

9.00 EXAM 3 NOTES

KOSSLYN CHAPTER 10 – Stress, Health, and Coping: Dealing With Life

HEALTH PSYCHOLOGY: the area of psychology concerned with the promotion of health and the prevention and treatment of illness as it relates to psychological factors

- **STRESS:** general term describing the psychological and physical response to a stimulus that alters the body's equilibrium

Stressor: a stimulus that throws the body's equilibrium out of balance; our perception of a stimulus determines whether it will elicit the stress response, not necessarily the objective nature of the stimulus itself

- Physical
- Psychological
- Social
- Acute (short-term duration)
- Chronic (long-term duration)

Stress Response: (aka *fight-or-flight response*) the bodily response to a stressor that occur to help a person cope with a stressor; works to re-establish homeostasis

Stress(ors) → not always a bad thing; can lead to positive change and growth

The Biology of Stress

Hans Selye → the body responds to stressors in generally predictable ways

- **General adaptation syndrome:** the overall stress response

3 distinct phases

1. **Alarm Phase** – triggered by perception of a stressor; characterized by the fight-or-flight response; body mobilizes to fight or flee from stressor in a cascade of events:
 - **Hypothalamic-pituitary-adrenal axis (HPA axis):**
 - a. Initiates release of **glucocorticoids** (i.e.: cortisol → increases production of energy from glucose; anti-inflammatory; affects neurotransmitter functioning; can affect cognition, emotion; increased alertness, can put emotions aside when confronted by acute, severe stressor)
 - b. Activates sympathetic nervous system (inhibits parasympathetic nervous system)
 - Sympathetic nervous system in turn releases certain neurotransmitters, hormones (ex: epinephrine, norepinephrine)
 - Epinephrine and norepinephrine cause changes in the body that make strenuous physical activity easier (ex: affect heart rate to pump more blood to muscles; affect breathing to put more oxygen in blood; cause pupils to dilate to allow more light to enter for better vision; cause palms to sweat slightly for better gripping; also affects immune functioning)
 - Changes that sharpen the senses, improve some qualities of memory, make it easier to respond to stress. Sometimes, stress responses can be distracting and can actually interfere with successful coping in many situations.
2. **Resistance Phase** – aka adaptation phase; body mobilizes its resources to adapt to the continued presence of the stressor
 - Disrupts bodily functions (ex: digestion, growth, sex drive, reproductive processes)
 - No new energy is stored (if under chronic stress, this can lead to fatigue)
 - Cortisol helps the body return to a more normal state in the presence of a continued stressor (peak 20 – 40 mins after onset of acute stressor; return to normal 1 hr after stressor is gone) → with continued stress, cortisol may not return to baseline
3. **Exhaustion Phase** – aka damage phase; continued stress response itself becomes damaging to the body
 - Body's limited resources for dealing with stress are depleted
 - Rather than producing exhaustion, continued stress begins to damage the body → increased risk of stress-related diseases
 - Damage to / decreased number of hippocampal cells, amount of branching of dendrites
 - Impairs learning, memory

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Allostasis – multiple biological changes that allow you to adapt to a stressor or a set of stressors in the short run, so your body functions within a comfortable range

Allostatic load – cumulative wear and tear from allostasis

As number / intensity of stressors rises, so does allostatic load → increased risk of medical / psychological problems.

Psychological, social stressors – subjective, varying nature

Physical stressors – objectively defined; but perception can determine whether it is a stressor!

Cognitive Appraisal – 2 stage process that leads psychological and social (and sometimes physical) stimuli to function as stressors

1. *Primary appraisal* – assess stimuli for likelihood of danger [Am I in danger?]

2. *Secondary appraisal* – determine resources available to deal with stimulus [What can I do about it?]

- **Coping**: taking action to address a stressor or counteract its effects

Depending on your cognitive appraisal of a stimulus, you will experience different emotion and your body will react in different ways.

When your cognitive appraisal leads you to conclude that a stimulus is a threat, you're likely to have negative emotions (which you must, in turn, address).

Perceived Control

Perception of whether you can control a stimulus determines whether it functions as a stressor.

Perceived lack of control → onset of *learned helplessness*, depression

Stress also arises because an aversive event is unpredictable.

SOURCES OF STRESS

1. **Internal Conflict**: emotional predicament people experience when making difficult choices

a. 3 types

i. **Approach-approach conflict**: competing alternatives are equally positive

ii. **Avoidance-avoidance conflict**: competing alternatives are equally unpleasant

iii. **Approach-avoidance conflict**: a course of action has both positive and negative aspects, produces *both* approach and avoidance

2. **Daily hassles** (i.e.: the "little things," ongoing concerns that add up to increase allostatic load and create stress; psychological problems; physical symptoms; immune problems; higher cholesterol levels
Ex: interruptions to a daily routine

STRESS, DISEASE, AND SLEEP

Too strong a stress response for too long a time – too great a chronic allostatic load – can lead to stress-related illness.

The Immune System

Stress adversely affects the immune system, which functions to defend the body against infection

- **B Cells**: white blood cell that matures in the bone marrow
- **T Cells**: white blood cell that matures in the thymus
 - **Natural Killer cell**: a type of T cell that detects and destroys damaged / altered cells (ex: precancerous cells)

Glucocorticoids, released when the stress response is triggered, hinder the formation of NK cells and other types of white blood cells, making the body more vulnerable to infection and tumor growth.

Many studies investigating the relationship between stress and the immune system measure the number of circulating white blood cells, ex: NK cells

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People who exhibit greater sympathetic nervous system responses to stress also show the most changes in immune system functioning; indicates that changes in the immune system are moderated by changes in the sympathetic nervous system

Psychoneuroimmunology – focuses on the ways in which mental and emotional states affect the immune system

- Sick, elderly people wait until after holidays to die – importance of holidays leads brain to boost immune system to fight off ailment, but after holiday, motivation and will to live decrease, and illness (along with stress of living with it) takes its toll on immune system

Because stress can impair the functioning of the white blood cells, it can play a role in the length of time it takes a wound to heal.

- The wounds of women who experience a high level of stress by caring for a relative with Alzheimer's disease took 9 days longer to heal than those of women of similar age and economic status who were not engaged in such caregiving
- Dental students → wounds heal faster during summer than before exam during school-year

Traumatic stressors (not just daily stressors) also affect immune system, but it perception of the severity of the stressor (not objective characteristics) that determines the body's response.

- Hurricane Andrew – people who perceived their losses to be more severe had fewer NK cells

Cancer

Stress doesn't cause cancer, but the effect of stress on the immune system can affect the growth of some cancerous tumors.

- If the immune system is suppressed by stress, NK cells do not work as well to prevent the spread of tumor cells
- Lower levels of NK cell activity were found in people who perceived that they didn't have enough social support / felt distressed, fatigued, little joy → weakened immune system → more vulnerable to cancerous tumors

The type of cancer, and biological factors related to the progression of the disease, can outweigh psychological factors in tumor growth.

Some people may just be genetically endowed with an immune system that is more effective at warding off illness

Heart Disease

By inducing the flight-or-fight response, chronic stress can increase blood pressure, which in turn promotes **atherosclerosis** (the buildup of plaque / fatty deposits of cholesterol on the inside walls of the arteries)

Increased blood pressure → pounding on artery walls → damages wall → body tries to repair damage → plaques accumulate and harden at damaged spots → hardened arteries → accumulating plaques cause arteries to narrow → heart must work harder to meet body's need for nutrients, oxygen → pumping more blood with more power → rinse and repeat → heart damage / sudden death from inadequate blood supply to the heart muscle / irregular electrical firing of the muscle, preventing coordinated heartbeats

When a person who has atherosclerosis experiences a strong stressor, the body's response may cause a piece of plaque to break off, which can block an artery, preventing / limiting blood flow to an organ → heart attack (in the brain, this would be a stroke) → sudden death

People with a history of heart disease or an overly responsive HPA axis are more vulnerable to (even relatively small amounts of) stress.

Heart disease is more likely to arise when stress is accompanied by negative emotions. Negative emotions can produce a rise in heart rate that lasts longer. When the stressors are chronic, they can lead to helplessness, depression, and despair.

Depression increases the likelihood of heart disease

- Depressed people have faster heartbeats even when at rest
- If the depression is treated, the stress-related responses subside.

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Anxiety, fear also associated with heart disease:

- Cause people to cope by engaging in unhealthy behaviors (i.e.: smoking, drinking)
- Biological changes that arise with chronic anxiety, fear affect the heart, circulatory system adversely.

Some people seem to experience stress more than others, regardless of their environment, circumstances.

Hostility: personality trait associated with heart disease and characterized by mistrust, an expectation of harm and provocation by others, and a cynical attitude

- Men hostility > Women hostility
- Men blood pressure is more affected by their hostility.
- Can be treated

People can counter the effects of stress on heart disease by changing their lifestyle (diet, exercise, stress management techniques like meditation, social support).

Sleep – the naturally recurrent experience during which normal consciousness is suspended

5 Stages that cycle throughout the night (people spend different amounts of time in each stage):

- **STAGE 1: hypnogogic sleep** ~ 5 minutes; marks transition from relaxed wakefulness to sleep; sensation of gentle falling or floating / sudden jerking of body (*hypnic jerk*)
 - Breathing becomes deeper, more regular
 - EEG registers brain waves that are less regular, lower amplitude
 - Can be awakened very easily; when awakened, it didn't feel like you were sleeping
- **STAGE 2:** ~ 20 minutes EEG records *sleep spindles* (brief bursts of brain activity), single high-amplitude waves
 - Less responsive to environment, still easy for others to wake you
- **STAGES 3 + 4: slow-wave sleep** – brain produces *delta waves* (slow, high-amplitude waves on EEG) → Stage 3: 20-50% delta waves; Stage 4: >50% delta waves
 - Heart rate, body temperature decrease; not easily awakened
- **REM SLEEP:** rapid eye movements, brain activity is similar to when you're awake; dreams
 - Breathing, heart rate are fast, irregular; muscles relaxed, unresponsive

STAGE	EEG FEATURES	KEY ASPECTS
1 (hypnogogic sleep)	Less regular, lower amplitude than waking state	Can be readily awakened. If awakened, won't feel that has been asleep. May experience hypnic jerk (sensation of gentle falling or floating or a sudden jerking of the body). Lasts about 5 minutes
2	Sleep spindles, single high-amplitude waves	Can still be readily awakened. More relaxed and less responsive to environment than during Stage 1
3	20-50% of EEG activity is delta waves (slow-wave sleep)	Decreased heart rate and body temperature. Less easily awakened than Stages 1 and 2.
4	More than 50% of EEG activity is delta waves (slow-wave sleep)	Lowest heart rate, breathing, and body temperature of all sleep stages. Very deep sleep - difficult to awaken.
REM	Brain activity similar to that of wakeful state	Eyes move rapidly under closed lids. Fast and irregular heart rate and breathing. Voluntary muscles paralyzed and unresponsive. Vivid dreams that are memorable if awakened during this sleep stage. May have genital arousal.

You go through 4-5 sleep cycles each night, spending a varied amount of time in each stage. (On average, each cycle takes about 90 minutes.) REM sleep occurs primarily in later hours.

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With age, the pattern of your sleep stages changes and you sleep less.

- Infants: 13-15 hrs/night; more REM sleep
- 40 yrs: amount of deep, slow-wave sleep decreases; shallower sleep; more easily awakened; sleep is less satisfying

Sleep Deprivation → adversely affects ability to cope with stressors; can be a stressor itself!

- **REM rebound:** higher percentage of REM sleep that occurs following a night lacking the normal amount of REM
 - REM deprivation comes from not getting enough sleep, drinking alcohol, taking certain sleep medications
 - Some people drink to specifically prevent REM sleep... BAD. ☹
- People who sleep <6 hrs each weekday night are more likely to report being impatient, aggravated when faced with common minor frustrations (ex: traffic, waiting in line) and are more dissatisfied with life in general.
- Attention declines, motor response / performance suffers
- Learning disrupted: chronically increased cortisol levels cause memory deficits; REM and slow-wave sleep facilitate learning information that was encountered during the day
- Perception of more stressors → chronic stressors → decreased immune functioning, diabetes...

All of these effects of sleep deprivation cause more sleep deprivation because they make you too keyed up to go to sleep promptly.

All-nighters → interfere with certain types of learning (ex: making perceptual discriminations); hallucinations, anxiety, paranoia, feelings of losing control / going crazy; altered normal daily patterns of changes in body temperature, metabolism, hormone secretions

Function of Sleep

- *Conserves Energy* – no evidence to support this claim
- *Restores the Body* – sleep helps the body repair the wear and tear from the day's events; reduces bodily effects of stressors; support from sleep deprivation studies
- *Facilitates Learning*

Why do we dream??

- Freud: fulfillment of wishes / unconscious desires
 - **Manifest content:** obvious, memorable content of a dream
 - **Latent content:** symbolic content, meaning of a dream; might reflect sexual / aggressive themes associated with an inner conflict
- **Activation-synthesis hypothesis:** dreams arise from random bursts of nerve cell activity that may affect brain cells involved in hearing and seeing; the brain attempts to make sense of this hodgepodge of stimuli, resulting in the experience of dreams (might explain why dreams are so strange?)
- Editing versus strengthening neural connections (true of sleep, but maybe not of dreams?)
- Goals / Desires and Arousal / Inhibition - dreams stopped completely if a patient had damage that disconnected parts of the frontal cortex from the brainstem and limbic system – brain areas involved in curiosity, interest, alert involvement with goals in the world; dreaming occurs in response to any type of arousal that activates brain structures involved in motivation

Circadian Rhythms – the body's daily fluctuations in response to the cycle of dark and light, occur with blood pressure, pulse rate, body temperature, blood sugar level, hormone levels, metabolism

Regulated by suprachiasmatic nucleus (small part of hypothalamus above optic chiasm)

Photoreceptors in the retina, allows SCN to register changes in light, which lead it to produce hormones that set the body's clock and regulate various bodily functions

If you are forced to work against your rhythm, you will develop a bad mood.

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People differ in their circadian rhythms, which means that performing in the morning can be stressful for some people but not others, vice versa.

- Larks: morning people; experience peak body temperature, alertness, efficiency in morning
- Owls: evening people; peak at night
- Most people have a late-afternoon dip in energy level, attention

Troubled Sleep

- **Insomnia:** repeated difficulty falling asleep, difficulty staying asleep, or waking up too early
 - Treatment:
 - Sleeping pills → suppresses REM sleep; addictive; when stopped, results in unpleasant REM rebound
 - Benzodiazepines (ex: Valium) → not as many bad effects as sleeping pills, but still addictive
 - Nonbenzodiazepines (ex: Ambien) → tolerance from regular use; sleepwalking; when stopped, results in serious withdrawal symptoms (ex: seizures), unpleasant REM rebound
 - Psychological → generally more effective than medication; no adverse side effects
 - Restrict sleeping hours to same nightly pattern
 - Control bedtime stimuli so that your bed is associated only with sleeping (not reading, watching TV, etc.)
 - Avoid substances that interfere with sleep (ex: smoking, chocolate, alcohol / caffeine at night, drinking lots of liquids so that you constantly have to go to the bathroom)
 - Meditation / relaxation techniques

Sleep apnea – temporary cessation of breathing during sleep for up to 70 seconds (muscles at base of throat relax so that they don't keep the airway open), following a period of difficult breathing accompanied by deep snoring; the sleeper then startles into a lighter state of sleep, may have no memory of these events and may not feel rested after sleeping

- Can lead to heart disease, high blood pressure, poor mood, poor memory
- Treatment: CPAP (continuous positive airway pressure); surgery to shave off tissue in throat obstructing airflow; weight loss (if obese)

STRATEGIES FOR COPING: specific approach, technique employed to handle stress

Problem-focused coping: changing the environment itself / the way the person interacts with the environment; your actions can decrease stressors; effective for controllable factors

- Active coping: actively trying to remove / work around stressor / ameliorate its effects
- Planning: thinking about how to manage stressor
- Instrumental social support: seeking concrete advice, assistance, information
- Suppression of competing activities: putting other activities on hold in order to concentrate on / cope with stressor
- Restraint coping: waiting to act until the appropriate time

Emotion-focused coping: changing the person's emotional response to the stressor

- Emotional social support: seeking encouragement, moral support, sympathy, understanding from others
- Venting emotions: focusing on / talking about distressing feelings
- Positive reinterpretation / growth: reinterpreting the stressor / situation in a positive way or as a challenge
- Behavioral disengagement: reducing efforts to deal with the stressor
- Mental disengagement: turning to other activities to distract attention from the stressor

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Allostatic load affects type of coping strategy you will use.

More stressors → emotion-focused coping

Thought suppression: intentionally trying not to think about something emotionally arousing / distressing

Rebound effect: trying not to think about something causes the suppressed thought to pop into consciousness more than it does when you are not trying to suppress it (occurs under high allostatic load)

Aggression: behavior that is intended to harm another living being who does not wish to be harmed

- **Hostile Attribution Bias** – tendency to misread the intentions of others as negative
- Narcissism / self-esteem – most aggressors are people who thinking exceedingly well of themselves (high self-esteem) and experience an insult as a threat to their positive self-view
 - Aggressors with high-self esteem = narcissists (positive view of themselves is overinflated, doesn't correspond to reality, unstable)
 - Men are more narcissistic than women
- Gender differences → males > females when the act will physically harm another, backfire, cause guilt / shame
- Adverse “background noise” (can be external, i.e.: noise, heat / internal i.e.: depression, pain) that increases allostatic load to the point where an individual lashes out aggressively

We have all acted on aggression – a result of difficulty in self-control??

Drugs and Alcohol

Drugs and alcohol as ways to cope are a form of mental disengagement that eventually becomes maladaptive and problematic. Substance use changes the perception of the stressor / reaction to the stressor while someone is under the influence of the substance, but does not change the stressor itself or provide lasting changes.

Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) – a set of guidelines for when substance use crosses the line into **substance abuse**:

1. Substance use leads to significant distress / difficulty functioning in major areas of life.
2. Substance use occurs in dangerous situations.
3. Substance use leads to legal difficulties.

Chronic substance abuse can lead to **substance dependence**: characterized by at least 3 out of 7 symptoms:

1. **Tolerance:** condition of requiring more of a substance to achieve the same effect, because the usual amount provides a diminished response
2. **Withdrawal:** onset of uncomfortable / life-threatening effects when the use of a substance is stopped
3. Larger amounts of substance taken over a longer period of time than intended
4. Unsuccessful efforts / persistent desire to decrease / control the substance use
5. Much time spent in obtaining the substance, using it, or recovering from its effects
6. Important work, social, or recreational activities given up as a result of the substance
7. Despite knowledge of recurrent or ongoing physical or psychological problems caused or exacerbated by the substance, continued use of substance

Depressants (*aka sedative-hypnotic drugs*): (inc: barbiturates, benzodiazepines, alcohol) that depress the central nervous system, thereby decreasing the user's behavioral activity and level of awareness

- **Disinhibition:** inhibition of inhibitory neurons, which makes other neurons (the ones that are usually inhibited) more likely to fire and which usually occurs as a result of depressant use.

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Psychological Effects of Alcohol:

- Low doses: decreased awareness, increased relaxation, become more talkative / outgoing
- Moderate doses: slows reaction time, impairs judgment, impairs motor coordination
- High doses: impairs cognition, self-control, self-restraint, emotionally unstable, overly aggressive
- Very high doses: diminished sense of cold, pain, discomfort; dilation of peripheral blood vessels to increase the amount of blood circulating so the drinker loses heat faster → hypothermia, respiratory arrest, coma, death
- Chronic Abuse: more males than females are alcoholics; causes additional stressors that must be coped with; difficulties with abstract reasoning, problem solving, visual motor tasks; **blackouts**: period of time for which an alcoholic has no memory of events that transpired while s/he was intoxicated

Alcohol myopia: disproportionate influence of immediate experience on behavior and emotion due to the effects of alcohol use

- Alcohol impairs attention so that the drinker is less likely to notice many cues in the environment (ex: tone of voice).
- After drinking alcohol, people are slower to make sense of the cues they do pay attention to.
- Can lead to aggressive behavior from misreading a situation (ex: barroom brawl)
- Date rape – Johnson et al. (2002): alcohol impairs men's ability to understand that the friendliness the woman showed did not mean that it was acceptable for a man to force her to have ex.

Stimulants: excite the nervous system → increases in behavioral activity and heightened arousal

Cocaine: powerful stimulant that enhances a user's sense of physical and mental capacity while at the same time reducing his/her appetite

- Chronic use → tolerance; withdrawal (paranoia, teeth grinding, repetitive behaviors); visual disturbances; sensory disturbances (ex: feeling like ants are crawling on your skin) resulting from spontaneous firing of sensory neurons
- Inhibits reuptake of dopamine and norepinephrine – these neurotransmitters are not reabsorbed into the sending neuron and remain in the synaptic cleft → pleasurable, even euphoric, feeling
- Continued use → cocaine activates reward system in brain, leading other sources of pleasure to have little / no effect
- When cocaine and alcohol are taken together, the liver creates *cocaethylene*, which intensifies cocaine's effects while at the same time increases the risk of sudden death.

Crack: cocaine in crystalline form, usually smoked in a pipe or rolled into a cigarette

- Feeling of euphoria, perceived clarity of thought, increased energy
- Use quickly leads to abuse, dependence
- Faster acting, more intense effects, doesn't last as long as powdered cocaine, so users tend to need more crack
- Increases heart rate, blood pressure; constricts blood vessels → sudden death, massive crash

Amphetamines: (ex: Benzedrine, Dexedrine), synthetic stimulants taken as pills or injected

- High doses → amphetamine psychosis (similar to schizophrenia – delusions, hallucinations, paranoia); long-term neural changes that produce impaired memory and motor coordination, associated with violent behaviors

MDMA (aka ecstasy): synthetic stimulant, causes serotonin to be released from certain neurons and damages these neurons → impaired memory, learning, sleep, appetite

Caffeine, Nicotine: legal stimulants; increased alertness, raised pulse, heart rate; insomnia, restlessness, ringing in the ears

- Chronic use of caffeine → tolerance, withdrawal headaches
- Chronic use of nicotine → irritability, increased blood pressure, stomach pains, dizziness, emphysema, heart disease, addiction

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Narcotic Analgesics: strongly addictive drugs that relieve pain and dull the senses; lessen diarrhea; protracted coughing, troubled sleep

Ex: heroin, morphine, codeine, Percodan, Demerol, Vicodin, Oxycodone, other opioids

Heroin: central nervous system depressant; reduces neural activity in various areas of the brain (ex: brainstem areas responsible for respiration, coughing); constricted pupils, slower breathing, lethargy; feeling of relaxation, euphoria, short-lived effects followed by negative changes in mood, behavior

- Chronic use → tolerance
- Withdrawal symptoms: periods of yawning, chills, hot flashes, restlessness, diarrhea, goose bumps, 12 hours of sleep

Heroin and other opioids create a negative feedback loop:

1. Initially these substances produce pleasure by activating the dopamine-based reward system and binding to opioid receptors, where the body's endorphins (opioids produced in the body) usually bind.
2. With repeated use, the body comes to produce less endorphins, which leaves the user without natural means to relieve pain.
3. More heroin is thus needed to achieve pleasure and the analgesic effect.
4. When the user tries to quit, endorphins do not kick in to alleviate the withdrawal symptoms, thus heightening the discomfort – making it difficult to quit.

Hallucinogens: induces hallucinations (experiences in which people perceive something that is not actually present)

Ex: mescaline, peyote, psilocybin, LSD, PCP, ketamine, marijuana

LSD: synthetic substance that distorts perception, partly by inducing hallucinations (usually involve geometric shapes, vivid colors, violent movement)

- Can produce “bad trips” – highly stressful, frightening experiences → suicide, murder
- Hallucinations can recur in the absence of drug use → flashbacks even years afterward

Marijuana: most commonly used hallucinogen in US

- Active ingredient: THC, which is chemically similar to cannabinoids (naturally occurring neurotransmitters in the body involved in memory, attention, time and sensory perception, pleasure, movement control)
- Effects depend on user's mood, expectations, environment; vary from person to person
- Distortions of space, time; impaired perceptual motor skills

Ketamine: legally used anesthetic for animals; used by humans to induce hallucinations, anesthesia, stimulation of cardiovascular, respiratory systems; associated with violence, loss of contact with reality, impaired thinking → tolerance, dependence

Social Support: the help and support gained through interacting with others that can buffer the adverse effects of stress

- Emerges from positive relationships
- Can lengthen life expectancy; boost immune function
- **Perceived social support:** the subjective sense that support is available should it be needed; provides the buffer against stress
- **Enacted social support:** specific supportive behaviors provided by others

Mind-Body Interventions: engage the mind in particular ways in order to influence the body's functioning; allow you to adapt to a stimulus (not necessarily change it) by altering your body functioning accordingly

Ex: hypnosis, meditation, yoga, biofeedback, visual mental imagery, cognitive therapy, stress management / relaxation induction, prayer, tai chi

Effects:

- Improved mood, immune system functioning

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- Increased lung functioning in people with asthma
- Improved control of pain
- Decreased levels of reported stress, emotional distress, poor coping strategies
- Fewer subsequent heart problems

Placebos: medically inactive substances that come to have medicinal effects; effective in decreasing stress, arousal; often activate same brain areas as drug

- Characteristics of placebo, way it is dispensed can make it more effective.
 - Ex: injections > oral; capsules > pills; more pills > fewer pills; more expensive > less expensive; blue capsules work best as tranquilizers; yellow, pink, red capsules work best as stimulants; friendly, sympathetic treatment provider with high expectations for treatment make placebo more effective

Gender Difference in Coping

Women in Western cultures are more stressed – have multiple roles → positive (boost self-esteem, control roles, financial gain, social support) and negative (less able to unwind, more work!)

- Having financial and familial resources, control over job, sense of mastery at work can reduce the stress of multiple roles

Women tend to use emotion-focused coping strategies (ex: seeking social support), whereas men tend to use problem-focused coping strategies that address the cause of the stress

Culture Differences in Coping

Influences whether you perceive a stimulus as a stressor, how you cope with stressors, defining which coping strategies are socially appropriate

- Ex: Asian cultures – less stress in high-density living conditions; developed ways of creating privacy in the midst of large numbers of people in a given space → sense of control
- Ex: students in India prefer emotion-focused coping strategies more than students in Canada

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9.00SC Introduction to Psychology
Fall 2011

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