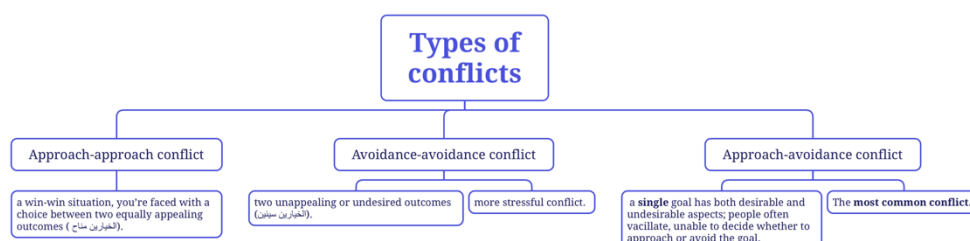


Lecture 5

- Stress: a negative emotional state occurring in response to events that are **perceived as taxing or exceeding a person's resources or ability to cope**.
 - Whether or not we experience stress largely depends on: Our cognitive appraisal of an event and the resources that we have to deal with the event.
 - The biomedical model ~> you the biological factors (bacteria), you get the illness.
 - The biopsychosocial model ~> health and illness are determined by the complex interaction of biological, psychological, and social factors.
 - Health psychology: the branch of psychology that studies how psychological factors influence health, illness, medical treatment, and health-related behaviors. It is guided by the biopsychosocial model.
 - Sources of stress: 1. Life events and change 2. Daily hassles 3. Conflict 4. Social and cultural sources
1. Holmes and Rahe (stress researchers) developed the social readjustment rating scale which measures the amount of stress people experienced, it includes 43 life events that require some level of **adaptation**, each event is assigned a numerical rating that **estimates its relative impact in terms of life change units**.
 - Death of spouse ~> 100 unit (the most), marriage ~> 50 unit.
 - found that people who had more than 150 life change units within a year had an increased rate of physical or psychological illness.
 - This scale is still used in stress research, and there have been recent efforts to update it to take into account the influences of sex, age, marital status, and other characteristics.
 - Problems with the life events approach:
 1. does not take into account a person's subjective appraisal of an event, response to that event, or ability to cope with the event. (Very generalized)
 2. assumes that change in itself, whether good or bad, produces stress.
 3. The link between scores and the development of physical and psychological problems is relatively weak.
 2. Daily hassle: minor routine stressors, these minor stressors are cumulative and that is the reason why they can take a toll on us.
 - Lazarus emphasized the importance of cognitive appraisal in the stress response. He demonstrated the significance of everyday hassles in producing stress.
 - Lazarus and colleagues developed a scale to measure daily hassles (everyday occurrences that annoy and upset people).
 3. Conflict: torn between two choices or feeling pulled between two opposing desires, motives, or goals.



4. Social and cultural sources of stress ~> When people live in an environment that is inherently stressful, they often experience ongoing, or chronic stress, for example People in the lowest socioeconomic levels of society tend to have the highest levels of psychological distress, illness, and death. Also, stress can result when people encounter different cultural values(السفر).

- Physical effects of stress: stress can affect health either **directly** or **indirectly**.

- Indirectly by prompting behaviors that jeopardize physical well-being.

(زي لما تضلك سهران طول ليلة الامتحان)

- **directly by altering bodily functions, leading to symptoms, illness, or disease.**

- stress and endocrine system:

- stress and the fight-or-flight response (**Walter Cannon**): it is a rapidly occurring chain of internal physical reactions that prepare people either to fight or take flight from an immediate threat. Cannon found that the fight-or-flight response involves both the sympathetic nervous system and the endocrine system (perception of a threat ~> hypothalamus and lower brain structures activate the sympathetic nervous system ~> stimulates the adrenal medulla ~> secrete catecholamines including adrenaline and noradrenaline.

- stress and the general adaptation syndrome (the endocrinologist **Hans Selye**, a pioneer in stress research) ~> there are three stages of physical changes occur when an organism is exposed to intense and prolonged stress:

1. the initial alarm stage (similar to fight-or-flight response): a threat mobilizes body resistance to stress. The body mobilizes internal physical resources against the stress, so intense arousal occurs.
2. the resistance stage: the body actively tries to resist or adjust to the continuing stressful situation, and stress resistance reaches its maximum.
3. the exhaustion stage: producing event persists, then the stress resistance **drops off**.

- Selye found that rats exposed to prolonged stressors had the same pattern of physical changes ~> adrenal glands became enlarged then stomach ulcers and loss of weight then shrinkage of the thymus gland and the lymph glands (components of the immune system)

- Selye found that prolonged stress activates a second endocrine pathway ~> **hypothalamus** signals the **pituitary gland** to secrete adrenocorticotropic hormone (ACTH) which stimulates the **adrenal cortex** to release stress-related hormones corticosteroids (cortisol is the most important one), these corticosteroids help protect the body against the harm caused by stressors (in the short run).

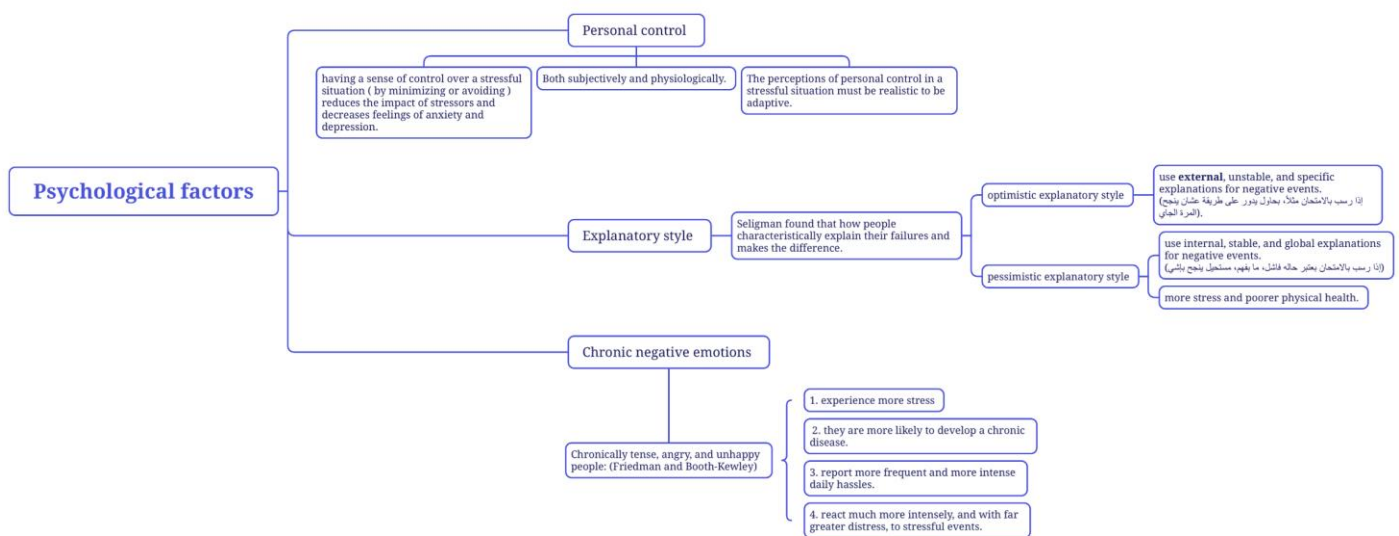
- Stress and immune system:

- Psychoneuroimmunology (Ader and Cohen): the scientific study of interconnections among psychological processes, the nervous and endocrine systems, and the immune system. This field of science have made many discoveries:

1. The central nervous system and the immune system are directly linked via sympathetic nervous system fibers.
 2. The surfaces of lymphocytes contain receptor sites for neurotransmitters and hormones, including catecholamines and cortisol.
 3. Lymphocytes themselves produce neurotransmitters and hormones.
- Effect of chronic stress on the immune system (**important**): Reduced T-cells, reduced salivary immunoglobulin IgA, slow lymphocytes DNA repair system, shrinkage of lymph nodes and thymus gland and life-style changes.

- Individual factors that influence our response to stress include psychological and social factors.

1. Psychological factors:



Presented with xmind

- Two types of personality (or two behavior patterns): type A and type B
1. Type A (by Cardiologists Meyer Friedman and Ray Rosenman) ~> A behavioral and emotional style characterized by a sense of time urgency, impatience, hostility, and competitiveness.
 - (**important**) The most critical health-compromising component of Type A which increases the likelihood of dying from all natural causes, including **heart disease** and **cancer** is **hostility**.
 - Hostile type A tend to react more intensely to a stressor than other people do and to create more stress in their lives.
 2. Type B ~> more relaxed and laid back.

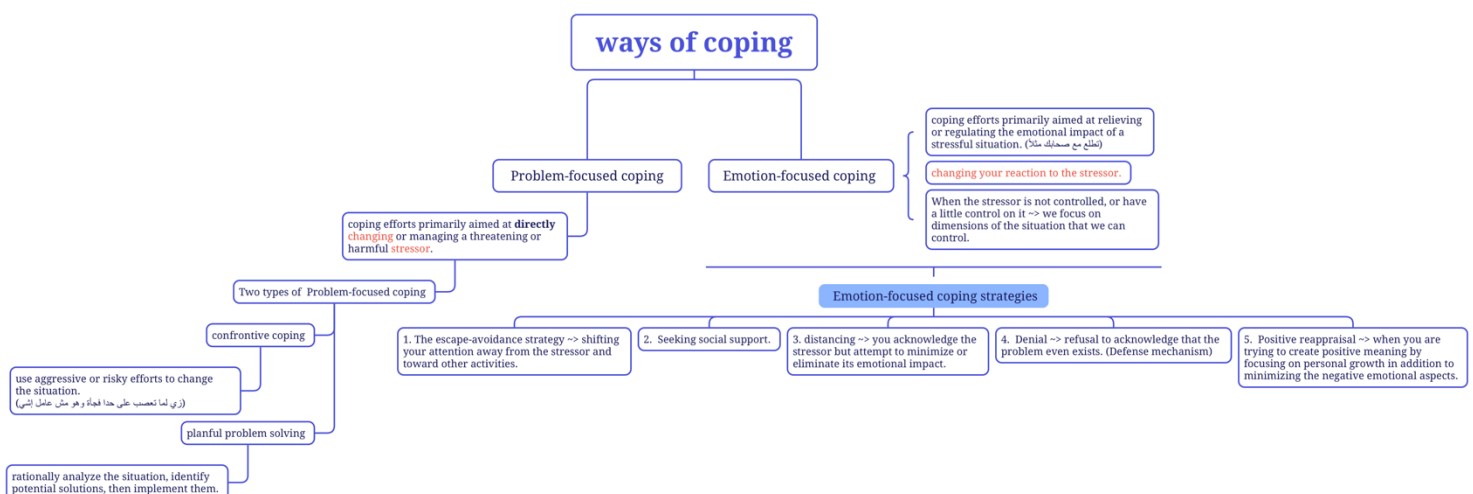
2. Social factors:

- Social support: the resources provided by other people in times of need.
- How social support benefits health:

1. can modify our appraisal of a stressor's significance, including the degree to which we perceive it as threatening or harmful.
 2. decrease the intensity of physical reactions to a stressor.
 3. making us less likely to experience negative emotions.
- Relationships with others also can be a significant source of stress, when other people are perceived as being judgmental, their presence may increase the individual's physical reaction to a stressor. Stress may also increase when well-meaning friends or family members offer unwanted or inappropriate social support.

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- Women are more likely to serve as providers of support, so more likely to suffer from the stress contagion effect. They also may be particularly vulnerable to some of the problematic aspects of social support.
 - Stress contagion effect: Becoming upset about negative life events that happen to other people they care about.
 - Men tend to rely heavily on a close relationship with their spouse, placing less importance on relationships with other people; because of that men are more vulnerable to social isolation after the loss of a spouse.
- Two ways of coping (dealing) with stress (by Lazarus and Folkman) ~> 1. Problem-focused coping 2. Emotion-focused coping.
- Coping involves efforts to change circumstances, or your interpretation of circumstances; to make them more favorable and less threatening.
 - Coping tends to be a dynamic, ongoing process.
 - When coping is effective, we adapt to the situation, and stress is reduced. Maladaptive coping can involve thoughts and behaviors that intensify or **prolong distress** or that produce **self-defeating outcomes**.
 - Adaptive coping responses involve **realistically evaluating** the situation and **determining what can be done** to minimize the impact of the stressor.



- Two types of cultures that differ in their way of dealing with stress:
 1. individualistic cultures ~> emphasize personal autonomy and personal responsibility in dealing with problems, they are less likely to seek social support. Individual of this culture favor **problem-focused strategies**.
 2. collectivistic cultures ~> emphasis is placed on controlling personal reactions to a stressful situation rather than trying to control the situation itself. favor emotion-focused strategies.
- Causes of death before 65 (بالترتيب): unhealthy lifestyles, environ hazards, biological factors and poor healthcare.