

“One very important aspect of motivation is the willingness to stop and to look at things that no one else has bothered to look at. This simple process of focusing on things that are normally taken for granted is a powerful source of creativity...”

Edward de Bono, Maltese Psychologist and Writer, leading authority on creative thinking, 1933-

“Who do women have such low self-esteem? There are many complex psychological and societal reasons, by which I mean Barbie.”

Dave Barry, American author, journalist, screenwriter, and comedian, 1947-

Notes on Motivation and Emotion – Chapter 9

Essential Questions:

- *In what ways are humans motivated to behave?*
- *What methods of motivation are more effective than others?*
- *How can one increase their motivation to behave in various ways?*
- *What is the role of hunger in motivating behavior?*
- *How do maladaptive eating patterns affect behavior?*
- *What role do emotions play in behavior?*
- *How do cognitions affect emotions?*
- *How does stress influence health and behavior?*
- *How can people reduce stress?*
- *In what ways can stress be beneficial?*
- *How do social factors affect the influence of stress on health and behavior?*

Unit Objectives:

- Discuss the similarities of instinct and drive theories.
- Discuss the difference between drive theory and homeostasis.
- Explain the reasons why intrinsic motivation is more beneficial than extrinsic motivation.
- Determine how psychologists measure achievement motivation.
- Identify ways we can motivate others to give their best efforts.
- Analyze how the body regulates weight so effectively.
- Differentiate between historical and modern cognitive theories of emotion.
- Identify the physiological changes that occur when people experience different emotions.
- Determine the criteria for assessing gender differences in emotional expression.
- Define stress, identifying the emotional and physiological responses to stress.
- Evaluate how outlook and feelings of control influence health.
- Evaluate how social support and positive emotional experiences contribute to health and well-being.

I. Motivation – the process that influences the direction, persistence, and vigor of goal-directed behavior. interplay between nature (the physiological “push”) and nurture (the cognitive and cultural “pull”)

A. *Theories of Motivation* –

1. Neurobiological Theories

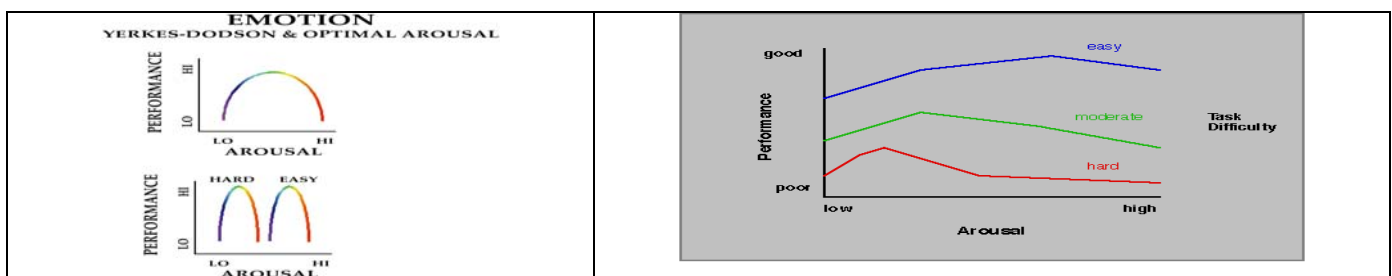
a. Evolutionary Theories (biological)

1. *Instincts* – fixed, inborn patterns of response that are not learned and that are specific to members of a particular species.
 - a. ex. Imprinting in birds and return of salmon to their birthplace
 - b. an infant’s rooting and sucking reflexes

2. *Instinctive Theory* – the belief that behavior is motivated by instinct
 - a. instinct theory fails to explain human motives
 - b. most psychologists agree that human behavior is directed by physiological needs and psychological wants
 - c. psychologists are interested in how genes predispose behavior and how evolution might influence phobias, helping behaviors, and romantic attractions
 3. “Gene Knockout Experiments” – researches disable specific genes then examine the resulting effect on motivation.
 4. In twin and adoptee studies, researchers examine how strong heredity accounts for differences in motivated behavior, such as the tendencies to be outgoing or anti-social.
- b. Drive Theory (Clark Hull) –
1. the belief that behavior is motivated by drives that arise from biological needs that demand satisfaction
 - a. need – is a state of deprivation or deficiency
 - b. drive – a state of bodily tension, such as hunger or thirst, that arises from biological needs that demand satisfaction



2. *homeostasis* – a tendency to maintain a balanced or consistent internal state; the regulation of any aspect of body chemistry, such as blood glucose, around a particular level
 3. *drive reduction theory* – the idea that a physiological need creates an aroused tension state (a drive) that motivates an organism to satisfy the need
 4. *incentive* – a positive or negative environmental stimulus that motivates behavior that can override a biological drive
 - a. ex – a person can choose to skip lunch to finish a PowerPoint presentation instead of eating even though they are hungry (the incentive to get a good grade becomes more powerful than the hunger)
 5. primary drives (physiological) – innate drives, such as hunger, thirst, sleep, and sexual desire, that arise from basic biological needs
 6. secondary drives (social) – drives that are learned or acquired through experience, such as the drive to achievement (monetary wealth), independence, play motive
 7. all motivation cannot be explained by drive theory – have you ever eaten when you are not hungry?
 8. when there is both a need and an incentive, individuals feel driven (if a person is food deprived and smells baking bread feels a strong hunger drive)
- c. Optimum Arousal Theory (Hebb) –
1. the belief that whenever the level of stimulation dips below an organism’s optimal level, the organism seeks ways of increasing it
 2. well fed animals will leave their shelter to explore seemingly in the absence of any need based drive
 3. Yerkes-Dodson Law – the proposition that the relationship between arousal and performance involves an inverted U-shaped function, with better performance occurring at moderate levels of arousal



2. Cognitive Theory (Deci) –

- a. in the study of motivation, an explanation of behavior that asserts that people actively and regularly determine their own goals and the means of achieving them through thought
 - 1. *intrinsic motivation* – motivation that leads to behaviors engaged in for no apparent reward except the pleasure and satisfaction of the activity itself
 - 2. *extrinsic motivation* – motivation supplied by rewards that come from the external environment
 - 3. *overjustification effect* – decrease in the likelihood that an intrinsically motivated task after having been extrinsically rewarded, will be performed when the reward is no longer given
 - 4. *cognitive dissonance* (Festinger)- a state of mental uneasiness arising from a discrepancy between two or more of a person’s beliefs or between a person’s belief and behavior (ex- PETA and the leather coat)

b. Expectancy Theory (McClelland) –

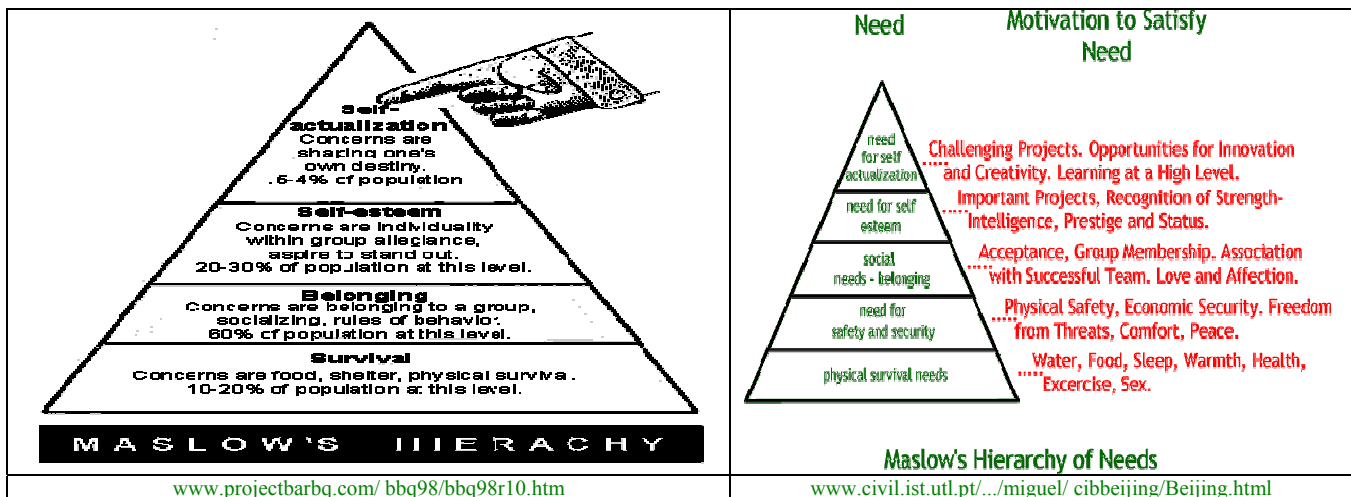
- 1. explanations of behavior that focuses on people’s expectations about reaching a goal and a person’s need for achievement as energizing factors
- 2. motive – a specific (usually internal) condition, usually involving some form of arousal, which directs an organism’s behavior toward a goal
- 3. social need – an aroused condition that directs people to behave in ways that allow them to feel good about themselves and others and to establish and maintain relationships

3. Humanistic Theory (Maslow) –

- a. Explanation of behavior that emphasizes the entirety of life rather than individual components of behavior and focuses on human dignity, individual choice, and self-worth.
- b. Some needs take priority over others and as those basic needs are satisfied, your desire to achieve other needs would energize and direct your behavior

c. **Maslow** –

- 1. people are born essentially good and can experience the world in healthy ways
- 2. most people spend their time at the lowest level of unmet needs (ex. safety needs)
- 3. *self-actualization* – the final level of psychological development, in which one strives to realize one’s uniquely human potential – to achieve everything one is capable of achieving
- 4. Hierarchy of Needs:



4. Psychological Sources of Motivation –

- a. *Incentives*
 - 1. the “pull” of incentives can very motivating
 - 2. incentive value – the strength of the “pull” of a goal or reward
- b. *Cognitive Dissonance*
 - 1. a state of internal tension brought about by conflicting attitudes and behavior

2. Cognitive Dissonance Theory – the belief that people are motivated to resolve discrepancies between their behavior and their attitudes or beliefs
 - a. change attitude
 - b. change behavior
 - c. use self-justification
 - d. ignore inconsistencies
3. effort justification – the tendency to place greater value on goals that are difficult to achieve in order to justify the effort expended in attaining them
- c. Psychological needs
 1. psychological needs- needs that reflect interpersonal aspects of motivation such as the need for friendship or achievement
 2. need for achievement – the need to excel in one’s endeavors
 3. performance goals – goals that have extrinsic value as means to an end such as getting good grades for the sake of gaining admission into graduate school
 4. achievement motivation – the motive or desire to avoid success
 5. avoidance motivation – the motive or desire to avoid failure
 6. fear of success – a type of avoidance that leads people to reject opportunities that might allow them to succeed
5. When motives are in conflict:
 - a. approach-approach conflict
 1. the tension you feel when you must choose between two attractive options
 2. ex. – an attractive first date and a ski weekend with friends
 - b. avoidance-avoidance conflict
 1. the tension you feel when you must choose between two disagreeable options
 2. study or do the dishes
 - c. approach-avoidance conflict
 1. the tension you feel when you find yourself in a situation that has both enjoyable and disagreeable consequences
 2. You are the designated driver. While in the bar, you desire a beer to "look cool." However, the idea of a beer is also unappealing because of the increased risk of being arrested for impaired driving.
 - d. double approach-avoidance conflict
 1. the tension you feel when you must choose between multiple options, each of which has pleasurable and disagreeable aspects
 2. working out vs. watching TV (the closer we get to one event, the worse it looks and the better the other one looks) - big problem!

B. Hunger

1. What makes us hungry?
 - a. Glucostatic approach – low levels of blood sugar (glucose) results from food deprivation and creates a chemical imbalance and triggers bodily warnings to the brain that responds by generating hunger pangs in the stomach.
 - b. hypothalamus –
 1. stimulating the lateral hypothalamus causes laboratory animals to start eating even if it has consumed a full meal. When this area is surgically destroyed, the animal will stop eating and eventually starve to death.
 2. the ventromedial hypothalamus acts as an off-switch that signals when it is time to stop eating. When this area is destroyed, animals will overeat and eventually become severely obese.
2. Obesity
 - a. obesity is a state of the excess body fat
 - b. the number of obese people passes the 1 billion mark in 2005
 - c. a national epidemic and major health risk
 - d. social effects of obesity
 1. weight discrimination

2. Gortmaker weight study (1993)
 - a. 370 obese women, ages 16-24
 - b. 2/3 of women were not married seven years after to study
 - c. made 25% less than women in comparable jobs
3. causes of obesity
 - a. too many calories consumed
 - b. high fat
 - c. high calorie
 - d. larger portions
 - e. food is cheap
 - f. too little exercise
 - g. lack of sleep
 - i. subjects who were within the normal body mass index showed an average of 1.86 hours more sleep than those who were obese (does sleep deprivation and obesity go hand in hand?)
4. physiological
 - a. fat cells –
 - i. immediate determinants of body fat are the size and number of fat cells (each person has an average of 30 billion cells)
 - ii. once the number of fat cells increase (due to genetic predisposition, early childhood eating patterns, or adult overeating) it NEVER decreases (fat cells may shrink on a diet but will not decrease)
 - b. leptin –
 - i. hormone that works with the hypothalamus, pituitary, and thyroid to influence hunger and metabolism because the release of leptin in their bloodstream effects the feelings of satiety and contribute to the regulation of body weight.
 - ii. people who have high levels of leptin tend to be obese
 - iii. study with overweight rats injected with leptin tend to loose weight
5. genetic predisposition
 - a. genetics – obese gene (OB) on chromosome 7 identified in 2001
 - b. set point theory – the point at which an individual's "weight thermostat" is supposedly set. When the body falls below this weight, an increase in hunger and a lower metabolic rate may act to restore the lost weight.
 - c. Basal metabolic rate - The rate you convert energy stores into working energy in your body. In other words, it's how fast your "whole system" runs. The metabolic rate is controlled by a number of factors, including: muscle mass (the greater your muscle mass, the greater your metabolic rate), calorie intake, and exercise.
 - d. a predisposition to genetically based disorders that have a direct effect on eating habits or body weight such as diabetes, hyperthyroidism, and hypothyroidism
6. environmental factors and cultural factors
 - a. being bombarded with food cues
 - b. cultural pressure to a thin body ideal
 - c. cultures without a thin-ideal for women are also cultures without eating disorders
 - d. obesity is six times more common among the lower classes
 - e. reinforcement
 - i. food can be used in some households as positive reinforcement or reward
 - ii. if you eat all of your dinner, you may have desert
 - iii. eating tasty foods is reinforcing which encourages the consumption of these foods
 - f. modeling
 - i. through observational learning or a role-model, children can learn good as well as poor eating habits
7. emotional states –
 - a. feelings of anger, lonely, boredom, and depression

- b. many people find that food soothes these feelings by acting as a natural tranquilizer
3. Losing Weight
- a. Be realistic about what ideal weight is
 - b. Begin only if you feel motivated and self-disciplined
 - c. Minimize exposure of tempting food cues
 - 1. keep tempting food out of the house
 - 2. go to the supermarket on a full stomach only
 - 3. eat simple, healthy meals (given more variety people eat more – study of “home town buffet”)
 - d. Take steps to boost your metabolism and lower your set point
 - 1. changing eating habits (consume less calories) and exercise
 - e. Be realistic and moderate
 - 1. moderately heavy is more healthy than too thin
 - 2. expect 10% weight reduction in six months
 - f. Eat healthy foods
 - g. Do not starve all day and eat one big meal at night
 - 1. slows metabolism and could interfere with sleep
 - h. Beware of the binge
 - 1. watch those cues that will set you to binge – anxious, depression, etc
 - 2. most people occasionally lapse, do not use it as an excuse to binge
4. Eating Disorders
- a. *Anorexia nervosa* – an eating disorder involving a pattern of self-starvation that results in an unhealthy and potentially dangerous low body weight.
 - b. *Bulimia nervosa* – an eating disorder involving episodes of binge eating followed by purging.
 - c. Causes of eating disorders
 - 1. pressure from society or culture
 - a. 60-75% of adolescent girls are unhappy with their weight (as young as 8)
 - 2. biological factors
 - a. brain and/or neurotransmitter function

C. Sexual Behavior

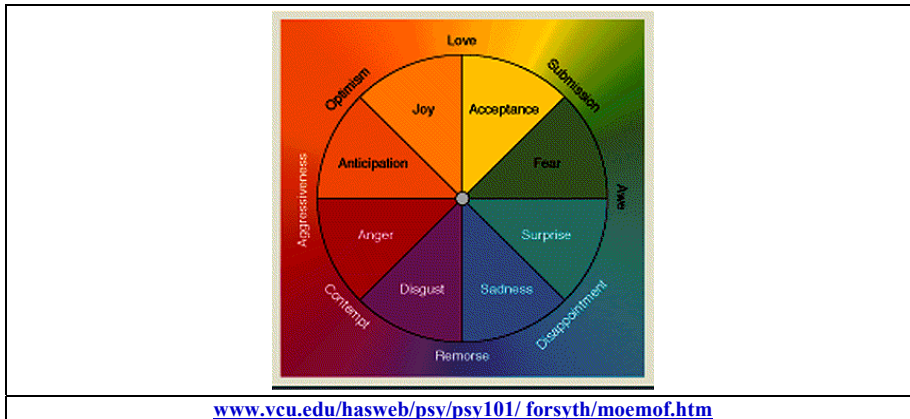
- 1. Alfred Kinsey’s Sex Study (1948, 1953)
 - a. first study on sex
 - b. interviewed 18,000 white urbanites with 350 rapid fire questions
 - c. never asked whether they first engaged in sex but when (word effects??)
 - d. science behind first study was not great by today’s standards (lack of random sample, biased sample, etc) – first and groundbreaking study in an area few would talk about
 - e. results:
 - 1. most of the men and half of the women reported having premarital sex
 - 2. sexual behavior varied
 - 3. women who masturbated to orgasm before marriage reported they seldom had difficulties having an orgasm after marriage
- 2. Masters and Johnson –
 - a. most recent studies on sexual behavior (completed every 10 years or so)
 - b. sexual response study
 - 1. 383 women and 312 men who willing to engage in intercourse or masturbation while being observed in a lab (atypical sample)
 - 2. Sexual Response Cycle
 - a. excitement phase – physiological arousal due to increased blood flow
 - b. plateau phase – excitement building to peak
 - c. orgasm phase – excitement and arousal reach peak
 - d. refractory/resolution period – a resting period after orgasm (a few minutes up to a day)

- c. also sought to describe and treat sexual disorders such as premature ejaculation, erectile disorder, and orgasmic disorder and found most could be treated with drugs or behaviorally oriented therapy
- 3. Sexual Orientation
 - a. Popular press estimates that 10% of Americans are homosexual, a 2002 Gallup survey has that number closer to 21% but difficult to find an exact number
 - b. Women's sexual orientation tends to be more fluid and changeable than men's (Diamond 2000)
 - c. In 1973 the APA dropped homosexuality from the Diagnostic and Statistical Manual of Mental Disorders (list of mental illnesses) because despite elevated levels of depression and risk of suicide, most gay men and women suffer no psychological disorders
 - d. *Kinsey Homosexuality Study*
 - 1. In 1983 the Kinsey Institute interviewed 1000 homosexuals and 500 heterosexuals trying to assess causes of homosexuality.
 - 2. The questions covered issues from parental relationships, childhood sexual experiences, peer relationships, and dating experiences.
 - 3. Homosexuals answered each of the questions very similar to heterosexuals (no excessive smothering mothers, absent fathers, or sexually abused as children.
 - 4. They did find that homosexuals were more often
 - a. in large cities, the percentage of men who identify themselves as homosexual jumps from 1% in suburban and rural areas to 9% (according to the 2000 Census numbers the largest number of same-sex unmarried partners live in San Francisco, Miami, and Santa Fe)
 - b. homosexual and bisexual people were over represented in the creative arts such as poets, fiction writers, artists, and musicians
 - e. Biological correlates of sexual orientation
 - 1. brain difference
 - a. one hypothalamic cell cluster is larger in straight men than in women or gay men, same differences are found in sheep that are attracted to same-sexes and different sexes
 - b. anterior commissure is larger in gay men than in straight men and women
 - 2. Genetic influences
 - a. Shared sexual orientation is higher among identical twins than among fraternal twins
 - b. Sexual attraction in male fruit flies can be genetically manipulated
 - 3. Prenatal hormone influences
 - a. Altered prenatal hormone exposure may lead to homosexuality in humans and animals
 - b. "fraternal birth order effect" - men who have older brothers who are gay are somewhat likely to be so (first sons – 3%, second – 4%, third – 5%, fourth – 6%, etc) due to maternal antibodies that become stronger with each pregnancy and effect the fetus

D. Emotion

- 1. Emotions
 - a. are feeling (or affect) states that involve a pattern of cognitive, physiological, and behavioral reactions to stimuli.
 - b. Ex. Losing your child in a store and thinking he has been kidnapped - mix of (1) physiological agitation (heart pounding), (2) expressive behaviors (quicken pace), (3) conscious experience (thoughts of the child being kidnapped), and (4) feelings (fear of losing the child, joy of the child returned by a customer that saw him wander off)
- 2. Theories of Emotion
 - a. Physiological Component (*LeDoux's Dual-Pathway Model of Fear*)
 - 1. neurobiological theory in which LeDoux believed emotion is inherited
 - 2. When the thalamus (the brain's sensory switchboard) receives input from the senses, it can send messages along two independent neural pathways, one traveling to the cortex and the other going directly to the amygdala.

3. This allows the amygdala to receive direct input from the senses and generate emotional reactions before the cerebral cortex has time to fully interpret what is causing the reaction.
 4. The amygdala also seems to function as an early warning system for threatening social stimuli.
 5. All emotional reactions register at the cortex level – unconscious reactions
 6. memories and experiences aide in interpretation
- b. *Plutchik's Color Wheel of Emotions*
1. Eight primary emotions and those combinations of primary emotions produce the more complex secondary emotions represented outside the circle.



- c. *James-Lange Theory* –
1. Even though common sense tells us that we experience emotion first and then notice the physiological effect [we cry because we are sad], the James-Lange Theory is the belief that emotions occur after people become aware of their physiological response [we cry and then realize that we are sad or we see a car coming, we jump out of the way, then we experience the emotion of fear]

Eliciting stimulus/event (seeing a bear)	→	Autonomic arousal/ behavioral response (we run)	→	Conscious emotion (fear)
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- d. *Cannon-Bard Theory*
1. this is the belief that emotional and psychological reactions to triggering stimuli occur almost simultaneously.
 2. the emotion triggering stimulus is routed to the brain's cortex [causing subjective awareness of emotion] and to the sympathetic nervous system [causing the body's arousal]
 3. according to Cannon-Bard, your heart begins pounding as you experience fear; not one causes the other

Eliciting stimulus/event (seeing a bear)	→	Subcortical activity in thalamus (sends messages simultaneously)	→	Autonomic arousal (we run)
			→	Conscious emotion (fear)

- e. *Schachter-Singer Approach – Two-Factor Theory of Emotion*
1. Emotional experiences involve two factors: a state of general arousal and a cognitive interpretation (perception, memories, interpretations) of the causes of arousal
 2. Sometimes our arousal response to one event spills into our response to the next event

- a. Example – imagine that after an invigorating run you arrive home and find a message that you got a longed for job. With the arousal from the run lingering, would you feel more elated than if you received this news after from awaking from a nap?

Eliciting stimulus/event (seeing a bear)	→	Autonomic arousal/ behavioral response (we run)	→	Interpretation as a function of context (bears are dangerous)	→	Conscious emotion (fear)
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3. Experienced emotion

a. Anger

1. anger often a response to friends’ or loved ones’ perceived misdeeds especially when that behavior seemed to be willful, unjustified, or avoidable
2. when anger fuels physically or verbally aggressive acts we regret later, it is maladaptive
3. chronic hostility has been linked to heart disease and high blood pressure
4. Western cultures advise “venting anger” which provides an emotional release or cathartic
 - a. Darwin suggested that that violent gestures increase anger
 - b. Studies have shown that this can be helpful in the short term as long as it does not leave the individual feeling guilty or anxious
 - c. Over the long term, studies have found that expressing anger routinely breeds more anger and can magnify anger
 - d. This strategy does not look at the causes of the anger or a way to constructively deal with that anger
5. What are the best ways to deal with anger?
 - a. Waiting – let the anger settle down until you can have a calm conversion
 - b. Deal with the anger in a way that involves neither being chronically angry over every little annoyance

b. Happiness

1. one of psychology’s most consistence findings is that when we are happy we experience ***feel-good, do-good phenomenon***
 - a. we are more likely to help others
 - b. have better relationships
 - c. have a more positive self-image
 - d. happiness has an effect on not only our temporary moods as well as our long term satisfaction
2. economic growth of affluent countries has provided no apparent boost to morale or social well being although they are shown to be slightly more happy than developing countries
 - a. divorce rates doubled
 - b. teen suicide at high levels
 - c. skyrocketing depression rates
 - d. studies show people who make money a priority in their lives have lower happiness rates (Ryan and Kasser 2001)
3. ***Adaptation-level principle***
 - a. Happiness is relative to our prior experiences
 - b. Satisfaction and dissatisfaction, success and failure are all relative to our recent experiences

4. *Relative Deprivation Principle*
 - a. We compare ourselves to others around us and envy those who are more successful (beggars do not envy millionaires, they envy beggars who are more successful than they are)
 - b. Baseball players' satisfaction levels dipped after Alex Rodriguez was offered a 10 year \$252 million dollar contract
4. Nonverbal Communication
 - a. communication using facial expressions, gestures, and/or body position
 - b. experience also can sensitize people to particular nonverbal communication or emotions
 - c. Jackie Larson and Christopher Bono situation [2001]
 - d. Studies show that women are more adept at emotional and nonverbal literacy
 1. women are better at spotting lies [DePaulo 1994]
 2. women have surpassed men at discerning if a male-female couple is romantic couple or posed to look like they were as well as looking at photos and determining which person in the photo is the other's supervisor [Barnes & Sternberg 1985]
 3. women express emotions more complexly
 - a. Lisa Bartlett in 2001 ran a study in which participants were given a chance to brainstorm positive and negative experiences in their lives. When asked afterward to describe the emotional reactions to these events men answered things like "I feel bad" whereas women answered "It felt bittersweet, I felt both happy and sad"
5. Attraction
 - a. *Proximity*
 1. geographic nearness
 2. study after study reveals that people are most likely to like, even marry, those who are close (same neighborhood, sit nearby in class, work in the same office, share a parking lot) because of a greater availability of those we often meet
 3. *Mere Exposure Effect* – repeated exposure to stimuli increases our acceptance or liking for that stimuli
 - a. *Moreland and Beach study* – had four attractive women attend a lecture hall class with 200 people in it. The women attended the class 1, 5, 10, and 15 classes. The woman the class found most attractive – the one they saw most often
 - b. A young Taiwanese man went to school in the United States for four years and wrote his fiancée over 700 letters during that time. His fiancée did marry – the mailman!
 - b. *Physical attraction*
 1. according to studies, physical attractiveness has wide-ranging effects
 - a. frequency of dating
 - b. others' initial impression
 - c. perception that attractive people are healthier, happier, more social, more successful
 - d. make a more favorable impression on potential employers
 - e. in movies – attractive people are shown to be morally superior
 - f. even babies prefer to stare at attractive faces vs. unattractive faces
 2. physical attractiveness is surprisingly unrelated to self-esteem
 3. attractiveness differs in different cultures (piercings, thin, engorged, bound feet, elongated necks)
 - a. most cultures can agree that a youthful appearance is attractive
 - b. women across cultures are attracted to healthy-looking men who seem mature, dominant, and affluent
 - c. *Similarity* - friends and couples are far more likely to share common attitudes, beliefs, and interests including age, religion, race, education, intelligence, smoking behavior, and economic status
 - d. *Arousal* - a state of *responsiveness* to sensory stimulation or excitability.

- e. *Equity* –
 - 1. social psychological theory that states that people attempt to maintain stable, consistent interpersonal relationships in which the ratio of each member's contribution is balanced
 - 2. in relationships this means that both partners are equal, one does not have more power in the relationship or one does not do more in the relationship
 - f. *Self-Disclosure* – is the sharing of biographical data as well as personal ideas and information
6. Love
- a. Sternberg – Triangular Model of Love
 - 1. *Intimacy* – the close bond and feeling of attachment between two people, including their desire to share their innermost thoughts and feelings
 - 2. *Passion* – an intense sexual desire for the other person
 - 3. *Commitment* – the recognition that one loves the other person (decision component) and is committed to maintaining the relationship through good times and bad (commitment component)
 - 4. Types of relationships
 - a. no love – no components, causal interactions
 - b. liking – friendship, intimacy only
 - c. infatuation – passion only
 - d. empty love – commitment only, stagnating relationship
 - e. romantic love – a combination of intimacy and passion (think Romeo and Juliet)
 - f. compassionate love – intimacy and commitment (think long term marriage where passion has cooled)
 - g. fatuous love – passion and commitment without intimacy

E. *Stress and Coping*

- 1. *Stress* – is not just a stimulus or response it is a process by which we perceive and respond to certain events (called stressors) that we appraise as threatening or challenging
 - a. challenging stressors can have positive effects, arousing and motivating us to complete a task
 - b. stressors can also threaten us – children who are physically abused later risk chronic disease
 - c. stress has been linked to the following health effects such as coronary heart disease, depression, hypertension (high blood pressure), lowered immune system, can exacerbate certain illnesses such as AIDS and cancer, loss of sleep, physical pain – such as backache, head ache, stiff muscles
- 2. *Stress Response System* –
 - a. Fight or flight (biological response) –
 - 1. response to stress in which you either stand firm and resolve the situation or flee from it
 - 2. animals will fight weaker opponents and flee from stronger ones
 - 3. in humans, this response helps us to decide how much stress we can or are willing to endure
 - b. Walter Cannon
 - 1. stress response is a unified mind-body system
 - 2. incidents trigger an outpouring of epinephrine (adrenaline) and norepinephrine (noradrenaline) these stress hormones enter the blood stream from the sympathetic nervous system's response which then increases heart rate and respiration as well as diverts blood away from digestion to skeletal muscles, dulls pain, and releases sugar and fat from the body's stores
 - 3. Cannon called this "fight or flight" response
 - c. Hans Selye
 - 1. *General Adaptation Syndrome* - the body's adaptive response to stress in three states – alarm, resistance, and exhaustion
- 3. New *research* reveals subtle differences in the body's reactions to different stressors and prolonged stress can produce physical deterioration
 - a. Sapolsky study - MRI scans of people who have experienced a flood of stress hormones due to sustained child abuse, combat, or an endocrine disease most have a shrunken hippocampus, the inner brain structure vital to memory

4. Stressful life events – are perceived as negative and stressful since they are out of our control and the perceived loss of control can lead to lowered immunity to infection and vulnerable to ill health
 - a. catastrophes - 911, tsunami of 12/26/05, hurricane Katrina
 - b. Significant changes - leaving home, death of a loved one loss of a job, a marriage, divorce, or birth of a child
 - c. Daily hassles an exam, long lines at the grocery store, traffic, too many things to accomplish at once
5. Perceived control
 - a. poverty and inequity
 1. there is a well established link between economic status and longevity
 2. people tend to die younger in areas of economic inequity [example – the United States has a three year lower life expectancy than Japan or Sweden where income differences are less extreme
 - b. optimism-pessimism
 1. *pessimist* - A tendency to stress the negative or unfavorable or to take the gloomiest possible view
 2. *optimist*
 - a. A tendency to expect the best possible outcome or dwell on the most hopeful aspects of a situation
 - b. cope better with stressful events, enjoy better moods, and stronger infection-thwarting immune system
 - c. Everson et al study – a study which followed 795 Americans aged 64-79 years old and asked if they were “hopeful about the future.” Of those who said no, five years later half had died (as compared with the 8% of those who answered yes).

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