

Motivation

approach motivation propels engagement in behaviour whilst avoidance motivation repels behaviours

Historical Approaches

- Freud = 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 serotonin 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 crucial 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	Classical Conditioning (Contingency Theory by Robert A. Rescorla)	<i>Pavlov's Dogs</i> US = UR CS + US = UR CS = CR <i>must be Neutral Stimulus</i> 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)
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Learning (cont)

Learn	Operant	<i>Biphasic</i>	<i>stimulus -></i>
Positive and Negative Consequences of Behaviour	Conditioning	<i>Emotional Reactions</i> (Solomon and Corbit (1974)) Response A decreases and response B increases <i>Addiction</i> Compensatory-Response Model Siegel, Hinson, Krank & McCully (1982) context specific E.L. Thorndike (1874-1949) Law of Effect Premack Principle = Grandma's Rule	<i>behaviour -> reinforcement</i> - Positive Reinforcement (sticker + effort = more effort) - Negative Reinforcement (no strength + effort = more effort) - Positive Punishment (strength + misbehaviour = less misbehaviour) - Negative Punishment (no sticker + misbehaviour = less misbehaviour) *Partial Intermittent Reinforcement, Fixed Ratio, Variable Ratio, Fixed Interval, Variable Interval)

Notice aspects of Other's behaviours	Observational Learning	local/stimulus enhancement (look where others are looking) more modelling with more appropriateness and similarity of subject Albert Bandura	-attention - retention - reproduction - motivation
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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	<i>On The Origin Of Species</i>
1875	William James	creates small psych lab at Harvard
1879	Wilhelm Wundt	establishes first formal psychological lab
1889	Sir Francis Galton	concept of correlation
1890	William James	<i>Principles of Psychology</i>
1900	Sigmund Freud	<i>The Interpretation of Dreams, landmark book in the history of psychoanalysis</i>
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	<i>The Child's Concept of the World</i>
1924	Hans Berger	Human EEG
1935	Kurt Koffka	<i>Principles of Gestalt Psychology</i>
1938	B. F. Skinner	<i>The Behaviour of Organisms</i>
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	<i>Clinical vs. Statistical Prediction</i>
1958	Joseph Wolpe	<i>Psychotherapy by Reciprocal Inhibition</i> & behavioural therapy
1963	Stanley Milgram	lab studies of obedience
1967	Ulric Neisser	<i>Cognitive Psychology</i>
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)
<i>through observations</i>	- Morton Prince
	- Freud
	- Murray

