et al (1994) present a number of examples of such experiments, including one in which a learning-disabled teenager was helped to test his belief that if he asked questions in school, his peers would think he was “dumb”. With the help of the therapist, he created a plan to note the number of questions being asked in the classroom by individuals he viewed as “smart” versus those he considered “not smart”. In this way, he was able to surprise himself with data indicating that more questions were asked by people he viewed as “smart” (Dobson, 2001).

**Key elements of cognitive restructuring**

1. Show students the ABCDEs of REBT and CBT. Show them how antecedents alone do not lead to their disturbed Consequences, but that they personally contribute to their Consequences by engaging in strong and persistent beliefs (Bs) about their antecedents. Particularly show subjects that when they disturb themselves (at point C) they have powerful rational beliefs (RBs) that largely consist of flexible preferences as well as strong IBs that largely consist of absolutistic, rigid musts, should, and other demands.

2. Show students how to think, feel and act against their rigid irrational beliefs with a number of cognitive, emotive, and behavioral techniques, which interrelate to each other.

3. Show students how to specifically dispute their irrational beliefs IBs (1) realistically and empirically. (2) Logically, and (3) juristically or pragmatically. Particularly show
them how to change their rigid, absolutistic demands on themselves, other people, and world.

4. Show students that when they actively and persistently dispute (D) their irrational beliefs they can create an effective new philosophy (E) that includes strong rational coping statements that can help them to feel better, get better, and stay better. For example, for the empirical question, “where is the evidence that I absolutely must perform well at all times and must not fail this test?” the answer of E might be “there is no evidence that I must not fail, although it would be preferable if I succeeded.” Likewise, for the emotional question, “why must people like me for doing well at tests?” the answer might be “obviously, they don’t have to. I would like them to like me, but they can choose not to do so” (O'Donohue & Fisher, 2009).

VI.6.1. Study skills training (SST)

Several researchers have documented weak study skills among students who experience learning problems (Henley, Ramsey, & Algozzine, 1996; Hoover & Patton, 1995; Strichart, Mangrum, & Iannuzzi, 1998; Waldron & McLeskey, 2000). According to Gersten (1998), many students with academic difficulties are not aware of “tricks of the trade” that are used by academically competent students when they study. A primary source of evidence concerning reading-related study strategies comes from an analysis of the verbal reports produced by individuals who express their thoughts while engaged in a learning activity, often referred to as “thinking aloud” (Kucan & Beck, 1997). Think-aloud methods have allowed researchers to explore the type of cognitive processing involved in studying, beyond a narrow focus on observable behaviors (Pressley & Afflerbach, 1995). As a method of inquiry, think-aloud protocols reveal much about the strategies that skilled, students use to understand and retain text information, and that unskilled students need to learn in order to be more successful (Brown & Day, 1983).

Pressley and Afflerbach (1995) compiled a comprehensive list of strategies and cognitive processes that individuals execute in order to understand and facilitate retention of information. Pressley and Afflerbach (1995) identified several key study strategies that were evident in the majority of verbal protocols they reviewed. These included: (a) overview before reading; (b) look for important information and pay greater attention to it (which often requires jumping forward or backward to process
information); (c) relate important points to one another; (d) activate and use prior knowledge; (e) change strategies when understanding is not good; and (f) monitor understanding and take action to correct or “fix up” inaccuracies in comprehension.

Conversely, students with low academic achievement often demonstrate ineffective study skills. They tend to assume a passive role in learning and rely on others (e.g., teachers, parents) to regulate their studying. Several cognitive and behavioral characteristics reflect this passivity in learning. For example, low achieving students often do not monitor their understanding of content; they may not be aware of the purpose of studying; and they show little evidence of looking back, or employing “fix-up” strategies to remedy comprehension problems. Students who struggle with learning new information seem to be unaware that they must extend effort beyond simply reading the content to understand and retain it. Children with mild disabilities, such as learning disabilities (LD), do not exhibit an executive level of thinking in which they plan and evaluate their studying (Wong, 1994). Their studying may be haphazard and disorganized. An assessment of students with academic problems, based on teacher and parent ratings and self-report, reveals challenges with personal organization as well. They often have difficulty keeping track of materials and assignments, following directions, and completing work on time. Unlike good studiers who employ a variety of study tactics in a flexible yet purposeful manner, low-achieving students use a restricted range of study skills; they cannot explain why good study strategies are important for learning; and they tend to utilize the same, often ineffective, study approach for all learning tasks, irrespective of task content, structure, or difficulty (Decker, Spector, & Shaw, 1992).

VI.2. Factors affecting cognitive-behavioral therapy

VI.1.2. Developmental Issues

A major component when working with school-aged children is having a comprehensive understanding of the fundamentals of adolescent development. Providing psychological counseling or psychotherapy with children and adolescents is more than knowing a list of specific techniques or strategies. Thus, clinicians well grounded in the foundations of development are more likely to implement interventions compatible with the adolescent’s functional level and avoid a trial-and-error approach to finding “what
works.” Because a adolescent must have the capacity to attend to information, comprehend language, use working memory, and express him- or herself verbally to benefit from a number of cognitive-based strategies, it is essential for school-based practitioners to assess and focus on these individual factors when designing specific programs for a student (Mennuti, Freeman & Christner, 2006).

VI.2.2. Risk and Resilience: Research within the field of developmental psychopathology regarding risk factors, protective factors, and resiliency factors (Doll & Lyons, 1998) provides useful information for practitioners working with youth. The work of Coie and colleagues (1993) has focused on identifying risk factors associated with the development of psychological problems. Essentially, risk factors are thought to increase the risk that children will be unable as adults to contribute to society, earn a living, and form healthy families. Coie et al., (1993) identified seven domains of risk factors: (1) constitutional handicaps, (2) skill development delays, (3) emotional difficulties, (4) family circumstances, (5) interpersonal problems, (6) school problems, and (7) ecological risks. Within each of the domains, a number of generic risk factors exist that may be found individually or in combination to affect a specific child. Of particular concern are risk factors such as poverty, minimal parent education, marital discord or family dysfunction, ineffective parenting, child maltreatment, poor physical health of the child or parents, parent mental illness or inadequacy, and large family size (Doll & Lyons, 1998, cited in Mennuti, Freeman & Christner, 2006). Inasmuch as children with risk factors are “at-risk,” not all children with these risk factors have poor outcomes. Thus, equally if not more important is understanding factors that serve a protective role for children and adolescents and increase their likelihood of being resilient. Coie et al., (1993) indicated these protective factors serve one of the following purposes: (1) to decrease risk directly, (2) to serve as a buffer through interaction with risk factors, (3) to disrupt the chain reaction from risk factors to disorder, or (4) to prevent the initial occurrence of the risk factor. By using one’s knowledge of risk factors, protective mechanisms, and resiliency, clinicians can design interventions for students that minimize areas of risk while fostering their strengths and developing a sense of competency. Interventions occurring early in the treatment process may concentrate on skill building (e.g., social skills, problem-solving skills, etc.) through psycho-education.
VI.3.2. Therapeutic Relationship

Another component central to the use of CBT with children and adolescents is the working relationship. Beck and his colleagues (1979) have emphasized the need for active interaction between therapist and “patient,” and they note that “slighting the therapeutic relationship” (p. 27) is a common error in the therapy process. It is important, and even necessary, for this interaction to be empathetic and empowering in order to allow the client to explore his or her authentic thoughts and feelings in a way that promotes insight and understanding in order to foster positive movement and change. The relationship when working with children and adolescents is one of connection and collaboration. When the connection is a positive, authentic relationship, it can facilitate the therapy process and enhance the overall outcome.

VI.4.2. Student Motivation

Final factors that school-based practitioners should consider when providing services to children and adolescent include the student’s motivation and attitude. These factors not only affect the collaborative relationship but also impact subsequent implementation of intervention and outcomes. Take, for instance, a student who is referred for being disruptive within his classroom. Using a directive approach discussing reasons why he should not disrupt classroom instruction will likely be met with opposition and resulting failure. Instead, clinicians who have know-how will use the student’s motivation (e.g., “Let’s find ways of getting your teacher off your back.”) to increase the increase of intervention with the student (Mennuti, Freeman & Christner, 2006).

Summary

Stress is any situation or event that evokes negative thoughts and feelings in a person. Stress is associated with impairment of health, and negative emotional experiences which is detrimental to quality of life and sense of well being. There are four types of stress: Time stress, Anticipatory stress, Situational stress, and Encounter stress. Some typical symptoms of stress are including: Thoughts symptoms, Physical reactions, Feelings symptoms, and Behavioral symptoms. Stress can be caused either by internal and external sources (stressors). Stress in adolescents may be due to the factors like Cognitive Transition, Emotional Transition, Social Transition, and School Transition.
Out of number of stress faced by adolescents and young adults, academic stress emerges as significant mental health problem in recent years.

Academic stress is a significant source of stress for many students. Some factors of academic stress are 1) Social factors (e.g. Teachers, Friends, Bullies, Examination system, and Achievement anxiety) and 2) Individual factors (e.g. Poor coping strategies, Anxiety, Sleep deprivation, and Self efficacy). Stress may cause a number of problems for individuals such as physical (e.g. lack of sleep, illnesses), psychological (e.g. low self efficacy, depression, and poor academic performance). In this chapter academic stress related variables such as depression, low self-efficacy and poor academic performance and also cognitive behavior intervention as an effective therapeutic technique in decreasing Academic stress, depression and increasing self-efficacy and academic performance explained in details.
**INTRODUCTION**

This part provides previous research findings regarding to interrelationship between the variables such as academic stress and depression, academic stress and self-efficacy, academic stress and academic performance, and further, the effectiveness of CBT interventions on academic stress, depression, self-efficacy and academic performance which have done individually or in group.

**Section I. Stress and depression**

Cheng ((2010) has shown that school is the main source of stress for adolescents, and stress is one of the important factors causing depression.

According to Joung Tung Foundation (2004), 84.2% of the surveyed adolescents have experienced depression, as measured through Beck depression inventory, 15.3% reported that they feel depressed almost every day, and 33.6% report that depression occurs to them once a week. In terms of stress sources, 56.7% of them reported that their depression comes from school stress, 50.9% thought that their depression is caused by interpersonal relations, and 45.6% attributed their depression to academic tests. From the above statistics, it can be inferred that school is the major source of stress for adolescents, and stress is one of the important factors causing depression and low academic performance.

Academic failure has consistently been found to be associated with depression (Fauber et al, 1987), and depressive mood is associated with academic problems or low academic achievement (Hilsman & Garber, 1995).

In a longitudinal study, Chen, Rubin, & Li. (1995) found academic achievement to be significantly correlated with depression; specifically, results indicated that depressed children had more academic problems than their non-depressed counterparts contemporaneously and two years later. Chen and his colleagues reasoned that children who experienced academic difficulties in school often received negative feedback from their teachers regarding their academic performance and consequently, developed depressed feelings.
Feng and Ren (2009) found that undergraduates' academic stress was positively related to their perceived psychological distress, such as depression; undergraduates' psychological capital was negatively associated with their perceived psychological distress, such as anxiety, and undergraduates' psychological capital moderated the relationship between their academic stress and depression.

Adolescence is a dangerous period of time where young people experience self-organization and role confusion. For them, stress mainly comes from academic tests, interpersonal problems, relationship problems, life changes and career exploration. Such stress may usually cause psychological, physical, and behavioral problems (e.g. self-injury). Among the causes of self-injury, relationship problems are the leading cause, followed by depression and academic stress (cheng, 2010).

Smith, Kenneth and Sinclair (1998) found that 31% of 12 year and 25% of 11 year old students are reporting symptoms of anxiety, depression and, or stress which fall outside the normal range. Significantly more females than males report these symptoms. Also, results showed that there correlation between stress and depression (r = 59, p < .05), stress and anxiety (r = .67, p < .05) In 11 year and in 12 year student results showed that there are correlations between stress and depression (r = .70, p < .01), stress and anxiety (r = .64, p < .01).

Carter, Garber, Ciesla, and Cole (2006) studied peer and academic hassles as predictors of internalizing and externalizing symptoms (such as stress, depression and anxiety) over 4 years in a sample of youth at risk due to maternal depression. Higher stress levels predicted higher youth-reported internalizing symptoms such as depression and anxiety a year later.

Burton, Stice, and Seeley (2004) examined stress-buffering effects, and found a main effect of life events predicting onset of clinically significant depression in adolescent girls.

Meadows, Brown, Sarah & Elder (2006) evaluated gender differences in depression symptoms in relation to stressful life events. They found that stressors were significant predictors of symptoms at all time points for females, but for only one wave for males; overall, stressful life events were more associated with females’ than males’ depressive symptom patterns.
Hankin, Mermelstein, & Roesch (2007) also examined gender differences in stress reactivity, using daily diary measures of stressors for 1-week periods over three waves. They found that girls had significantly more depression than boys in response to stressful events.

Cole, Nolen-Hoeksema, Girgus, and Paul (2006) studied 708 young adolescents over six follow-ups approximately 6 months apart, and found that self-reported life events significantly predicted depressive symptoms.

Research shows that higher stress level has associated with greater symptomatology, depression, and lower well-being (e.g., McClain & Abramson, 1995) and test anxiety (e.g., Gadzella, Masten, & Stacks, 1998). Nelson, Karr & Coleman (1995) report that first- and fifth-year college student’s experienced higher stress than students in middle years. They hypothesize that first year students may be experiencing more stress because of the major life transition from high school to university, while fifth-year students may have fears about life decisions after graduation.

Kurtus (2004) study suggests that students who have low self-esteem are prone to depression. These are persons who consistency view themselves and the world with pessimism. They are also readily overwhelmed by stress.

Juon, Nam, & Ensminger (1994) examined factors contributing to depression and suicidal behaviors in 9,886 high school Korean adolescents and found that students who reported feeling a high level of stress regarding academic performance and with higher education were more likely to have serious thoughts about suicide than those students who did not experience academic stress. Likewise, in Singapore, academic difficulties were also found to be one of the predictors of suicidal behaviors among a population of young suicide attempters besides other factors (Ho, Hong & Kua, 1999). School problems accounted for 11% of adolescents who attempted suicide in Singapore. In addition to students putting immense pressure on themselves to excel in school, they were also aware of the need to fulfill familial obligations and live up to the expectations of parents and teachers. Taken together, empirical evidence points toward academic stress and in particular, academic expectations, as factors contributing to suicidal ideation in adolescents especially in East Asia (Ung, 2003).
MacGeorge et al (2009) in their study show that academic stress is associated with a variety of negative health outcomes such as depression, anxiety and physical illness. They examined the capacity of supportive communication received from friends and family (emotional and informational) to buffer the influence of academic stress on health. Results indicated that the association between academic stresses and depression decreased as instrumental support increased. Further, lack of emotional support was negatively associated with depression across the levels of academic stress.

A study by Melodie, Cross, Cary and Siperstein (1998) shows that students with learning problems (such as dyslexia and dyscalculia) come to the high school with a history of academic and social problems, and have been found to experience significantly more school stress than those without disabilities. Further study shows that students with learning problems not only experience more stress in middle and high school, but also view their friendships as less positive and less supportive and turn to their families rarely for problem solving and support than preadolescents without learning problems, and have some problem in their adjustment (the areas of adjustment that often become problematic for students with learning problems during the middle school period including low self concept, feelings of depression and decreased motivation for school).

Summary

The vast majority of research supporting a relationship between stress and depressive episodes has been based on episodic stressors (discrete events that have a beginning and ending) that have negative or undesirable content. The metric for analyzing stress-depression associations has variously been counts of events aggregated across content and time, total ratings of “stressfulness” across events, or most commonly, presence/absence of at least one stressor of moderate to severe impact (e.g., Brown & Harris 1978). There is some evidence of a generally linear association between severity and number of negative events and probability of depression onset (Kendler et al., 1998).

Section II. Stress and self-efficacy

Self-efficacy has been found to have a significant negative correlation to level of stress (Hackett, Betz, Casas, & Rocha-Singh, 1992; Newby-Fraser & Schlebusch, 1997), suggesting that those who have a higher self-efficacy also report a lower level of stress. Therefore, it would appear that higher self-efficacy may act as a moderator of stress for

Campbell, Svenson, & Jarvis (1992) shows that women report higher levels of stress than men, more often view their stress more negatively than men, and are more likely to report their stress as unacceptable.

High levels of stress can negatively or positively affect a student’s self efficacy, depending on how they perceive and internalize stress. Events become stressful when the successful performance of a stress provoking event involves extending oneself over ones perceived capabilities (Smith & Solberg, 2007). Individuals with high levels of self efficacy tend to view the same tasks or situations as challenges while those with low levels of self-efficacy view the same tasks as a threat (Bandura, 1986). When students are able to approach a stressful event as a challenge the amount of effort they put forth increases expanding the likelihood of successfully completing the situation (Smith & Solberg, 2007). Davenport and Lane (2006) found that when students deal with stress by planning improves, their self efficacy beliefs to manage their time, work well in lectures and improved their ability to communicate.

**Section III. Stress and academic performance**

Little and Garber (2004) studied adolescents during the transition from eighth to ninth grade to address the personality-event congruence hypothesis in males and females, speculating that the genders would differ in their achievement and social orientations. They found that girls with high interpersonal orientation were more depressed than boys who are with high interpersonal orientation experienced high levels of peer stressors. Girls also showed higher levels of depressive symptoms in relation to academic hassles compared to boys, regardless of level of achievement orientation.

Eidi Nasiri (2005) studied the relationship between educational stressful factors (e.g. examinations, classroom situation, teachers, and parent’s expectations) and academic performance among high school students. Results showed that there is a negative significant correlation between educational stressful factors and academic performance in the 10th grade high school students.
Shields (2001) found an inverse relationship between stress and academic success. As stress increased, grade-point average declined. As stress declined, grade-point average increased.

Cohen, Kamarck, & Mermelstein (1983) demonstrated that stress might impair memory and result in an inability to recall information and, thus, lower academic success in adolescents.

Chemers and colleagues (2001) found optimistic students had lower stress levels and more social support than pessimistic students. Students with high self-efficacy scores had less stress, higher academic expectations, and higher academic performance than students who had low self-efficacy scores. Low stress scores also resulted in less health problems and better overall college adjustment, whereas high stress scores resulted in more health problems and poorer overall college adjustment.

Andrews & Wilding (2004) found negative relationships between stress and academic success among students. They revealed that stress reduced academic success.

According to a survey conducted by the American College Health Association (2008) Stress was the most frequently cited psychological factor adversely affecting the academic performance of students. Almost 34% of students cited stress as a factor affecting academic performance; Sleep was the second most common psychological factor (21%) cited by the students; relationship difficulties (15%); and the effect of internet on academic performance was (9%) (Martel, 2009).

Petroff (2008) found a negative association between stress and academic achievement among high school students.

Flook, Repetti, & Ullman. (2005) studied the linking children’s peer acceptance in the classroom to academic performance via academic self-concept and internalizing symptoms such as anxiety and sadness. A sample of 248 children was followed from 4th to 6th grade, with data collected from different informants in each year of the study to reduce respondent bias. A path analysis showed: a lack of peer acceptance in the classroom in 4th grade predicted lower academic self-concept (r= -.16) and more internalizing symptoms the following year (r=.27), which in turn, predicted lower academic performance in 6th grade (r=-.45). Further, result showed a positive
significantly correlation between academic self-concept and academic performance (r=0.32); and a negative significant correlation between internalizing symptoms and academic performance (r=-1).

Zeidner (1992) examined socio-cultural and gender group differences in perceptions of major sources of academic stress in first year college students, in relationship to reported academic stress and college achievement. Although group differences were observed in mean ratings, there proved to be a strong correspondence in the hierarchy of perceived stressors across socio-cultural and gender subgroups. Results showed that students appeared to be most stressed by pressures originating from course overload and academic evaluation procedures and least stressed by a variety of personal, familial, and social factors. Furthermore, student stress and achievement factors were found to be inversely correlated, with little evidence for the contention that stress differentially debilitates the academic performance of students as a function of gender or socio-cultural group membership.

Stressed children show signs of emotional disabilities, aggressive behavior, shyness, social phobia and often lack interest in otherwise enjoyable activities. In a study Dawood (1995) found that students stress affects their academic performance. Study further showed that the most frequently mentioned stressor by students was school and fear related stressors. Many teenagers tend to become non-conformist and fall prey to teenage depression in response to a variety of growing up anxieties. However, stress induced fears and anxiety in children adversely affects children’s performances at various levels.

Struthers, Perry & Menec, 2000, found a significant relationship between stress and poor academic performance. Further, they reported that a high level of academic stress was associated with lower course grades. Students experience a high level of academic stress due to exams, assignments, time pressure, grade pressure and uncertainty. In short, this stress has a detrimental effect on the academic performance.

Section IV. The effects of CBT on stress

Studies indicates that not only do the cognitive interventions show the effectiveness of CBT in reducing stress and anxiety, but also effectiveness of CBT in improving students self-efficacy and positively affecting academic performance.
(Brigman & Campbell, 2003; Sapp Farrell, 1995). Further, studies show that cognitive behavior therapy has a significant effect on improving the self-concept and academic achievement of high school students.

Utilizing cognitive behavioral interventions in high schools positively affect academic achievement, reduce stress which negatively impacts peer popularity, increase depression, and exacerbate attention deficits and loneliness (Barbabasz & Barabasz, 1981).

Stress in adolescents has been shown to impacts academic achievement, test performance, peer popularity, depression, attention deficits, and loneliness as well as other behavioral and relational issues (Fisher, Masia & Klein, 2004). In clinical settings, stress reduction programs have shown promise in managing the negative effects of these emotional responses. Cognitive behavioral therapy has been shown to be effective in clinical environments to reduce stress in adolescents (Brett, Arline and Joseph, 2005).

Arefi, Momeni & Mohsenzadeh (2012) compared individual cognitive therapy and relaxation therapy in the treatment of high school student’s academic stress. Among 90 high school students (45 boys and 45 girls) with high academic stress level 30 were randomly selected and randomly assigned to two equal groups of experimental and control ones (each group consisted of 15 students). They found that there was no significant difference between two therapeutic methods in reducing academic stress; however, both methods were meaningfully effective in reducing student’s stress. Furthermore, interactional effect of sex and two therapy methods was significant. In addition, findings indicated that there was a gender difference in stress and Females were more intensively experiencing the stress.

Sharma et al., (2010) examined the effectiveness of cognitive behavioral techniques including Cognitive Restructuring, Coping Skills Training, mainly Problem solving, Social Skills training and effective study habits on high school student’s academic stress (30 boys and 30 girls), (aged between 13 to 16 years) for a period of three months, five days a week, and found decreased high school student’s academic stress and enhanced their mental well-being. They suggested that while the academic stress of the students of experimental group decreased significantly, and a significant enhancement in well being.
Fontana and colleagues (1999) implemented CBT program including stress inoculation training (SIT) with school students. Participants in this study were randomly assigned to either the stress inoculation training or a control group, with each group being exposed to a laboratory stressor (serial subtraction). In addition to receiving training in the group context, the experimental group was also provided homework, during which they practiced skills learned in the group. Results of this study indicated that, when exposed to the subtraction stressor, the control group’s heart rate levels rose; however, those of the stress inoculation group showed no change as compared to pretreatment. This trend was also observed no measures of stress, with gains maintained at 6-month follow-up. These findings are particularly encouraging given that the follow-up assessment was concluded the week preceding finals, typically a stressful time for the students. The authors note that, despite these encouraging findings, it is unclear if the control group’s poorer outcomes are due to the effectiveness of the intervention or demoralization of the control group (Fontana, Hyra, Godfrey, & Cermak, 1999).

Several studies have examined the effectiveness of CBT in alleviating stress and test anxiety in the students. Smith (1989) examined the effects of CBT on stress, locus of control and self-efficacy in students self-identified as test-anxious. Participants in this study were randomly assigned to an experimental group or wait-list control group. Those in the experimental group attended five hour-long sessions that included training in cognitive restructuring, relaxation, time management, mental imagery, study skills, and goal setting. Compared with a waiting-list control group, the trained students exhibited significant decreases on trait and state measures of test anxiety and a higher level of academic performance on classroom tests, as well as changes in specific self-efficacy expectancies relating to test-anxiety management and academic performance.

Cormier & Nurius (2003) have used CBT interventions including stress management techniques (for example, working with students to interrupt negative thought processes, replace those thought processes with rational, healthy thoughts while at the same time breathing through the nose and out the mouth while tensing and relaxing various muscles group) to help students prepare for testing or other stressful events. They showed that CBT interventions are effective strategies to help students reduce academic related stress.
Sapp and Farrell (1995) used cognitive behavioral interventions (e.g. Student Success Skills, social skills training, and self-management skills) in both individual counseling sessions (11 sessions) and within classroom guidance lessons to reduce academic stress, specifically test taking. While improving academic self concept by teaching study and test taking skills, the intervention showed improved grade point averages, reduced the number of school days missed or tardy, and improved the academic self-esteem of the participants.

Ooi et al., (2008) completed a pilot study using a pre-post test design. Six children with diagnosed as anxious by their psychiatrist, a mean age of 11.50 years, and an IQ of 80 or above were treated with a manualized CBT treatment program consisting of sixteen 90-minute sessions. Each group of three similar aged children was led by two therapists with a postgraduate degree in psychology. Strategies used included role playing, modeling, behavioral rehearsal, and group discussion. Adaptations included visual cues and social stories. Discussion of the measures used indicated extensive and acceptable psychometric properties. The Spence Child Anxiety Scale - Child and Parent and teacher responses on the Asian Children Anxiety Scale - Caretaker Version and the Index of Teaching Stress were used. Results included significant reductions in parental stress and non-significant improvements in teacher stress and children’s anxiety levels. Study results were limited by small sample size and lack of a control group. The authors reported that a randomized clinical trial is ongoing.

Mehra and Sharma (2008) studied the effect of Yogic practices on social stress and academic stress of female students. 120 girl students (the mean age range of 16 years old) were selected randomly and assigned into two groups (experimental and control group). Social stress scale (Abha Rani Bisht Battery, 1987) and academic stress scale (Abha Rani Bisht Battery, 1987) were used to collect the data. The experimental group was exposed to three months yogic practices such as Meditation, Pranayamas, and Shatkhriyas. Results showed that the students exposed to yogic practices experienced reduction in both social stress (t-ratio= 10.42, p<0.01) and academic stress (t-ratio=9.91, p<0.01).

Biabangard (2000) examined the effectiveness of individual CBT intervention (relaxation training, RT) on the student’s academic stress. Eighteen girls and boys in experimental group received 10 sessions relaxation training (each session 50 minutes).
Analysis of variance showed that the effect of RT in decreasing academic stress was statistically significant.

Stoyva (2000) showed that three types of meditation such as relaxed breathing response, paying attention to respiratory situations and mindfulness are effective in reducing the stress and anxiety in students. Further, he found at least 50% of the students reported relaxed breathing to be beneficial during the target anxiety-inducing situation, particularly academic performance anxiety.

Smith, Shelley, Dalen, Wiggins, Tooley, and Bernard (2008) compared the effects of two mind–body interventions: mindfulness-based stress reduction (MBSR) and cognitive-behavioral stress reduction (CBSR). Fifty (50) subjects were recruited from the community and took part in MBSR (n = 36) and CBSR (n = 14) courses. MBSR was an 8-week course using meditation, group discussion, and other various mindfulness tasks to increase mindfulness. CBSR was an 8-week course using cognitive and behavioral techniques to change thinking and reduce distress. Pretest and posttest questionnaires measured the stress levels of participants. Both therapies resulted in significant reductions of stress; however, MBSR was found to be more effective than cognitive behavioral therapy in reducing stress.

Peden, Hall, Rayans and Beebe (2001) showed that women who received the CBT interventions (problem solving training, cognitive restructuring and breathing training) had a greater decrease in stress and depressive symptoms, negative thinking and a greater increase in self-esteem. Compared to those in the control group, and these beneficial effects were maintained over 6-months.

Scheeringa et al., (2007) used CBT techniques for post traumatic stress disorder in preschool children. They concluded that (a) young children can cooperate meaningfully in structured, trauma-related exposure exercises; (b) they can utilize relaxation techniques successfully; and (c) highly anxious parents do not inhibit their children’s improvement per se as long as they can facilitate the manual techniques. They suggested that clinicians need to be aware of emerging evidence-based treatment for preschool children.

In a study, Granath, Ingvarsson, Thiele and Lundberg (2006) compared a stress management program based on cognitive behavioral therapy principles with a Kundalini
A study sample of 26 women and 7 men from a large Swedish company were divided randomly into 2 groups for each of the different forms of intervention. The groups were instructed by trained group leaders and 10 sessions were held with each of groups, over a period of 4 months. Psychological (self-rated stress and stress behavior, anger, exhaustion, quality of life) and physiological (blood pressure, heart rate, urinary catecholamine, salivary cortisol) measurements obtained before and after treatment showed significant improvements on most of the variables in both groups as well as medium-to-high effect sizes. However, no significant difference was found between the 2 programs. The results indicate that both cognitive behavior therapy and yoga are promising stress management technique and reduce stress related problems.

Erickson (2003) used program evaluation methods to assess the immediate and enduring improvements following a 12-week Anxiety Management Group. Group participants had any of five anxiety disorders. The weekly two-hour group sessions and daily homework tasks were guided by a participant handbook. Patients completed questionnaires at baseline and group completion (n = 70); a subset also provided 6-month follow-up data. The results from post-group scores on 2 self-report measures show immediate reductions equivalent to an effect size of eta = 0.73 (p < 0.001). The effect is maintained at 6-month follow-up. This program evaluation suggests that group cognitive behavioral therapy for heterogeneous anxiety disorders may be effective in a routine clinical setting.

Hakim Shooshtary, Panaghi, & Attari Moghadam (2008) evaluated the effectiveness of cognitive behavioral therapy (involved education about trauma reactions, breathing retraining, progressive muscle relaxation training, learning self-talk exercises to manage anxiety-producing situations, prolonged imaginable and in-vivo exposure, and cognitive therapy) among adolescents exposed to the 2004 earthquake in Bam, Iran. Four months after the earthquake, 135 adolescents as a case group and 33 adolescents as a comparison group were evaluated with the Impact of Event Scale Revised (IES-R). Two therapists were trained in CBT in three-day classes according to a manual provided by

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1. Kundalini Yoga is an ancient mind-body technology that works very pointedly on the physical body, glandular system and mind to give you the Ultimate Workout—physical exercise and deep meditation so that you start your days with the utmost clarity, focus and determination, without the stress. Kundalini Yoga is very powerful in that it works on the psyche so that you’re deeply relaxed as you start your day, not chasing and trying to keep up (http://kundaliniyogabootcamp.com/).
Results showed that the severity of posttraumatic stress symptoms significantly decreased among the subjects given CBT in the case group. The improvement in posttraumatic stress symptoms was attributable to improvement in each of three-symptom categories (intrusion, avoidance, and arousal) and in the total score of posttraumatic stress disorder (p < .05). Researchers demonstrated the efficacy of CBT in alleviating posttraumatic stress symptoms among adolescents after a catastrophic disaster.

Self-management techniques (e.g. relaxation training, time management and thought stopping) have been found effective to decreasing emotional and behavioral disorders including: academic stress (Lee, Ahn, & Lee, 2007); depression (Antoni & Weaver, 2005); academic problems (Redwood & Pollack, 2007).

Taylor, & Weems, (2011) studied the efficacy of cognitive-behavior therapy for disaster-exposed adolescents with posttraumatic stress. The 6 participants ranged from ages 8 to 13 from neighborhoods that experienced significant destruction following the disaster. Master’s level graduate students administered pre and post-tests to participants, and treatment was conducted by a doctoral level therapist using the intervention—a trauma-focused CBT program consisted of 10 sessions’ psycho-education, cognitive restructuring, exposure, problem solving, and relapse prevention. Following the intervention, participants showed a decline in PTSD symptoms and no longer met criteria for PTSD at post-treatment. Half of the participants reported no other anxiety disorder diagnoses following treatment, and there was an overall reduction in the incidence of other anxiety problems common in this population.

Muris, Mayer, den Adel, Roos, & Wamelen (2008) evaluate negative automatic thoughts and anxiety control as predictors of change produced by cognitive-behavioral treatment of youths with anxiety disorders. 178 9- to 12-year-old children (86 boys and 92 girls) completed the revised version of the Screen for Child Anxiety Related Emotional Disorders (SCARED-R). Fifty-five children (29 boys and 26 girls) were selected from this sample because they displayed scores in the top 10% of the social phobia, separation anxiety disorder, and/or generalized anxiety disorder subscales of the
SCARED-R, and received a standardized CBT intervention that was provided in a group format. The Coping Koala CBT program (Heard, Dadds, & Rapee, 1991) consists of 12 sessions of about 30 min which focus on recognizing anxious feelings and somatic reactions to anxiety, cognitive restructuring in anxiety provoking situations, coping self-talk, exposure to feared stimuli, evaluating performance, and administering self-reinforcement. During the first four sessions, anxiety management procedures (e.g., relaxation) are introduced, role-played by the therapist and practiced by the children. Throughout the remaining eight sessions children practice to master their anxiety and fears by means of the so-called FEAR-plan, in which children learn to use physiological, cognitive, and behavioral coping strategies in increasingly threatening situations: F = feeling good by learning to relax, E = expecting good things to happen through positive self-talk, A = actions to take when confronted with fear stimuli, and R = rewarding oneself for efforts to overcome fear and worry. Each child applies the FEAR-plan exercises in idiosyncratic anxiety provoking situations, so that the intervention program is tailored to individual children within the group. Results indicated that CBT was effective in reducing children’s anxiety symptoms. Most importantly, the reduction of anxiety disorders symptoms was significantly associated with a decrease in negative automatic thoughts and an increase of anxiety control, which provides support for the notion that these variables are candidate mediators of CBT in anxious youths.

Morris (2012) described a pilot program created to help students. The program was developed using three key elements: 1) practicing a variety of relaxation and mindfulness techniques 2) practicing these techniques through the use of self-service technologies, and 3) participating in group sessions where psycho-education regarding stress, depression and anxiety was provided. Six participants completed the stress management program students in three group sessions over the course of a three-week period. They practiced breath work, mindfulness and guided imagery exercises through podcasts and apps on internet-capable, mobile devices. Results showed decreases in stress and anxiety levels among participants.

Gloria and Kelli (2002) used relaxation response and CBT on a self-selected student population. The findings indicated that six week training program showed reduced self-reported psychological distress, anxiety and the perception of stress.
Further, they found a trend towards improvement for the intervention group on trait-anxiety and health-promoting life style profiles.

Section V. Effect of CBT on depression

Cognitive-behavioral therapy (CBT) is used to treat children and adolescents with depression. Researchers determined that many subjects undergoing CBT and other therapies experienced sudden gains, meaning that they experienced a rapid and large improvement in their symptoms between sessions. The study demonstrated that by the end of treatment, individuals who experienced sudden gains were significantly less depressed and had better long-term outcomes than individuals who did not experience sudden gains. Fisher (2010) examined the effect of sudden gains on depressive symptoms, family environment, cognitive triad, and negative life events at pre-treatment and at a one year follow-up using multivariate analysis of variance. Participants included 136 girls, aged 9 to 13, in two treatment conditions (CBT, CBT+ parent training (CBT+PT), and a Minimal Contact Control (MCC)). At pre-treatment, post-treatment, and at a one year follow-up, participants completed self-report measures of the family environment, cognitive triad, and negative life events. They also completed a semi-structured diagnostic interview designed to symptoms of depression. After beginning the study, participants’ depressive symptoms were monitored with a brief symptom interview and/or a self-report measure of depressive symptoms. Findings from the study provided further evidence that sudden gains occur during group CBT, and that the majority of sudden gains occur early in CBT. The number of sudden gains did not vary significantly by treatment condition; the presence of a parent intervention component did not appear to significantly change the relationship between sudden gains and treatment outcome. One important finding was participants in the Minimal Contact Control group experienced sudden gains despite not being in treatment. Another important finding was that the participants who experience sudden gains differed significantly from the participants who did not experience sudden gains on pre-treatment measures of family environment and the cognitive triad but no differences were found at post-treatment or at a one year follow-up.

Compas et al., (2011) study found that a family group cognitive-behavioral (FGCB) preventive intervention for children (9-15 years old) whose parents have suffered from Major Depressive Disorder (MDD) significantly lowered the rates of
MDD onset in children during a two-year intervention period. The rates of MDD in children in the FGCB preventive intervention were reduced by half compared to a written information group in which families were mailed educational materials on depression. This finding suggests a need for effective preventive interventions for children of depressed parents.

Jasmine (2010) found that CBT has a positive impact on reducing irrational beliefs, enhancing self-esteem, and self-acceptance, and reducing the level of depression among the late adolescent students. Researcher reported that there was no significant difference between males and females in irrational beliefs, self-esteem, however, the difference between the males and females in depression scores was significant, and CBT has been found to be more effective in reducing depression in the females compared to that of the males.

Hamdan, Puskar and Bandak (2009) investigated the efficacy of CBT with students suffering from depressive symptoms showed that students had lower scores on perceived stress, lower depressive symptoms, less use of avoidance coping strategies, and more use of approach coping strategies after intervention.

Based on a behavior-analytic interpretation of the skills acquisition process, a rationale is presented for augmenting a currently available cognitive-behavioral treatment (The Adolescent Coping with Depression course: CWD-A) with a newly developed therapy on the interpersonal interactions and learning occurring in-session (Learning through In-Vivo Experience: LIVE). Participants were recruited from the community and were required to meet DSM-IV criteria for a depressive disorder (as assessed via the Diagnostic Interview Schedule for Children, DISC) or a cutoff score >10 on the Hamilton Rating Scale for Depression – Self-Report (HRSD) or >13 on the Beck Depression Inventory (BDI). Using a single-subject methodology, two groups (A, B) each consisting of five adolescents between the ages of 13 and 18 with significant symptoms of depression received the treatment. Both groups displaying significant symptoms of depression Assessment measures were collected prior to treatment, throughout the course of treatment, at one-week following treatment completion, and at a 3-month follow-up period. The intervention consisted of 16 meetings delivered over an 8-week period, with each meeting lasting 2 hours. The content of the first one hour of each meeting was taken directly from the CWD-A manual. The second hour of each meeting
involved the practice of LIVE. The adolescents who completed the treatment \((n = 8)\) improved from pretreatment to post-treatment and those who discontinued treatment \((n = 2)\) did not. Improvements were maintained at 3 months follow-up. The treatment produced strong group cohesion and both adolescents and their guardians rated intervention positively (Gaynor and Lawrence, 2002).

Diane et al., (1997) investigated the response to cognitive-behavioral therapy (CBT) for depression. Level of cognitive dysfunction and the occurrence of negative life stress have been theorized as patient variables, which may account for differences in response to CBT. The relationship between response to CBT and the interaction of cognitive dysfunction with negative life events was examined in a sample of 53 depressed outpatients. Overall, there was little support for the prediction of a difference in outcome between patients with or without pretreatment cognitive dysfunction and negative stressors.

Hedges and Olkin (1985) In a meta-analysis study investigated the overall effectiveness of cognitive behavioral group therapy (CBGT) for depression and relapse prevention in depression from 2000 to 2010, and further, investigated how the variables (episode, residual symptoms, group size, control group, group manual, therapist experience, therapy frequency, session length, and take-home assignment) of a CBGT study could affect the effect size. They collected actual study designs sought of CBGT for depression published from 2000 to 2010. The quality of the studies was evaluated using Cochrane Collaboration Guidelines. The effect size of CBGT on depression and relapse prevention in depression used the formula devised by results: The study investigated the results of 32 studies on the effect of CBGT for depression. The CBGT had an immediate \((g\text{-power}=−0.40)\) and continuous effect over 6 months \((g\text{-power}=−0.38)\), but no continuous effect after 6 months \((g\text{-power}=−0.06)\). The CBGT lowered the relapse rate of depression \((RD = 0.16)\). Variables significantly different from each other in terms of immediate effect were: CBGT versus usual care, therapy sessions lasting longer than 1 hour, and take-home assignments. Pre-intervention severity of depression and patient turnover rate were found to be significantly related to the size of the immediate effect. The relapse rate after 6 months was significantly related only to “participants have no residual symptoms/participants did not mention residual symptoms.” They conclude that researchers and clinicians should take note that CBGT
had a moderate effect on the level of depression and a small effect on the relapse rate of depression. The results of this study suggest that the client should receive a course of therapy at least every 6 months.

Hakimian (2006) investigated the effect of problem solving skills training on high school students’ depression and test anxiety. 88 girls and boys had been placed in experimental and control group randomly. Students in experimental group had received 12 sessions group PSST for three months. Results showed that PSST decreased depression symptoms (affective, interpersonal, cognitive and negative self-esteem) and test anxiety symptoms (worry and emotionality), but the effect of PSST on physical symptoms of test anxiety was not significant.

Chen et al., (2006) in their longitudinal study evaluated the impact of cognitive-behavioral group therapy (CBGT) on the depression and self-esteem of 26 clinically depressed subjects over a 12-week period. The subjects who received CBGT experienced greater cognitive improvements (i.e., depression relief, self-esteem increase) as compared with the comparison group subjects. One month after therapy completion, the depressive symptoms and self-esteem of the experimental group remained slightly but significantly better than those of the comparison group subjects.

Manicavasgar, Parker, & Perich (2011) compared the effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) and Cognitive Behavior Therapy (CBT) as treatments for major depressive disorder. Forty-five participants were randomly assigned to either an eight week MBCT or CBT group therapy condition. They were assessed at pre-treatment, 8-week post-group and 6- and 12-month follow-ups. MBCT appears to be as effective as CBT in the treatment of current depression. However, CBT participants with four or more previous episodes of depression derived greater benefits at 8-week post-treatment than those with less than four episodes.

In Stice, Rohde, Gau, & Wade (2010) study 341 adolescents with elevated depressive symptoms were randomized to a group cognitive behavioral (CB) intervention, group supportive expressive intervention, cognitive behavioral bibliotherapy (the use of books or poems to address emotional issues), or an educational brochure control. Group CB intervention reduced initial symptoms and risk for future
depressive episodes, although both supportive expressive therapy and CB bibliotherapy also produced effects that persisted long term.

Strachowski et al., (2008) used CBT interventions to reduce depression in subjects with elevated cardiovascular disease (CVD) risk. Results showed that the CBT subjects were significantly less depressed than control group subjects on the Hamilton depression inventory (F=52.8; p<%5; ES= 1.85) and the Beck depression inventory (F=17.1; p<0/001; ES= 0.85). Further, Treatment subjects reported less stress on the perceived stress scale after the therapy (F=23.2; p<0/001). CBT significantly improved mean positive effect during the day (F=12.7; p<0/001) but there were no significant differences in mean negative affect between the treatment and non-treatment group after completing the treatment (F=1.8; p=0.19).

Shirk, Kaplinski, & Gudmundsen (2009) evaluated cognitive-behavioral therapy (CBT) for adolescent depression in four high schools. The Mood, Anxiety, and Disruptive Behavior Disorder modules of the CDISC-IV (Shaffer et al., 2000), Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) were administered. Fifty adolescents diagnosed with depressive disorders were treated by eight doctoral-level psychologists who followed a manual-based, 12-sessions CBT protocol included relaxation training, activity scheduling, and social problem-solving training. Subjects presented with high rates of co-morbid disorders, including generalized anxiety disorder (44%), conduct disorder (32%), social phobia (22%), and attention-deficit/hyperactivity disorder (12%) traumatic experiences (44%), and prior suicide attempts (42%). Examination of predictors of symptom change and treatment response showed that life stress, trauma history, and depressive symptom severity were negatively associated with outcomes. Results suggest that school-based CBT is a relatively robust treatment for adolescent depression across gender, age, and ethnic groups as well as for adolescents with varied patterns of co morbidity.

Heather, Gudmundsen, & Shirk (2006) described the Adolescent Mood Project (Project AMP), an evidence-based cognitive-behavioral treatment (CBT) for adolescent depression from the university lab setting to a school-based setting. The intervention consists of 12 weekly individual therapy sessions which occur within the participants' high schools (counseling offices or health clinics). To assess depressive symptomatology and the presence of a depressive disorder, the mood modules of the Computerized
Diagnostic Interview Schedule for Children (C-DISC; Shaffer et al., 2000) and the self-report Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) were used. Rossello and Bernal's (1999) manualized intervention consists of three modules focusing on cognitions (sessions 1-4), activities (sessions 5-8), and relational issues (sessions 9-12). First, the cognitions module teaches cognitive awareness and cognitive restructuring skills and provides psycho-education addressing the relationship between thoughts and mood. Second, the activities module focuses on increasing participation in pleasant and mastery activities while providing psycho-education on how activities affect mood. Third, the relational issues module examined the effect of relationships on mood and provides psycho-education and skills instruction targeting improving relationships. Each of the 12 sessions was structured by an overall framework which includes: setting an agenda, reviewing the homework (personal project), psycho-education, skill instruction and practice, and personalizing the homework for the upcoming week. Results showed that all adolescents' BDI scores decreased, with an average reduction of 22 points. Of the 20 individuals for whom they had post-treatment data, two individuals still met criteria for Major Depressive Disorder (MDD), two met criteria for depressive disorder (DD), and one individual met criteria for an Adjustment disorder with depressive features. Fifteen individuals no longer met criteria for any of the depressive disorders. However, comparing the symptom change scores of Project AMP with the randomized, controlled trial (RCTs) of CBT for adolescent depression yields comparable symptom reduction.

Reynolds and Kevin (1986) showed that cognitive behavioral and relaxation training moderate the levels of depression in high school students. Further, improvement in stress and academic self-concept were also demonstrated by the active treatments. Findings demonstrated that short-term group administered therapies (over 5 weeks) are effective in significantly decreasing stress and depression in adolescents.

Webb, Brigman and Campbell (2005) showed that CBT interventions (student’s success skills such as academic, social and self management skills) help student to deal with numerous issues such as depression, social anxiety, peer pressure, problem solving, test anxiety and other academic issues.
Kahn, kehle, Jenson, and Klark (1990) reported that relaxation training alone was as affective as CBT involving self-monitoring, cognitive restructuring, and problem solving in decreasing depression symptoms and increasing self-esteem.

D’zurilla & Nezu, (2007) provided support for the major assumptions of the rational/problem solving model. They examined the relationship between social problem solving and a wide range of adaptational outcomes, including measures of situational coping; behavioral competence (e.g. social performance, academic performance, and care giving effectiveness); positive psychological well-being (e.g. positive affectivity, self-esteem, life satisfaction); psychological distress and symptomatology (e.g. depression, anxiety, suicidal ideation); and health-related behaviors, symptoms and adjustment in middle and high school students. Further, they found that problem solving mediates or moderates the negative effects of stressful life events on emotions.

In a study by Fava, Rafanelli, Grandi, Conti & Belluardo (1998) 40 patients with recurrent Depression were allocated to one of two groups. In the first they received drug treatment alone; in the second they received drugs and CBT. The second group showed a greater reduction in symptoms. In a follow-up two years later, 75% of the second group was still free of symptoms (compared to just 25% of the first group). A study by Jarrett, Schaffer, McIntire, Witt-Browder, Kraft & Risser (1999) found CBT and monoamine oxidize inhibitors (MAOIs) to be equally effective with 108 patients with severe Depression in a 10-week trial - although CBT obviously had the benefit of no physical side effects! Hollon, DeRubeis, Evans, Weimer, Garvey, Grove & Tuason (1992) found no difference between CBT and tricyclic antidepressants with 107 patients in a 12-week trial. They also found no difference between CBT alone and CBT combined with the tricyclics. Moreover Hollon’s team claimed that relapse often occurred when medication was terminated but, with CBT, the effect was maintained beyond the end of the therapy sessions. (They did, however, concede that only about 40% of those who began treatment - either drugs or psychological therapy - completed it.) Seligman, Abramson, Semmell & Baeyer (1979) had actually found a mix of cognitive and behavioral therapies to be more effective than medication alone. David & Avellino (2003) looked at a number of studies into different forms of Psychotherapy and concluded that overall CBT had the highest success rate.
Section VI. Effect of CBT on self-efficacy

Self-efficacy is a construct associated with CBT strategies that may be involved in changing individual’s thoughts, behaviors, emotions, and performances (Bandura, 1997). In this respective, Krista & Friction (2008) examined the effectiveness of CBT (journaling or classroom-based journaling) on the student’s self-efficacy. 41 students were divided randomly into two groups (25 in CBT-journaling and 16 in non-CBT-journaling group). CBT journaling class received the 10 minute weekly discussion on cognitive behavioral strategies (e.g. Assertiveness Skills, Progressive Relaxation, Thought-Stopping/Self-Talk Training, and Visual Imagery) along with the journal assignment for five months, while the non-CBT journaling class received only the journal assignment. Results indicate that there was significant positive change in self-efficacy in all participants in the study, regardless of the type of journaling.

Kumar & Sebastian (2011) examined the effectiveness of CBT on self-efficacy and academic achievement in the adolescents. The sample consisted of 200 adolescents (100 in experimental and 100 in control group) that had scored low scores on general self-efficacy scale (GSE) and low grades in their first two terminal examinations. The experimental group received 12 sessions’ cognitive behavior group therapy interventions (e.g. Socratic questioning, problem solving, coping skills, and cognitive restructuring). Findings revealed that the experimental group exhibited significant enhancement in their self-efficacy and academic achievement.

Hyun, Chung and Lee (2005) examined the effects of cognitive-behavioral individual therapy (CBT) on the self-efficacy, depression, and self-esteem of runaway adolescents residing in a shelter in Seoul, South Korea. The study used a control group pretest-posttest design. The experimental group and the control group consisted of 14 and 13 male subjects, respectively. The experimental group participated in a CBT that consisted of eight sessions over an 8-week period; the control group did not participate in the program. To examine the effects of the CBT on dependent variables, the Wilcoxon signed rank test was used. Study showed the scores on depression decreased significantly (z = -2.325, p = 0.02) and those on self-efficacy increased significantly (z = -2.098, p = 0.03). There was no significant change on self-esteem (z = -1.19, p = 0.23).
Number of studies has shown that mastery experiences strengthen self-efficacy expectancies that are specific to the mastery situation. Ronald (2010) assessed the effects of cognitive–behavioral coping skills training on generalized expectancies concerning self-efficacy and locus of control in test-anxious high school students. Compared with a waiting-list control group, the trained students exhibited significant decreases on trait and state measures of test anxiety and a higher level of academic performance in classroom tests, as well as changes in specific self-efficacy expectancies relating to test-anxiety management and academic performance. Consistent with generalization predictions derived from self-efficacy theory, the coping skills group also exhibited decreases in general trait anxiety and increased scores on a trait measure of generalized self-efficacy. Locus of control was unaffected by the program, and changes in general self-efficacy were unrelated to changes in locus of control, suggesting the possibility that different parameters of experience are related to changes in the two types of generalized expectancies.

Section VII. Effect of CBT on academic performance

Sultana, Aminoroaia & Attari (2008) investigated the effect of Stress Management Skills Training on the Academic Achievement of High School Girl Students. A semi-experimental study carried out in the girls' high schools of Tiran and a Karvan city in the 2006-2007. A total number of 198 students were selected through randomized cluster sampling and randomly assigned to the case and the control groups. Their coping styles were assessed using the Checklist of Stress-Revised (CS-R). After performing Stress Management Skills Training for the case group, in an active mutual participation model, the final average academic scores of the first (pre-intervention) and the second (post-intervention) academic half-year examinations were compared between the two groups. Results showed no significant difference between two groups regarding their use of problem-focused, emotion-focused, less effective and non-effective styles. Impairing the 18 coping strategy subscales, both groups showed a significant difference only in the impulsivity subscale (p < 0.05). The means of the average academic scores of the groups were not significantly different in the pre-interventional half-year (p = 0.37) and were significantly different in the post-interventional half year (p < 0.05). They concluded that training in stress management skills exerts positive effects in the students' academic achievement.
Bani Si and Delfan Azari (2010) examined the effectiveness of CBT programs such as problem focused coping and emotion focused coping on high school students’ academic performance. 30 high school students were placed into two groups (15 in experimental and 15 in control group). The experimental group received 10 sessions CBT programs but the control group did not receive any intervention. They found that CBT programs explain only .02 of variance of student’s academic performance. Further, they reported that according to adjusted coefficient of regression, problem focused coping (B=.164) more than emotion focused coping (B=.123) is effective on the academic performance.

Naomi & Sarup (2009) examined the effects of a school-based anxiety intervention on the performance of students attending school in a self-contained emotional-behavioral disorder (EBD). Study was conducted in a private school for students with emotional or behavioral needs, Grades 1 through 12, in the Southwestern United States. Students spent approximately half of each school day with same-age peers. During the rest of the day, maths and language instruction was conducted in academically homogenous multiage groups. Each classroom accommodated 8 to 14 students. Three boys’ students with EBD in the age range of 11 years old and IQ ranges from 91-107 were selected for treatment. Using a single-subject, multiple-baseline design across students, this study examined changes in anxiety, maladaptive behavior, and academic engagement as functions of participation in the cognitive-behavioral anxiety intervention. The intervention sessions occurred twice a week and lasted approximately 30 min, varying occasionally based on school scheduling requirements. Intervention was conducted in a one-to-one format with each participant, in a small office near the classroom, and followed the structured workbook. A total of 12 sessions were held for each participant. The effect of intervention on participant anxiety, academic engagement, and school-appropriate behavior was statistically significant and all 3 participants showed improvement across all measures.

Sung Kim (2006) study on 30 high school students found that CBT interventions such as cognitive restructuring and cognitive self-instruction improve student’s adaptive self-statements about their school and academic performance. Further, result showed that cognitive self-instruction is more effective than cognitive restructuring.
Benson et al., (2000) examined the effect of exposure to a relaxation response curriculum on middle school academic performance. 44 middle school girls were selected randomly and exposed to a relaxation response curriculum over a 3-year period. Relaxation response curriculum was consisted of education on the physiology of stress, identification of personal stressors, and elicitation of the relaxation response using a mental focus or diaphragmatic breathing while developing a positive attitude towards distractions; mini-relaxations consisting of strategies to elicit the relaxation response quickly in response to stress, body awareness, and stretching exercises and mindfulness training. The outcome measures for the study were grade point average (GPA), work habits, cooperation and attendance. Analysis of covariance (ANCOVA) showed that a relaxation response intervention improved the student’s academic performance and obtained higher grade point averages and scored higher in work habits and cooperation than those students who are not exposed.

Clifton and colleagues (2004) found that, of several demographic and environmental variables, problem-focused coping strategies as well as perceived control had the largest effects on academic achievement among high school students. Struthers and colleagues (2000) also found that students who used problem-focused coping strategies performed better academically compared to students who used emotion-focused coping strategies.

A study by Kahn and French (1970) on education and stress, they selected three events from their educational life history, namely:

1. Completion of single training course of study (motivation training)
2. Dropping out of it
3. Failure in important examinations.

Results showed that, the experimental group was found to be significantly different from their control group on two events namely, dropped out of training course of study and failure in important examination and not on life event viz., completion of single training course of study. Students in experimental group who could not complete educational curriculum at a single stretch; either because they failed (46.67%) or had to discontinue and dropout (18%), or pursue of another course of study. This might have required modification in their patterns of adjustment when affected by demands of
academics and examinations. Academic failure had high chances of resulting in stress and its negative effects (such as lose of motivation for study and drop out) which appears to be the reason for the experimental group. Fear of failure in examination was another psychological variable which activated certain responses eventually proving harmful for experimental group (Chaturvedi, 1983).

Nauert (2011) used transactional meditation technique (TMT) to improve scores among low-performing high school students in California. 24 students were participated in the intervention program and were assigned randomly in experimental and control group. Results show that students who practiced the transactional meditation program showed significant increases in maths and English scores and performance level over a one-year period.

Kenneth & Diener (1986) determined whether study-skills training (SST) contributed to a treatment program that included relaxation training and cognitive therapy. 45 test-anxious undergraduates were randomly assigned to 1 of 4 treatment conditions: (a) relaxation/cognitive therapy, (b) study-skills training, (c) a combination of relaxation/cognitive therapy and study-skills training, or (d) no treatment. Pre- and post treatment measures were collected on self-reported state anxiety and classroom examination performance. Findings show that relaxation/cognitive therapy was effective in reducing anxiety but failed to improve classroom test scores. The combined therapy both reduced anxiety and improved performance relative to the no-treatment control condition and was significantly more effective than was either treatment alone.

Section VIII. Evaluation of CBT

Researchers have assessed the effectiveness of various CBT. CBT treatments have received empirical support for efficient treatment of a variety of clinical and non-clinical problems, including stress, depression, anxiety disorders, personality disorders, and etc. It is often brief and time-limited. It is used in individual therapy as well as group settings, and the techniques are also commonly adapted for self-help applications. Some CBT therapies are more oriented towards predominately cognitive interventions while some are more behaviorally-oriented. In cognitive-oriented therapies, the objective is typically to identify and monitor thoughts, assumptions, beliefs and behaviors that are related to and accompanied by debilitating negative emotions and to identify those which
are dysfunctional, inaccurate, or simply unhelpful. This is done in an effort to replace or transcend them with more realistic and useful ones. Many CBT treatment programs for specific disorders have been developed and evaluated for efficacy and effectiveness; as a result CBT tends to generate better results more consistently than any other form of Psychotherapy. In this study review of the most literatures showed the effectiveness of CBT in decreasing stress, depression and increasing self-efficacy and academic performance.

Summary

In part II, the interrelationships among outcome variables like academic stress and depression, academic stress and self-efficacy, academic stress and academic performance, self-efficacy and academic performance has been reviewed. The previous studies have shown positive relationship between stress and depression, self-efficacy and academic performance, and a negative relationship between stress and depression with self-efficacy and academic performance. Further, studies showed CBT was effective in decreasing stress and depression, and increasing self-efficacy and academic performance.