Motivation

approach motivation propels engagement in behaviour whilst avoidance motivation repels behaviours

Historical Aproaches	- Frued = Id (unconscious, irrational), Superego (preconscious, morally aware), Ego (conscious, rational, compromises) - Thematic Apperception Tests (TATs) measure unconscious desire
Drive Reduction Theory	- 1940s - Hierarchy of drives - Psychological homeostasis
Yerkes-Dodson Law	- 1908 - Arousal levels affect drive strength - Easy tasks require more arousal - Under arousal = stimulus hunger
Maslow's Hierarchy of Needs	- Physiological Needs (breathing, food, etc.) - Safety and Security (income, health, family stability) - Love and Belonging (friendship, intimacy) - Self Esteem (confidence, achievement, sense of uniqueness) - Self Actualization (purpose, creativity, spontaneity)
Sexual Motivation	- Libido - testosterone and protein (DRD4) related to dopamine - Men desire sex more than women - Desire phase, Excitement/plateau phase, Orgasm phase, Resolution phase - healthy people ages over 70 are still sexually active
Goal Setting	Specific, Measurable, Action-orientated, Realistic, Time dependant

Primary (biological) motives incl. thirst, hunger, sleep, oxygen, sex, temperature regulation, waste elimination

Secondary (social) motives incl. achievement, aggression, power, autonomy, curiosity, play, affiliation

Bio-psychology of Eating

Impacts on Society
By 2025 - 1 in 3 Australian adults will be obese
poor health --> disease and illness
EDs are costly and difficult to treat
Leading cause of preventable death in the US (incl. alcohol & smoking)
Processed food manufacture has a turnover of around $74 Billion/year
Food exports are worth $30 Billion/year – 11% of our total exports
Fast food sales alone are worth $17 Billion/year

Controls of Food Intake		
Body (biological)	Environment (external forces)	Brain (biological and physiological)

Bio-psychology of Eating (cont)

energy levels
- *energy stored short term as glucose and long term as fat*
- *fat cells secrete leptin, more leptin = appetite suppression*

food
- *seeing food causes a **cephalic phase response** (salivation, insulin release etc)*
- *In the US 4.2 Billion dollars is spent per year advertising just fast food*

neurochemicals
- *dopamine and seretonin suppress appetite*
- *leptin --> **CRH** (corticotrophin releasing hormone) = suppressed appetite*
- *Ghrelin--> **NY** (neuropeptide Y) = increasing appetite*

sensation
- *sensory specific satiety drives diet variety and slows intake near end of a meal*

time and place
- *eating is socially acceptable in most times and places*
- *routines can trigger hunger cues*

brain structure
- *Hypothalamus • Ventromedial nucleus (stop eating) • Lateral hypothalamus (start eating) § CRH and NY exert their effects here*
- *Cortical Regions § Frontal (impulsivity) § Insula (interoception)*
- *Limbic system § Hippocampus (memory) • Eating and Henry Molaison*

signals from digestive organs
- *stomach is distended or empty*
- *gut and stomach taste receptors*
- *Stomach is emptying its nutrient rich content (chyme) into the small intestine*
- *gut bacteria detect fat content*
- *signals communicated through Nerves (e.g., **vagus**), Hormones (e.g., **CCK & ghrelin**), Nutrients (e.g., **blood lipoproteins**)*

people and leisure
- *people eat **more** when with others*
- *TV can increase food intake by association and by distraction*

conscious/unconscious
- *brain probably plays the most cruical and larger part in food intake*

portion and plate
- *portion sizes have grown over time*
- *larger plate =larger food intake*

Eating Disorders

1. Anorexia Nervosa, 2. Bulimia Nervosa, 3. Binge Eating Disorder (B.E.D.), 4. Avoidant Restrictive Food Intake Disorder (A.R.F.I.D.), and 5. Other Specified Feeding or Eating Disorder (O.S.F.E.D.)

EDs are internalizing disorders characterised by specific negative thought patterns

Bio-psychology of Eating (cont)

80% of ED patients have another internalizing disorder

only 40-60% of ED patients recover

Normal BMI is 18.5-25; 25-30 is overweight and 30+ is obese
around a billion people are experiencing starvation

--> leads to/stimulates

Psychological Approaches

Structuralism	The analysis of the mind in terms of it's basic elements Studied the basic elements of consciousness: sensations introspective method 1879: Wundt and Titchener; first Experimental Psychology Lab
Functionalism	understanding the adaptive purpose of our thoughts, feelings, and behaviour based on evolution William James (1842-1910)
Behaviourism	The proper subject matter of psychology is behaviour, not unobservable inner consciousness classical and operant conditioning
Cognitivism	Studies mental processes, including perception, thinking, memory, and judgment Thinking has a powerful influence on behaviour the current dominant framework that has led to cognitive neuroscience
Psycho-dynamic perspective	Freud large influence on therapy methods relationship between conscious and unconscious mental processes

Principles of Scientific Thinking

extraordinary claims require extraordinary evidence

claims must be testable

occam's razor (parsimony/simplicity)

replicated

exclude rival hypothesis

correlation does NOT equal causation

Learning

Noticing and Ignoring of events	Sensitization and Habituation	*repeated mild stimulus --> habituation* *increasing intensity of stimulus --> sensitisation*	
Knowing what events **Signal**	Classical Conditioning (Contingency Theory by Robert A. Rescorla)	*Pavlov's Dogs* US = UR CS + US = UR CS = CR *must be Neutral Stimulus* phobias?	- Delayed conditioning (CS first overlaps with US) - Trace conditioning (gap between US and CS) - Simultaneous conditioning (US and CS at the same time) - backward conditioning (US before CS)

Learning (cont)

Learn Positive and Negative **Conseq-uences** of Behaviour	Operant Condit-ioning	*Biphasic Emotional Reactions* (Solomon and Corbit (1974)) Responce A decreases and responce B increases *Addiction* Compensatory-Response Model Siegel, Hinson, Krank & McCully (1982) context specific E.L. Thorndike (1874-1949) Law of Effect Premack Principle = Grandma's Rule	*stimulus -> behaviour -> reinforcement* - Positive Reinfo-rcement (sticker + effort = more effort) - Negative Reinfo-rcement (no strength + effort = more effort) - Positive Punishment (strength + misbehaviour = less misbeh-aviour) - Negative Punishment (no sticker +misbe-haviour = less misbehaviour) *Partial Interm-ittent Reinforce-ment, Fixed Ratio, Variable Ratio, Fixed Interval, Variable Interval)
Notice aspects of **Other's** behaviours	Observ-ational Learning	local/stimulus enhancement (look where others are looking) more modelling with more appropr-iateness and similarity of subject Albert Bandura	-attention - retention - reproduction - motivation

Learning (cont)

What is NOT learning?

Instincts, reflexes, behavioural changes due to fatigue, drugs, illness, or maturation

Learn by association: Aristotle, John Locke and David Hume

Acquisition - Extinction - Spontaneous Recovery

Stimulus Generalisation = transfer of knowledge
Stimulus Discrimination

History of Psychology

1500 BCE	**Egyptian Scrolls**	
700 BCE	**Pharaoh**	
600-400 BCE	**Ancient Greece**	4 humours?
1649	**René Descartes**	mind-body problem
late 1700s	**Frans Anton Mesmer**	hypnosis
early 1800s	**Franz Joseph Gall and Joseph Spurzheim**	phrenology
1850	**Gustav Fechner**	psychophysics
1859	**Charles Darwin**	*On The Origin Of Species*
1875	**William James**	creates small psych lab at Harvard
1879	**Wilhelm Wundt**	establishes first formal psycho-logical lab
1889	**Sir Francis Galton**	concept of correlation
1890	**William James**	*Principles of Psychology*
1900	**Sigmund Freud**	*The Interpretation of Dreams, landmark book in the history of psychoanalysis*
1905	**Alfred Binet and Henri Simon**	first intelligence test
1907	**Oscar Pfungst**	counting horse
1910	**Ivan Pavlov**	classical conditioning
1911	**E. L. Thorndike**	operant conditioning
1913	**John B. Watson**	psychology as behaviour
1920s	**Gordon Allport**	personality trait psychology

History of Psychology (cont)		
1920s	**Jean Piage**	*The Child's Concept of the World*
1924	**Hans Berger**	Human EEG
1935	**Kurt Koffka**	*Principles of Gestalt Psychology*
1938	**B. F. Skinner**	*The Behaviour of Organisms*
1949	**University of Colorado at Boulder**	Scientific Clinical Psychology Training
1952	in France	Antipsychotic drug Thorazine
1953	**Francis Crick and James Watson**	DNA model, REM discovered
1954	**Paul Meeh**	*Clinical vs.Statistical Prediction*
1958	**Joseph Wolpe**	*Psychotherapy by Reciprocal Inhibition* & behavioural therapy
1963	**Stanley Milgram**	lab studies of obedience
1967	**Ulric Neisser**	*Cognitive Psychology*
1974	**Elizabeth Loftus and Robert Palmer**	memory & Positron emission tomography (PET)
1977		Statistical Meta-analysis
1980		Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM-III)
1990	**Thomas Bouchard and colleagues**	Minnesota Twins Study
1992	**Ogawa and Kwong**	fMRI BOLD signals
1995	**Task force of Division 12 (Society of Clinical Psychology)**	list of empirically supported therapies
2002	**Daniel Kahneman**	first PhD psychologist to win nobel prize
2012		Human Brain Project established (Lausanne, Switzerland)

Personality	
Clinical	- Charcot (in France)
	- Janet (1859-1947)
through observations	- Morton Prince
	- Freud
	- Murray