Final Exam

- Weds., 14 December
- Based on entire course content for PSY1101.
- See Course syllabus for specific pages.

Myers web site

- The sample quizzes are very useful.
- These quizzes can also be found in the Study Guide.
- Also, be aware of definitions(found in columns in each chapter. Highlighted in green). Also know "terms and concepts to remember" found at the end of each chapter.

OVERVIEW

- This review is ONLY a summary of material not yet seen in the lectures.
- It is not an exhaustive review!

Historical aspects (Prologue)

- Aristotle: The mind and body are connected. The contents of the mind must be learned. We are all born with mind that is a blank slate.
- Socrates/Plato: Mind is separate from the body. *Duality*. The mind continues after death. Human knowledge is built from "within". Some ideas are inborn (i.e., innate).
- René Descartes. The mind and body are separate. The mind is not subject to the laws of physical universe.
- Francis Bacon. Founder of modern science. Science should be based on experience and experiments.
- John Locke. The mind at birth is a blank slate. The mind acts only on what enters through the senses.

History

- W. Wundt & E. Titchener. *Introspection*, *Structuralism*: Attempted to discover the basic structures of the mind/consciousness (analogous to the basic elements in Chemistry).
- Freud; Role of the *unconscious* in determining our behaviour.
- James; Functionalism/Pragmatism: What is the function of our thoughts and emotions?
- Watson/Skinner: Tenets of behaviourism. Study only what is directly observable. Dismissed the study of the unconscious through introspection or psychoanalysis as unscientific

Thinking Critically

- Logic (Aristotle and Plato maintained that all knowledge can be logically deduced)
- Science and empiricism (experimental manipulation)

- Many critics of Psychology as a science claim it need not be studied at all. Psychology is mainly "common sense". But common sense, intuition can lead us to error
- *Hindsight bias*: the tendency to believe, after learning an outcome, that one would have foreseen it. It is "common sense". Thus critics of Psychology claim it is guilty of the hindsight bias. The following are common public sayings, yet one contradicts the other:
- It is good to express an emotion to reduce its intensity
- Expressing an emotion only amplifies it.

Critical thinking (common sense)

- *Overconfidence*: We tend to overestimate what we actually know. We overestimate our abilities.
- *False consensus effect*: The tendency to overestimate the extent to which others share our beliefs and attitudes. The belief that most people agree with our opinions/beliefs/likes.
- *Illusionary Correlation:* A perceived nonexistent correlation. Helps to explain superstition. (Getting chilled is associated with getting colds).

Critical thinking

- Psychologists study human behaviour and mental events
- Claims about behaviour need to be supported by evidence
- Claims about the mind need to be supported by evidence
- Psychologists do not accept "beliefs", "opinions".

Research

- *Ethics of research*: All studies carried out in Psychology must be approved by an Ethics board that assures:
- The participant is informed about what they will be doing in the study
- The participant is protected from risk and harm
- Data collected are confidential (only the researchers have access to them) and anonymous (the participant is not identified)
- The purpose of the research is explained either before or after the study

ethics in animal research as well

- Observation, theory, hypotheses, operational definition, independent variable, dependent variable
- What is theory? What is an hypothesis? (prediction based on theory)
- Operational definition: Some concepts in Psychology are rather vague. All sciences must provide a definition of the variables of interest.
- Random sampling. Every member of the population has an equal chance of being selected for the study

eg.of operational definition: problems of bullying in the school yard. It varies. Hard to define.

- Identify independent and dependent variables:
- Example: Skinner varies the type of reinforcer and observes their effects on the rate of responding. What is the independent and dependent variables?
- Example: The effects of parenting on feelings of depression (independent, dependent variables?)
- Experimental designs:
    - control vs experimental groups. Need for random assignment
    - pre-post;
    - placebo vs treatment; (double blind)

Statistical measures

- Measures of central tendency: mean, median, mode.
- 2, 4, 5, 5, 7, 9, 9, 9, 10 What is mean, median, mode?
- Measures of variance: range, variance (standard deviation)
- Range= max-min (in the example above 10-2; thus the range is 8).
- Standard Deviation (SD)= square root of variance
- In a normal curve, about 68% of scores occur within 1 SD, 95% within 2 SD and 99.8% within 3 SD of the mean.

Causality & Correlations

- The independent variable needs to be manipulated in order to prove causality. Manipulation of the independent variable causes the scores on the dependent variable to change.
- Statistical significance (compare to chance difference)
- Correlation provides a measure of the extent of a relationship. It cannot be used to infer a cause-and-effect relationship.
- Correlations (positive, negative)
- Size of correlation (between $\pm$ 1.0)
- illusionary correlation (often superstition)

difference between pos and neg correlatin

Schools of Psychology

- Biological
- Cognitive
- Behavioural
- Social
- Industrial; organizational
- Developmental
- Clinical (including humanistic/phenomenological and personality)

social:
industrial; organizational - business

The Biology of Mind Chapter 2

- Aristotle: The mind and body are connected. The contents of the mind must be learned. We are all born with mind that is a blank slate.
- Socrates/Plato: Mind is separate from the body. *Duality*. The mind continues after death. Human knowledge is built from "within". Some ideas are inborn
- René Descartes. The mind and body are separate. The mind is not subject to the laws of physical universe.
- F. Gall (1800s): *Phrenology* – reduced various behaviours to specific areas of the brain. This caused changes in the shape of the skull. A phrenologist could determine personality by examining the shape of the skull

different brain regions that are associated with different activities that are highly developed, protrude from the skull

Neuronal transmission

- Depolarization
- Action potential
- Neurotransmitters
- Synaptic process: release of neurotransmitter, post-synaptic receptor site, removal (breakdown) of neurotransmitter, reuptake
- Different types of neurotransmitters

Instruments to "view" images of the nervous system:

- CT scan (uses X-ray technology)
- PET scan (functional)
- MRI (static high resolution image)
- fMRI (functional)
- EEG (functional)

The Nervous System

- Peripheral nervous system
    - Somatic nervous system
        - Sensory neurons
        - Motor neurons
    - Autonomic nervous system
        - Sympathetic nervous system
        - Parasympathetic nervous system
- Central nervous system
    - The spinal cord
    - The brain

Genetic vs Experience

- Most of the sensory and motor pathways are "laid out" genetically.
    - Hard-wired; Inflexibility.
    - Advantage: Rapid "decisions"
- Much of the connections of the "higher", cortical centres are made following experience and learning.
    - Soft-wired, flexibility, plasticity
    - Disadvantage: Slow
    - If one cortical region is damaged, another can take over its role (plasticity)

Brain Anatomy

- Distinguish hindbrain (medulla, pons, cerebellum) from midbrain and forebrain. , parietal, temporal, occipital lobes
- thalamus, hypothalamus, hippocampus, etc
- *Mirror neurons*: frontal lobe neurons that fire when performing certain actions or *when observing another doing so*. May enable imitation and empathy.

Consciousness & the Two-Track Mind "Dual" processing

Sleep

- Stages of Sleep
- Stages NREM (stages 1,2,3,4) and REM
- ½ of sleep is spent in stage 2
- Most of stage 4 accumulates in the 1st half of the night;
- Most of stage REM accumulates in the 2nd half

Changes in Sleep Across Life Span

- In young adults, about 2 hours of SWS, 2 hours of REM and 4 hours of stage 2
- In infants, about 16 hours of sleep, half of which is spent in REM.
- In the elderly, deep sleep (stage 3&4) decreases.

Light-Dark Cycle

- Suprachiasmatic nucleus… detects light/dark
- Activity of SCN increases in absence of light
- SCN triggers pineal gland to release melatonin
- Thus, decrease in light increases output of melatonin
- In constant light, subject will sleep one hour later each day. Thus, the "natural" rhythm is 25 hours.

Sleep Deprivation

- Immune system is active during NREM sleep
- Total sleep deprivation will eventually lead to illness (typically because of infection) and perhaps death).
- Biological need for NREM
- Rebound: deprivation of a stage of sleep results in (1) earlier onset of the stage when sleep is allowed and (2) greater quantity of the stage

- REM sleep deprivation: effects are not as dramatic as for NREM; perhaps an effect on storage of memories and on learning
- REM rebound is apparent. Thus, there is also a biological need for REM.

Dreams

- Purpose of dreams?
- *Freud:* Release of repressed desires/drives from the unconscious).
    - The actual content of the dream (its "manifest" content) is symbolic of our true (but repressed) desires (the "latent" content).
- *Hobson:* Activation-synthesis theory

manifest - actual content of dream

Consciousness (Selective Attention)

- *Selective attention;* We must selectively attend to that which is relevant in order to become conscious of it.
- We inhibit the processing of that which is not relevant. We do not want to be conscious of that which is relevant.
- The selective attention process allows us to become conscious of the relevant and prevent consciousness of that which is irrelevant.
- Top-down processing vs bottom-up processing

Selective attention –resource allocation

- We cannot attend to and process all information because of limited "resources". The brain has a limited capacity to process information.
- *Automatic (unconscious or "subconscious" in your text) processing*: These are tasks that can be carried out without cortical effort.
    - Rapid processing
    - Especially useful for mundane, repetitive, well-learned tasks.
- *Controlled (conscious) processing*: These tasks require cortical effort in order to be completed.
    - Slow processing
    - Especially useful for novel, poorly-learned tasks

- *Serial processing* (controlled processing):
    - Requires effort; The processing of one task must be completed before the processing of another can begin
- *Parallel processing* (also called "dual" processing in text)
    - automatic processing
    - No effort required; two or more tasks can be processed simultaneously

Hypnosis

- Hypnosis: one person (the hypnotist) *suggests* to another (the subject) that certain behaviours, perceptions, thoughts, memories will occur spontaneously.
- Only about 25% of the population is highly hypnotizable. They have rich fantasy and imaginations. They are highly suggestible.
- Hypnosis as an anaesthetic: Pain can be reduced by even light hypnosis. General anaesthesia can be performed with deep hypnosis.

Theories of Hypnosis

- *Dissociation:* The claim that hypnotic phenomena are regulated by control processes outside (*dissociated* from) our normal awareness
- Hilgard's "hidden observer". The hypnotised individual acts as told; the "hidden observer" (the real individual) may observe this.
- *Selective Attention:* Subject selectively attends to one stimulus and ignores the other.
- *Social influence/role-playing:* Subject merely plays a role. They allow the hypnotist to direct their behaviour. The subject will not perform acts that someone pretending to be hypnotized would. Hypnosis is regulated by normal processes
- Memory and hypnosis. *Age regression* experiments: We return to childhood-like existence and are asked to recall early childhood memories.
- Most people believe hypnosis can assist in the recall of long-forgotten memories. There is little evidence of this.
- Memories that are remembered are sometimes true memories and sometimes false memories

Psychoactive Drugs

- Alter perception and perhaps mood
- Stimulants, depressants, hallucinogens
- A depressant drug always depresses the CNS regardless of dosage. But, this can lead to paradoxical behavioural effects…
- They can act to increase inappropriate "acting out" behaviour (e.g., alcohol)
- Many drugs imitate (are similar in chemical structure to) are affect release/reuptake of neurotransmitters. Examples:
    - Opiates & endorphins
    - LSD & serotonin
    - MDMA & serotonin

Psychoactive drugs (cont'd)

- Upon repeated use, *tolerance* for the drug may result.
    - A higher dosage is required to obtain the same, initial effect
- For some drugs (many hallucinogens, especially marijuana), negative tolerance may develop. The same initial effect can be obtained with a lower dosage.
- Withdrawal & Addiction: Intense craving and pain upon withdrawal from drug.
    - Especially severe with those having higher level of tolerance
- Drug usage: Alcohol is the most commonly used psychoactive drug.

Sensation & Perception

- Absolute threshold. Minimum amount of energy required to detect stimulus 50% of the time
- Difference threshold. Minimum change in a stimulus to be detected 50% of the time.
- Signal detection theory: There is no absolute threshold. Thresholds will vary depending on what is relevant.
- Adaptation: Consciousness (awareness) of stimulus decreases after a stimulus remains on for a long period of time.

Subliminal Sensation

- Subliminal sensation – Does it exist?
- A stimulus is presented at apparently below absolute threshold level.

- Can we (1) process stimulus input without being conscious of it and (2) be influenced by these apparently "subliminal" stimuli?
- There is very good evidence that stimuli that are presented rapidly (so rapidly the participant cannot consciously recognize them) can nevertheless influence our perceptions.
- E.g. priming
- We are capable of processing information without being consciously aware of them.
- However, there is no evidence that subliminally presented words and images can influence our consumer choices (subliminal advertisement).

Knowledge without consciousness (awareness)

- Agnosia: An inability to recognize objects even though the parts can be recognized.
- Prosopagnosia: Inability to recognize faces. Yet, the patient can use the information in the faces (lip-reading; imitate muscle movements and emotional expressions).

Vision

- Structure of retina:
- Pupil (purpose of constriction & dilation); Lens (accommodation)
- Receptors (rods and cones) → Bipolar cells→Ganglion cell→Optic nerve
- Note that the architecture of the retina is an outgrowth from the brain. The rods and cones are located at the back of the retina and the ganglion cells at the front.
- Light must thus pass through the ganglion and bipolar cells before arriving at the rods and cones.
- Rods: more sensitive to light but not sensitive to colour
- Cones: Less sensitive to light but more sensitive to colour

Colour vision

- The frequency (wavelength) of the electromagnetic signal determines the colour we see.
- 3-colour, Young-Helmholtz theory (3 cones: red, green, blue)
- Occurs at the level of the receptor (retina)
- 2-colour (opponent colour) theory
- Neurons increases firing rate in the presence of one colour but decreases it as firing rate in the presence of another colour (red & green; blue & yellow)
- Negative afterimages
- Occurs at a higher level (bipolar cells of retina, thalamus)

Cortical blindness

- Cortical blindness & blindsight: If the visual cortex is severely damaged, the patient does not report seeing.
- The patient might not claim to be conscious of an object yet can distinguish certain features.

Audition

- Physical aspects of sound:
  - *Intensity* (loudness). Measured in dB. A shout has a higher intensity than a whisper
  - *Frequency* (pitch). Measured in Hz. A woman's voice has a higher frequency than a man's.
- Outer ear→ear drum→ossicles (bones) →cochlea (fluid-field) →auditory nerve
- Frequency vs place frequency theory

Hearing: Hearing Loss

- *Hearing mechanism*
- *Conduction hearing loss*: caused by damage to mechanical structures in the middle ear (eardrum, ossicles).
    - Hearing aids (amplifiers for specific frequencies) used in its treatment.
- *Sensorineural hearing loss*. Damage to the cochlea (especially hair cells) or the auditory nerve. Treatment – cochlear implants; send electrical signals into the auditory nerve

Taste

- Taste: A chemical sense.
- Taste buds located mainly in the top and side of tongue. Also, at the back and roof of the mouth.
- These "pores" catch food chemicals.
- Four tastes (and perhaps five): sweet, sour, salty and bitter. All other tastes are mixtures of these.
- Emotional reaction to food seems to be hard-wired.
- We can neither taste nor smell some basic nutrients (fat, protein, starch, vitamins).
- *Sensory interaction*: The different senses interact. This is best illustrated by the interaction of taste with olfaction (smell).

Olfaction (Smell)

- A chemical sense. Molecules that inhaled bind to receptor cells in the nose.
- We still do not know how the receptor cells work or how many different ones we have.
- It appears we recognize individual odors.
- Primary olfactory cortex is in the temporal lobe & amygdala (thus close to the hippocampal centre for memory).

Vestibular system/Balance (sense of gravity)

- The 3 fluid-filled, semicircular canals are located in the inner ear.
- They detect movement in 3 directions, forward-backward; lateral-medial; up-down
- Sensation caused by movement of fluid in the canals

Perception

- Perceptual organization
- *Gestalt* (perception of "*whole*" and not just the sum of the parts). We tend to group (or organize) sensations into *meaningful patterns*:
- proximity, similarity, continuity, connectedness & closure.

Depth Perception

- *Binocular cues* (we require two eyes to see depth)
    - *Retinal disparity*. What ones eye sees is not exactly the same as the other
    - *Convergence.* The eyes turn inward (converge) and the brain computes the angle of convergence.
- *Monocular cues:* interposition, relative size, texture gradient-relative clarity (near objects have more detail than far objects) , relative height, relative motion, linear perspective (parallel lines converge at a distance), light and shadow

Motion Perception

- Objects that shrink are moving away. Objects that enlarge are moving toward.
- Stroboscopic motion.
- Phi phenomenon. When two adjacent lights blink off and on, they appear to move. Movie theatre lights appear to move.

Perception (cont'd)

- *Perceptual constancy* allows us to perceive an object as unchanging even though the stimuli impinging on our receptors actually do change.
- *Shape constancy; size constancy; lightness constancy*.
- *Perceptual set*: What we perceive is influenced by previous assumptions, expectations and memories.

Perceptual Interpretation

- *Restored vision:* When adults who have been blind from birth regain sight, they are able to distinguish colour and foreground from background. They can distinguish individual features. But, they have a difficult time distinguishing "whole" objects.
- This is because of the failure to form neural networks in the cortex.

- *Critical period*: Many (but not all) aspects of perception have to be learned. If they are not learned before a certain critical period, they can never later be learned.
- Cats raised from birth in a restricted environment (seeing only vertical or horizontal stripes), never learn to perceive the opposite environment (if raised in an environment consisting of only horizontal stripes, they can never learn to perceive verticals).
- *Perceptual adaptation:* Many mammals (especially humans) can re-learn (or adapt) to large changes in stimulus input. Humans that wear goggles that invert their vision soon learn to adapt.

Extrasensory Perception (ESP)

- More than 50% of adults believe in ESP.
- There is however almost no evidence to support it. Results are not reproducible.
- In the rare cases in which a statistically significant effect is found, it cannot be reproduced in other studies.
- ESP is studied by *parapsychologists*.
- *Telepathy*: mind-to-mind communication
- *Clairvoyance*: perceiving remote (past-present) events (your mother is ill)
- *Precognition:* Perceiving future events
- *Psychokinesis*: the "mind" moving (or influencing) matter.

Learning

- Classical conditioning:
- An association is made between two previously unassociated stimuli
- UCS – UCR; CS-CR
- Respondent behaviour: actions that are automatic responses (UCR or CR) to a stimulus (such as salivating in response to meat powder and later in response to a tone).
- Generalization; extinction; spontaneous recovery
- Discrimination: the ability to discriminate between a CS and other stimuli that do not lead to an UCR.

- Strength of UCS+CS association determined by:
    - The frequency (number) of prior associations
    - The predictability of the associations. We come to be able to predict the CS→UCS. Top-down *cognitive* relationship.
    - Time between CS and UCS. Most rapid conditioning occurs when CS occurs shortly before UCS.
    - But see *biological predisposition*.

- *Biological predisposition (example):*
    - A rat is given a drug that will cause vomiting (UCS→UCR). Food or light or sound (CS) is paired with the drug.
    - The animal will learn to avoid the food (CS), but not the light or sound.
    - Food (a biological predisposition) → CR

Operant conditioning

- Stimulus-response-reinforcement
- Schedules of *reinforcement*
    - Fixed, variable
    - Ratio, interval
- *Positive and negative reinforcers*
- *Extinction vs Punishment*
    - Positive punishment: administer an aversive stimulus (e.g., spanking)
    - Negative punishment: Withdraw a desirable stimulus (If you don't study, can't go out; Lose driver's license)

Intrinsic & Extrinsic Motivation

- *Intrinsic* – the desire to perform an activity for its own sake (internal reinforcement).
- *Extrinsic* – the desire to perform an activity to receive an external reinforcement or to avoid punishment.
- Giving a reward for an activity that is already enjoyed intrinsically can backfire
- University athletes enjoy participating in a sport less if they receive a athletic scholarship than if they do not.
- However, extrinsic motivation can increase performance.

Learning without reinforcement

- Rats will explore a maze without any apparent reinforcement.
- When food is subsequently placed in the maze's goal box, the rats immediately perform as well as rats that had previously been reinforced.
- They thus demonstrate "*latent learning*".
- Rats therefore appear to learn a type of "*cognitive map*" when they are freely allowed to explore a maze.

- *Social modelling.* Learning through modelling peers & media.

- *Mirror neurons*. When an animal engages in a particular behaviour (for example lifting an arm), a particular area of the brain is activated. When the same animal observers another animal do the same thing, the same neurons fire. The neurons mirror the actions of another animal.
- Mirror neurons also act to infer another's mental states. This is called the "*theory of mind*". It explains empathy. You may experience pain by seeing an animal in pain

Pro & Anti-social effects of social modelling

- Violence-viewing effect. More than 60% of TV programmes feature violence. Often the violence is not punished. Often, the victim shows no pain. Often the violence is "justified".
- The violence viewing effect may lead to *imitation*.
- Prolonged exposure to violence also leads to *densensitization*.

Memory

- See lecture notes for summary

Motivation

- *Instinct theory:* A theory that maintains that much behaviour is genetically determined. It has a *fixed pattern* and is *unlearned*. It is the same behaviour in all members of the species
- *Drive*: an activated or aroused state that is triggered by a physiological need
- *Drive reduction*: creates arousal that *drives* the organism to reduce the *need*.
    - Internal "*push*"
- *Homeostasis*
- *Incentives:* positive or negative stimuli that lure or repel us. Much influenced by learning.
    - External "*pull*"

Hunger

- What triggers the feeling of hunger? Physiological signals in the nervous system vs psychological factors
- Physiological: peripheral (Stomach "growling") or central (brain)"signals"?

Peripheral Signals

- Cannon's studies
- If the stomach is filled with a pumped-up balloon, we still experience hunger
- People who have had their stomachs removed still experience hunger although the hunger drive is decreased.
- Also the feeling of hunger will decrease dependent on the extent to which the stomach is "full".

Hypothalamic regions for hunger

- *Lateral hypothalamus*
    - When animal is food-deprive, releases the hormone, orexin
    - stimulation results in massive overeating
    - lesions result in an animal refusing to eat

- *Ventromedial hypothalamus*
    - stimulation results in starvation
    - lesions cause animals to eat huge quantities
- Several hormones may be released by the stomach and intenstines signalling "fullness"

Problems - Hypothalamic regions for hunger

- "set point" in lateral hypothalamic animals if force-fed
- "set point" in ventromedial animals
- Metabolic rate. Animals on a semistarvation diet reduce activity to conserve energy

Psychological Factors

- Taste preferences –
    - some preferences are universal & thus genetic (preference for sweet and salty).
    - Other tastes are conditioned (learned).
- Ecology of eating
    - Social factors. *Social facilitation*: We tend to eat more with others
    - *Unit bias* – We eat more if presented with large than small portions. The effect of "supersizing"

Eating Disorders

- Anorexia nervosa
- Bulimia nervosa
- Obesity

Anorexia

- Definition: weight at least 15% less than normal
- Predominantly young (teens-30 years), white and high socio-economic status
- Totally obsessed by food and calorie count
- Denial that there is any problem with weight

Causes of Anorexia

- Biological/genetic.
    - Hypothalamic dysfunction?
    - Slight tendency for identical twins to share the disorder more than fraternal twins.
- Personality
    - young, white, upwardly mobile women.
    - Family emphasis on achievement. Parents are very protective
    - Perfectionist standards, low self-esteem
    - Very concerned about how others perceive them
- Cultural
    - Social value placed on "thinness" in West.
    - 50% of American women report negative feelings about personal appearance

Obesity

- A much more serious problem than anorexia
- In the last 40 years, obesity has more than doubled and in adolescents, more than quadrupled.
- Rates in the West vary from 30-50% of adults.

Genetic factors & obesity

- Genetic factors in weight extremely important
- Identical twins raised together have nearly the same weight

- But they share same gene pool and same environment
- But, identical twins raised apart also have nearly exactly the same weight
- Different, unrelated subjects given the same calorie-rich diet will gain varying amounts of weight even though the diet is identical
- Twins given the same calorie-rich diet will gain almost exactly the same amount of weight and in the same places.

Genetic factors for obesity

- Number and size of fat cells. Obese have more fat cells and these are larger.
- With dieting, the fat cells may shrink, but the number does not.
- High "set point"
- Low metabolic rate

Obesity and metabolism

- Dieting (large decrease in calories) may not work well because metabolic rate drops
    - Thus, individual is also less active
- In those who are not obese, a large increase in calories may not lead to a weight gain because…
    - because of increase in energy thus, increasing metabolic rate

Obesity – Social Factors

- eat more under stress
- external cues; The overweight seem to be overly sensitive to the pleasant taste and appearance of food

Bulimia

- Recurrent episodes of binge eating (up to several thousand calories)
- But, no weight gain
- Food may be eliminated (due to laxatives or vomiting)
- Incidence: 1-10% of young women in all racial and socio-economic groups (depending on definition)
- Binge eating: up to 4% of women and 2% of men (Hudson et al., 2007)

Causes of Bulimia

- Biological/genetic: Link with depression. Perhaps chemical (neurotransmitter) deficit
- Personality: anxiety, obsessive-compuslice disorder, lack self-esteem, self-confidence, sense of worth

Social: value on thinness

Sexual Motivation

- The sexual response cycle
- Excitement, plateau, orgasm, refractory periods.

Adolescent sexuality

- Teen pregnancy might reflect:
- Lower use of contraceptives and higher rate of pregnancy in US compared to European teens.
- Ignorance. Lack of sex education. Education does not lead to higher sexual activity
- Ignorance about birth control
- Guilt about sexual acvtivity: 75% of American teen girls (12-17 year olds) regret sexual

activity. This may reduce sexual planning for contraception.
- Mass media modelling valuing promiscuity

Maslow's hierarchy of needs

- There are a hierarchy of needs.
- At the base, there are the *physiological needs* (hunger, thirst, sleep) followed by safety needs,
- then *belongingness and love* needs,
- then *esteem* needs and
- finally at the pinnacle, *self-actualization* needs.
- Only when a need is met at a lower level can one move to the next level. One cannot attain belongingness and love without satisfying the need for food.
- Humans who are put on semi-starvation diets are haunted by food giving up social relationships and sex.

The Need to Belong (Socialization)

- Many animals (including) humans are social animals. They *need to belong* to a group. They do not want to be alone.
- Socializing increases the likelihood of survival
- Children raised in isolation become withdrawn, fearful, even speechless.
- Adults feel depressed.
- People are often willing to remain in an abusive relationship because of the fear of being alone.
- Fear of being alone also leads to conformity to peer pressure

Social-applied aspects of motivation

- In the workplace, an *industrial-organizational (I/O) psychologist* will use psychological principles to optimize output and human behaviour.
- *Organizational* psychology. A branch of I/O that examines organizational influences, supervision on worker satisfaction and output.
- *Personnel* psychology. A branch of I/O that examines employee recruitment, selection, placement.
- *Flow*. A completely focused state of consciousness with diminished awareness of self and time. This is because of optimal engagement in one's skills or work.

Personnel Psychology

Selecting effective employees:

- Best predictors of success are general mental abilities, aptitude tests, past job performance
- Interviews are very poor predictors. Why? (Check text).Structured interviews are much better than unstructured interviews

- Appraising performance: Several rating scales can be used (see text).
- In many organizations, performance feedback comes from many sources, not just supervisors.
- *360 degree feedback* : you rate yourself, your supervisors, your colleagues and they will rate you.

Leadership Style

- *Task leadership:* setting standard, organizing work and setting goals. Task leaders are good at keeping a group focused on its goal. They tend to have a directive, autocratic style.
- *Social leadership*: mediates conflicts and builds a team approach. More democratic. Delegate authority.
- Effective leaders appear to use both styles of leadership.

Emotions

- See text and lecture summary for details