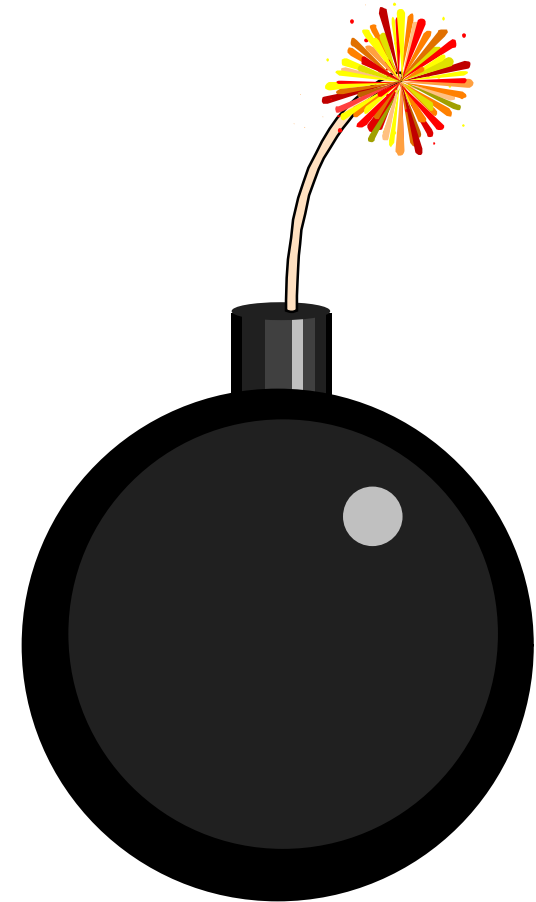


Stress and Health

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Stress

- Stress is an integral part of the natural fabric of life.
- Stress is a threat to the quality of life, and to physical and psychological well being.
- Stress undoubtedly, is the most popular medical term used by people all over the world today.



Stress

- The American Medical Association (AMA) estimates that 80-85 % medical illnesses are manifestations of stress.
- American businesses lose up to 300 billion dollars every year due to stress related employee problems
- Technological advancement has led to stressful life styles

Stress

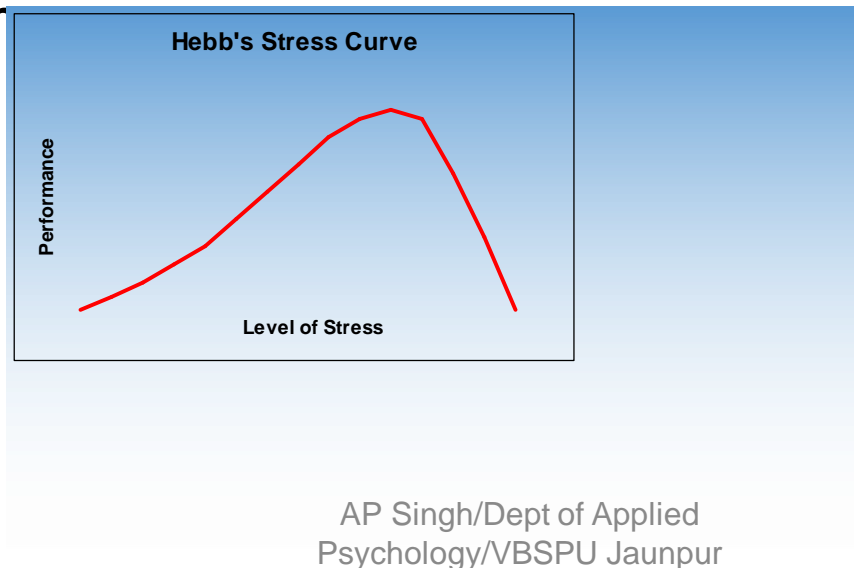
- Hans Selye, defined stress as "the nonspecific response of the body to any demand made upon it."
- The "demand" can be a threat, a challenge or any kind of change which requires the body to adapt.
- The response is automatic, immediate.

Characteristics of stress, coping and adaptation

- Stress as a stimulus
 - Stressor
 - Event that causes a response
 - Triggers associated with work, relationships, disasters, trauma, injuries, illness, divorce, death, loss of job.
 - Stress as a response
 - Nonspecific response of the body to any demand upon it
 - Change or adaptation
 - Negative/positive stressors

Psychological Stress

- Seyle (1984) defined stress as;
 - *“The Non-specific response of the body to any demand” (p74)*
- Stress is not all bad
- Certain amount needed to achieve best performance



Psychological Stress

- Two types of stress;
 - Eustress (positive)
- Eustress is accompanied by feelings of well being and alertness



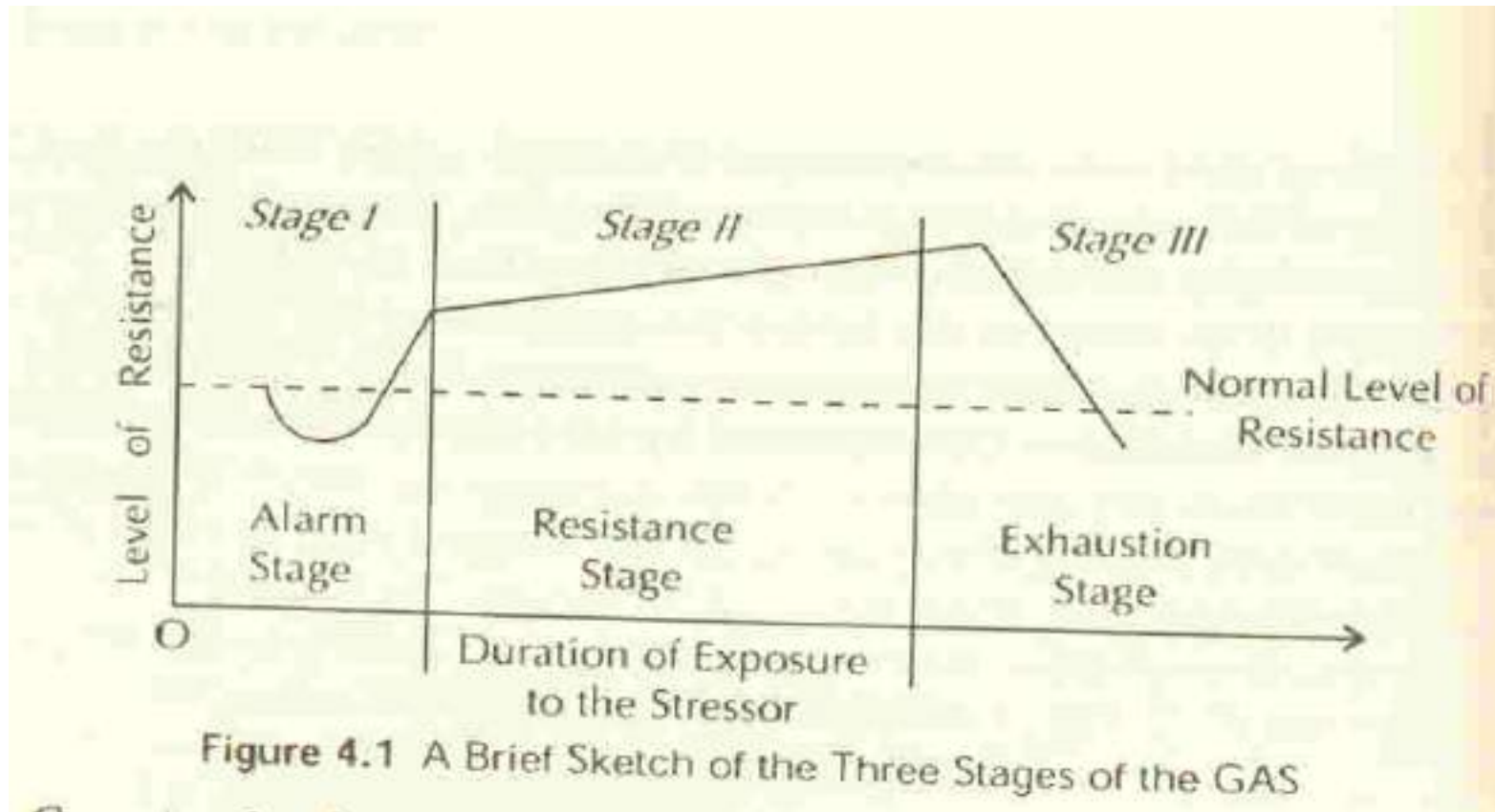
– Distress (negative)

- Distress feel a loss of control and overwhelmed

– The nature of stress often depends on the amount of control the individual has.



General Adaptation Syndrome



General Adaptive Syndrome stages - Selye 1974

- **Alarm** -awareness of being subject to a stress.
 - react & try to adjust.
 - chemical messages from pituitary to adrenal glands.
 - triggers higher activity & prepares body for action.

General Adaptive Syndrome stages - Selye 1974

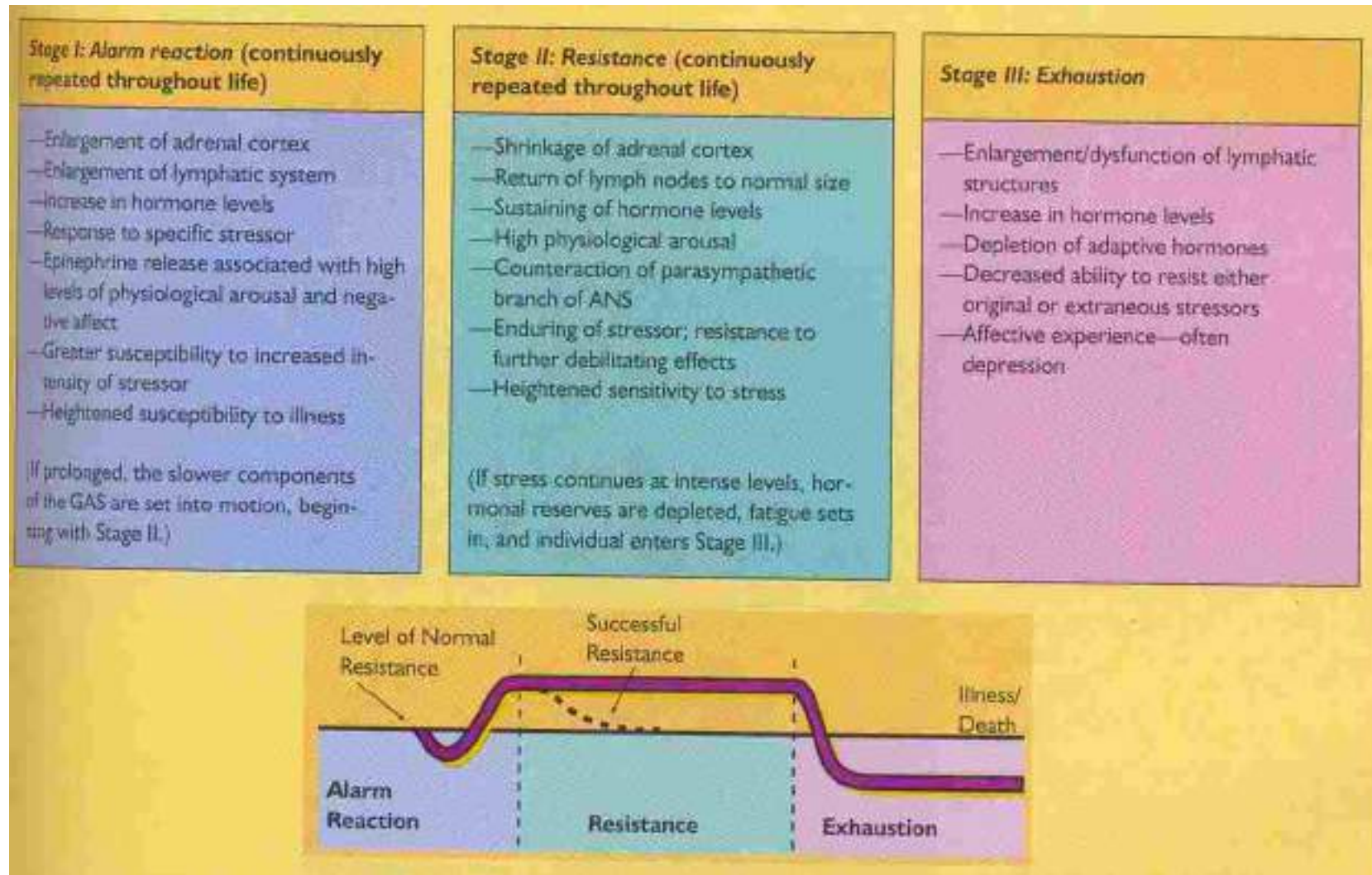
- **Resistance-** we start to fight stressor effects.
 - Adrenaline etc into blood stream, sugar in liver, heart rate up, more brain activity.
 - use up reserves, endocrine system overloaded - weakened in fight against bugs.
 - long exposure possible physical illness

General Adaptive Syndrome stages - Selye 1974

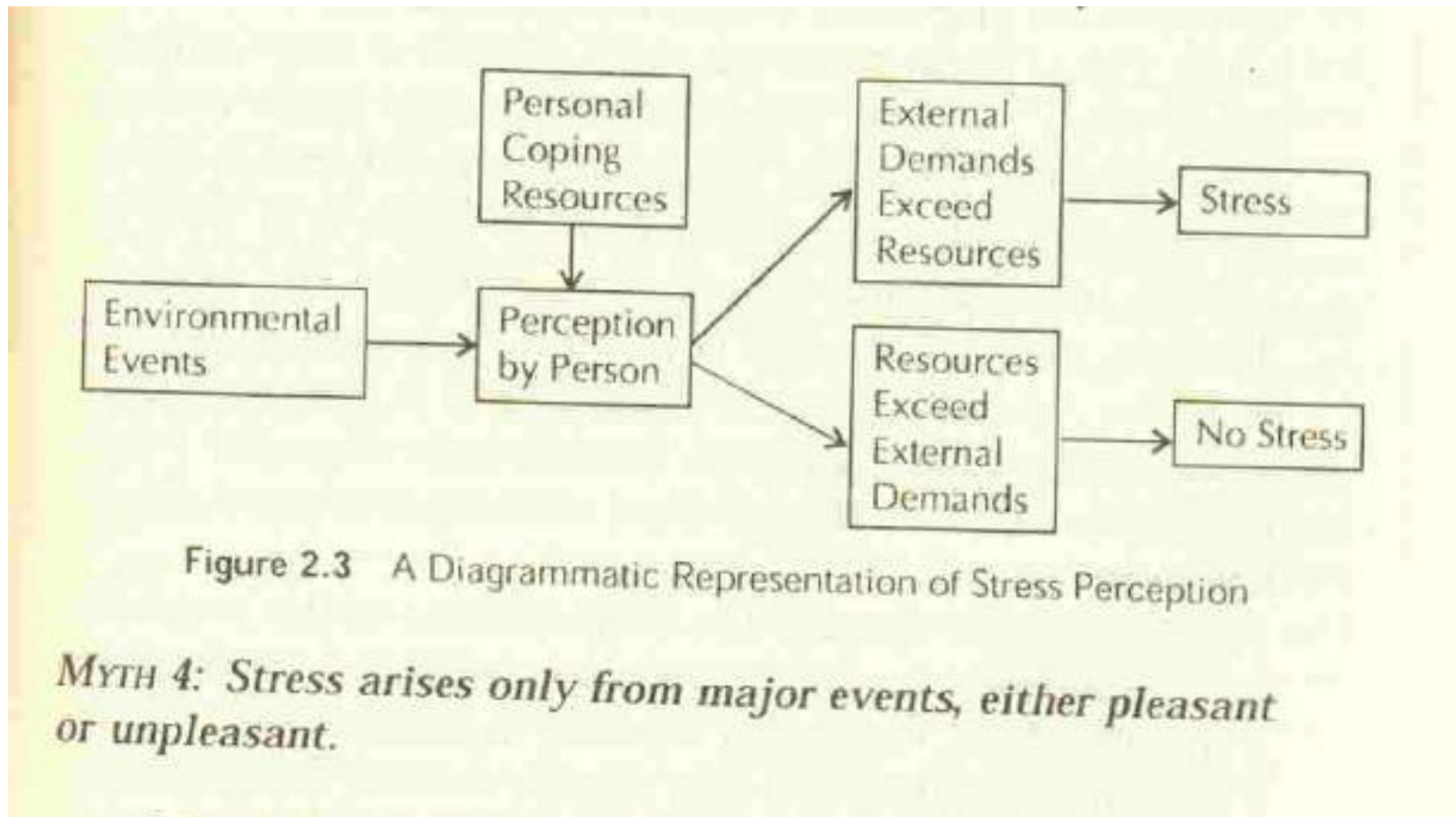
- **Exhaustion**

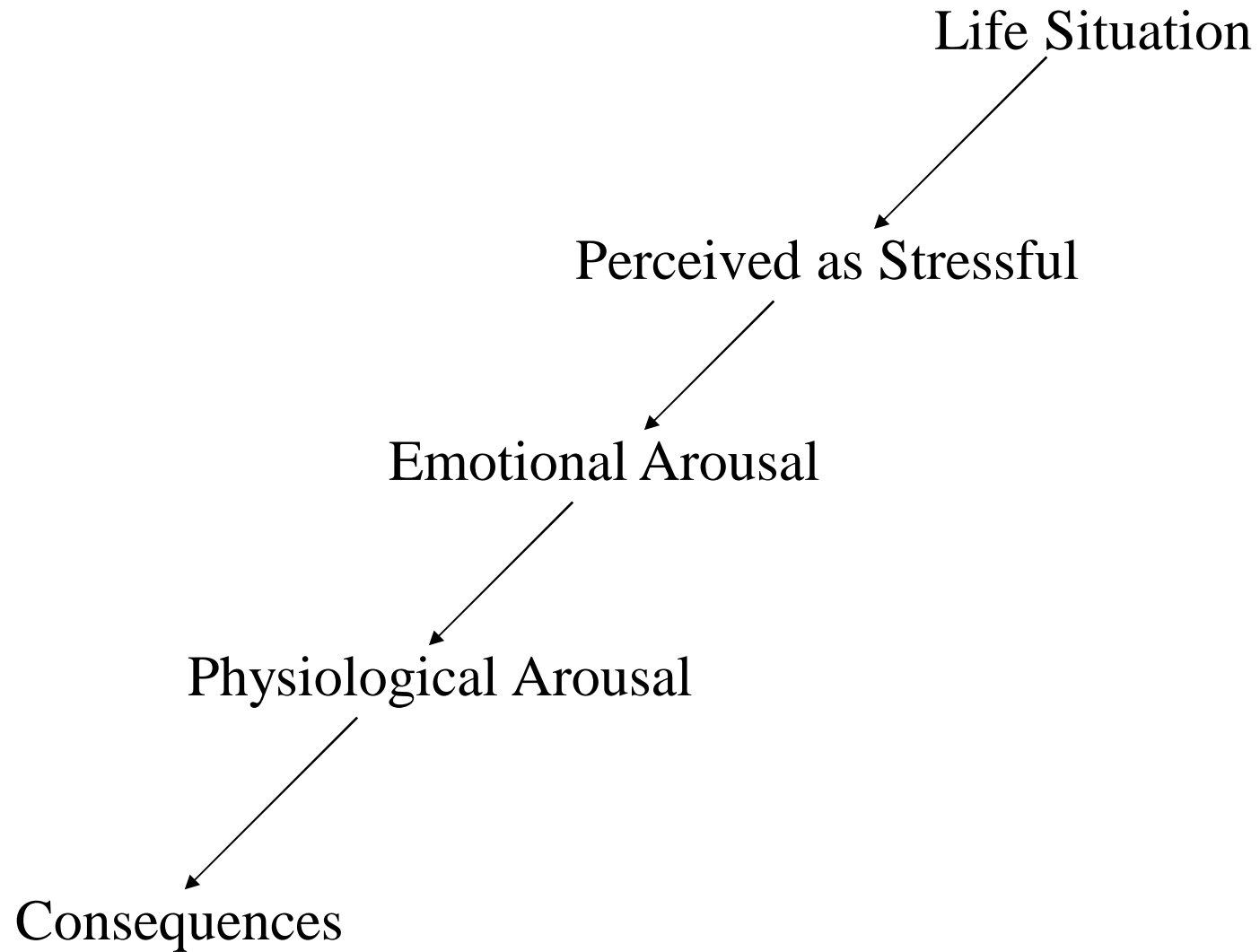
- adaptive energy reserves depleted.
- to replenish, the body shuts off from stressful stimuli (in theory)
- mood changes, helplessness, behaviour signs - tremors, irritability, fear.
- depletion levels may not recover - personal harm for some

General Adaptation syndrome



Stress perception





Relationship between stress & performance

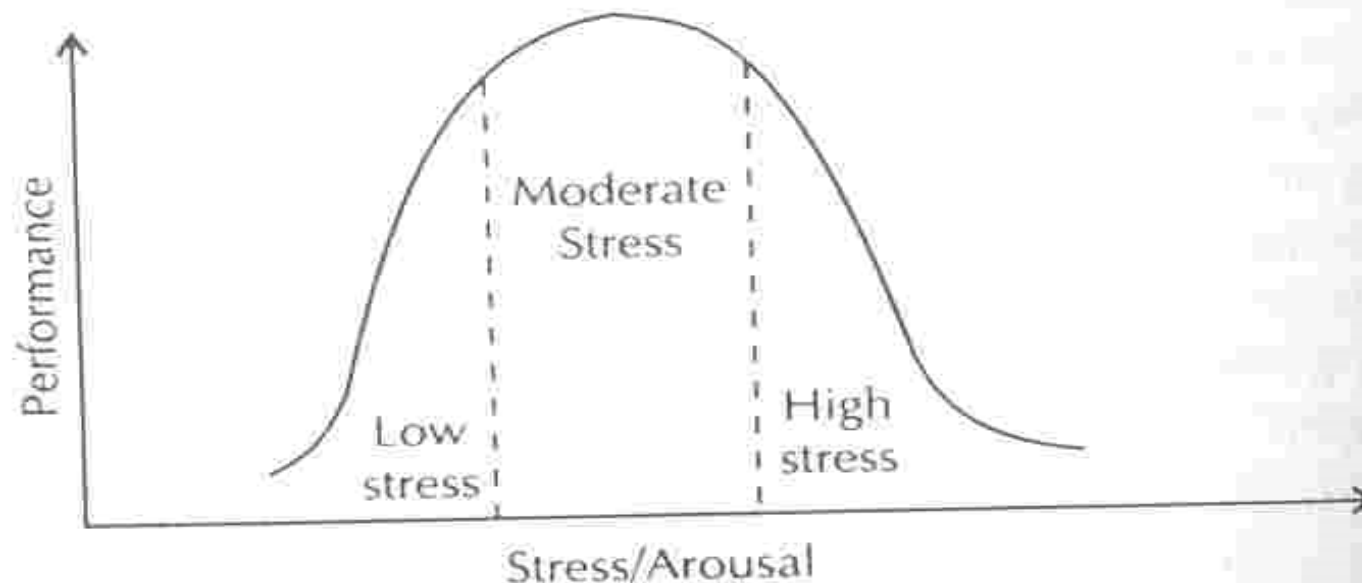


Figure 2.1 Relationship Between Level of Stress and Arousal in the Individual and Performance Parameters (as Predicted by Yerkes–Dodson Law, Broadhurst, 1959)

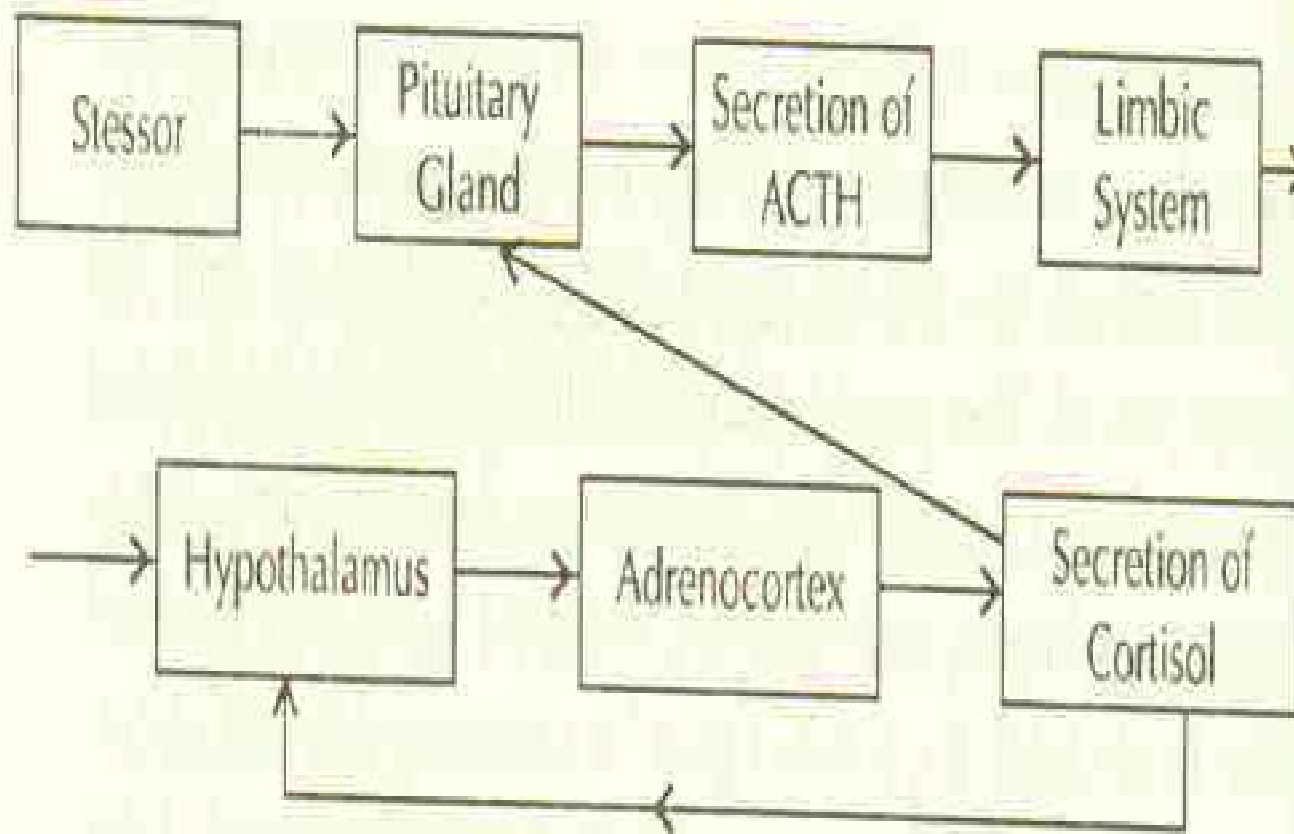


Figure 8.1 A Schematic Representation of the Adrenocortical Response

Stress Reaction Consist of

- an outpouring of adrenaline into the blood stream.
- This, with other stress hormones, produces a number of changes in the body which are intended to be protective.
- The result often is called "the fight-or-flight response" because it provides the strength and energy to either fight or run away from danger.

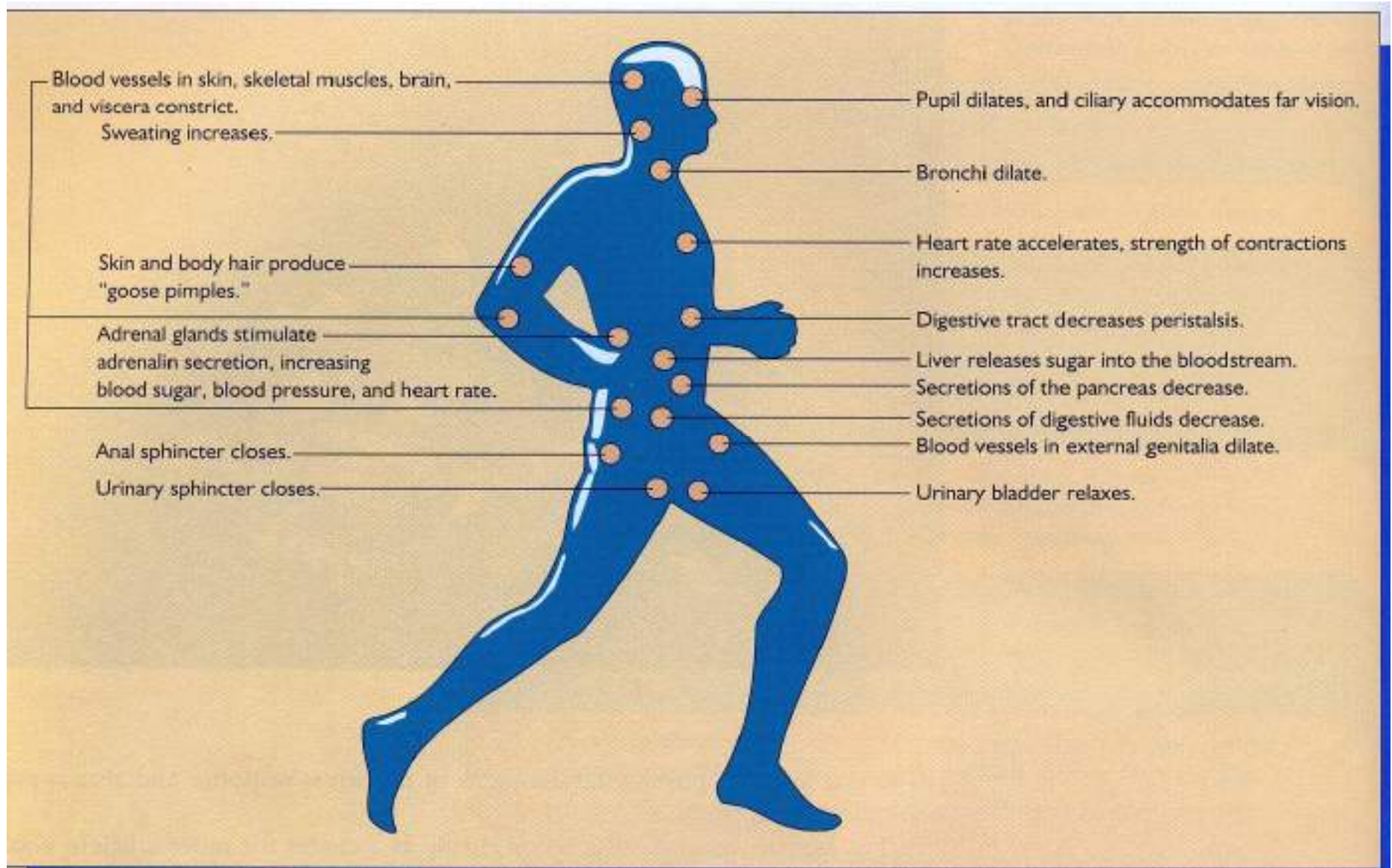
Stress Reaction Consist of

- The changes include an increase in heart rate and blood pressure (to get more blood to the muscles, brain and heart),
- faster breathing (to take in more oxygen),
- tensing of muscles (preparation for action),
- increased mental alertness and sensitivity of sense organs (to assess the situation and act quickly),
-

Stress Reaction Consist of

- increased blood flow to the brain, heart and muscles (the organs that are most important in dealing with danger) and less blood to the skin,
- digestive tract, kidneys and liver (where it is least needed in times of crisis).
- In addition, there is an increase in blood sugar, fats and cholesterol (for extra energy) and a rise in platelets and blood clotting factors (to prevent hemorrhage in case of injury).

Body's Reaction To stress



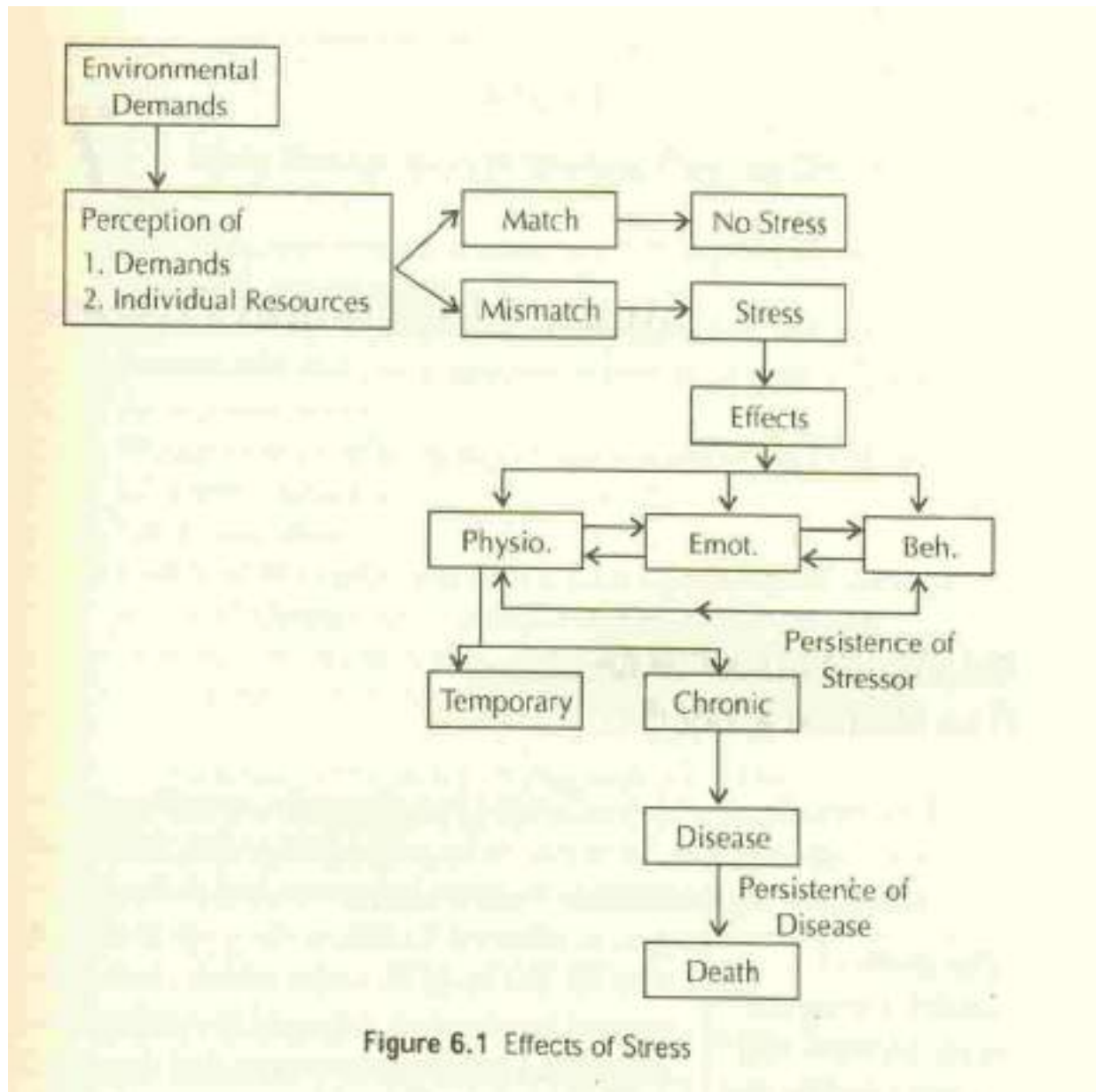


Figure 6.1 Effects of Stress

Common Symptoms of Stress

Physical

- **increased heart rate**
- **pounding heart**
- **elevated blood pressure**
- **sweaty palms**
- **tightness of the chest, neck, jaw and back muscles**

Common Symptoms of Stress

Physical

- **headache**
- **diarrhea**
- **constipation**
- **urinary hesitancy**
- **trembling**
- **stuttering and other speech difficulties**

Common Symptoms of Stress

Physical

- **vomiting**
- **sleep disturbances**
- **fatigue**
- **shallow breathing**
- **dryness of the mouth or throat**

Common Symptoms of Stress

Physical

- **susceptibility to minor illness**
- **cold hands**
- **itching**
- **being easily startled**
- **chronic pain**

Common Symptoms of Stress cognitive/perceptual

- forgetfulness, preoccupation, blocking, blurred vision,
- errors in judging distance, diminished or exaggerated fantasy life,
- reduced creativity, lack of concentration, diminished productivity, lack of attention to detail, orientation to the past,
-

Common Symptoms of Stress cognitive/perceptual

- decreased psychomotor reactivity and coordination, attention deficit
- disorganization of thought, negative self-esteem
- diminished sense of meaning in life, lack of control/need for too much control
- negative self-statements and negative evaluation of experiences

Common Symptoms of Stress Behavioral

Behavioral:

- increased smoking
- aggressive behaviors (such as driving)
- increased alcohol or drug use
- carelessness, under-eating, over-eating
- withdrawal, listlessness, hostility
- accident-proneness, nervous laughter
- compulsive behavior and impatience.

Common Symptoms of Stress Emotional

- irritability
- angry outbursts, hostility
- depression, jealousy, restlessness
- withdrawal, anxiousness, diminished initiative

Common Symptoms of Stress Emotional

- feelings of unreality or overalertness
- reduction of personal involvement with others
- lack of interest, tendency to cry, being critical of others
- self-deprecation, nightmares, impatience

Common Symptoms of Stress Emotional

- decreased perception of positive experience opportunities
- narrowed focus, obsessive rumination reduced self-esteem
- insomnia, changes in eating habits and weakened positive emotional response reflexes

cultural, age-dependent and gender- dependent factors influencing susceptibility to stress.

- Cultural: self-esteem, values, introversion/extroversion
- Age-dependent: children's susceptibility, elderly persons at risk
- Males: heart disease, stoicism, anger/hostility
- Women: cancer, susceptibility to immune system disorders

Stress Pathophysiology and Stress-Related Disorders

1. physical disorders:

- hypertension
- cardiovascular disorders
- migraine and tension headaches
- cancer
- arthritis
- respiratory disease
- ulcers
- colitis
- muscle tension problems

2. emotional disorders

- anxiety
- panic attack
- depression
- adjustment disorders.

behavioral disorders

- conduct disorders
- eating disorders
- alcoholism
- hyperchondricism

Age Specific Stressor

- Newborns/ infants
 - Reflex responses and associated stressors
 - Hungry infants will cry and the parents will response to stimuli and fed the infant
 - Totally dependent on the caregivers

Age Specific Stressor

- Toddler and Preschooler
 - Learning coping strategies for simple stressors
 - Not getting exactly what they want
 - Still dependent on caregivers for safety and limits (boundaries)

- Child
 - Experience stress outside the home
 - Classroom, interaction with other children and adults
 - Can identify stressors and reason with parents about how to cope.
 - Draw from past experiences

Age Specific Stressor

- Adolescents

- Stressors

Achieving emotional independence from parents, developing sexual identity, learning values and social responsibility

Develop new coping skills

- Adulthood
 - Daily stressors
 - Draw on coping skills developed through life and learn new ones
 - Previous exposure to stressful situations may help

Age Specific Stressor

- Older adults
 - As a person ages, stress does not decrease.
 - Retirement, decline in physical energy, decrease in income, loss of family and friends, loss in functioning ability

Stress& Nutrition

Physiological arousal is exaggerated

Behaviors may be altered dramatically

- caffeine
- sugar
- fatty foods
- sodium
- alcohol
- nicotine.

Stress& Nutrition

vitamins are depleted in the body during prolonged periods of stress:

- Vitamin C
- Vitamin B complex
- Vitamin D

Sleep and ability to cope with stress

- Necessary recovery from effort/stress/strain
- Sleep: not restful amidst stress (nightmares)
- REM sleep influences quality of sleep
- Discuss your experience with stressful sleep

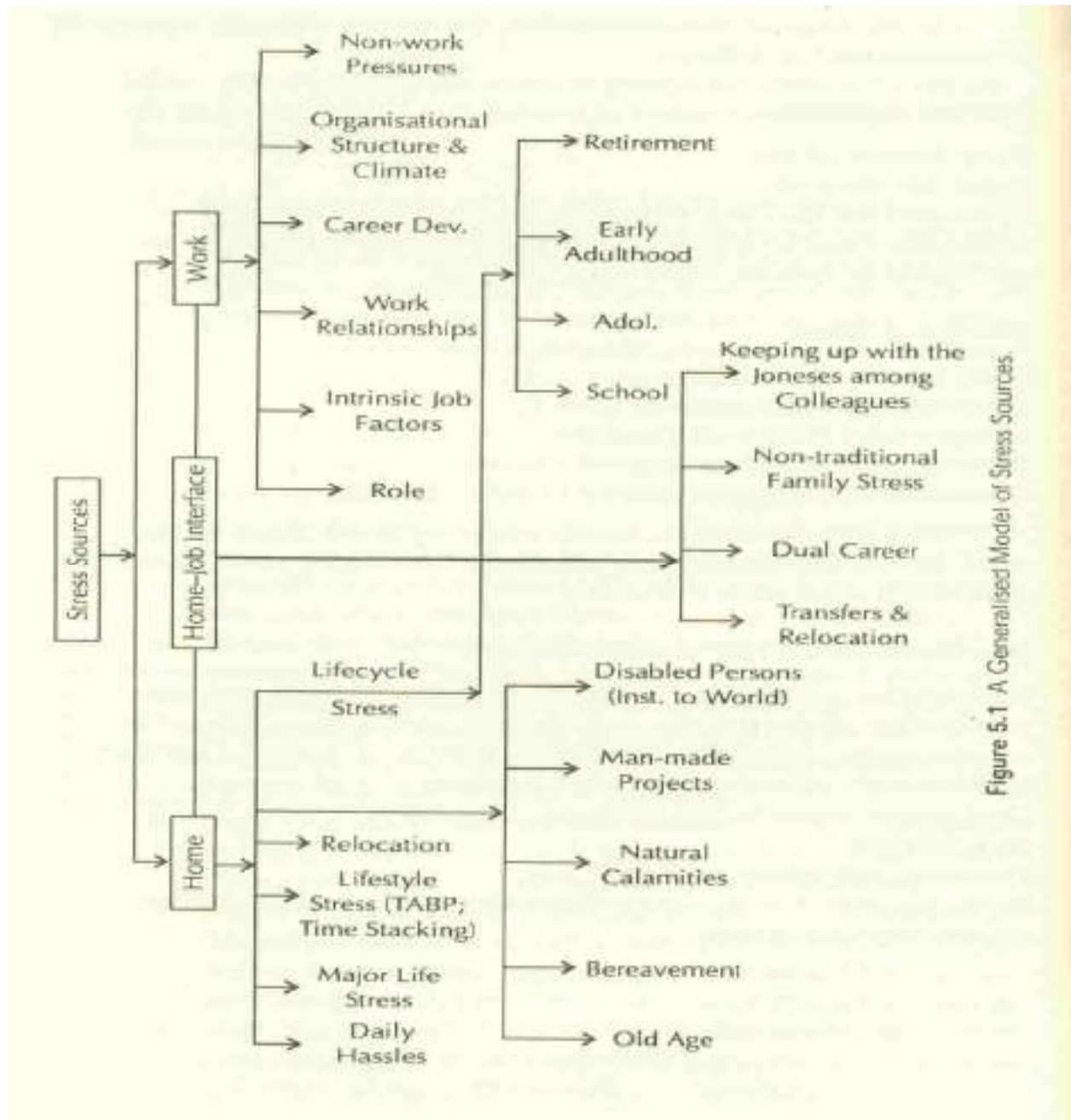


Figure 5.1 A Generalised Model of Stress Sources.

Stressors

- **External stressors include:**
- **Physical environment: noise, bright lights, heat, confined spaces.**
- **Social (interaction with people): rudeness, bossiness or aggressiveness on the part of someone else.**

- **Organizational: rules, regulations, "red tape," deadlines.**
- **Major life events: death of a relative, lost job, promotion, new baby.**
- **Daily hassles: commuting, misplacing keys, mechanical breakdowns.**

- **Internal stressors include:**
- **Lifestyle choices: caffeine, not enough sleep, overloaded schedule.**
- **Negative self-talk: pessimistic thinking, self-criticism, over-analyzing.**

- **Mind traps: unrealistic expectations, taking things personally, all-or-nothing thinking, exaggerating, rigid thinking.**
- **Stressful personality traits: Type A, perfectionist, workaholic, pleaser.**

Ways to Master Stress

Change lifestyle habits.

- Decrease caffeine (coffee, tea, colas, chocolate).
- Well-balanced diet.
- Decrease consumption of junk food.
- Eat slowly.
- Regular exercise (at least 30 minutes, three times per week).

- Adequate sleep (figure out what you need, then get it).
- Leisure time (do something for yourself everyday).
- Relaxation exercises (e.g., meditation, self-hypnosis).

Change stressful situations.

- Time and money management.
- Assertiveness.
- Problem-solving.
- Possibly leaving a job or a relationship.

Change your thinking.

- Look at things more positively.
- See problems as opportunities.
- Refute negative thoughts.
- Keep a sense of humor.

Thank you