

PSYCH 102

Evolution Psychology I: A Unifying Paradigm

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Evolution Psychology: A Unifying Theory

- It can answers questions that other psychology cannot
- Development Psychology - when things occur
- Personality Psychology - who?
- Neuropsychology - where in the brain does it happen
- Evolutionary Psychology - the main “why”

Wallace & Darwin

Wallace

- Natural selection didn't explain abstract ideas (music, art, math)
- *Teleological* - goal in mind
- *Directional* - end point of evolution (the goal)

Darwin

- If you accept evolution then it will explain more than you are restricting it
- Abstract ideas (music, art, math) for reproduction and attraction

1. *Evolution doesn't follow morality*
2. Evolution is = simple mechanical complex dynamics
3. Nothing is written

The Genes-eye View - "Gene selection theory"

- Ex. Mother spider grows baby, passes on GENE but baby eats the mom for survival
- *"The Selfish Gene"* - gene looks out for itself even if it means making psychological behaviour for hosts selfless

Genetic Inclusive Fitness

- How successful your genes are not the success of the host

How the Mind Entered the Arena

- Biggest evolutionary change: brain (4 folds)
- Evolution to social behaviour
- Social behaviour increases "fitness"
- Cognitive module in the brain that motivates behavior increases "fitness" - cycle continues

Mismatch Theory

- Because it's a slow process we have not adapted to our modern environment
- Example: our need to eat foods with high fats/sugar. Before we used to be constantly in need of high fat/sugar food for energy/survival. Abundance of food but we haven't moved past that need.
- Environment has to be stable and constant for an adaption do fully occur, not enough selection pressure for evolutionary adaptation, constructed environment to adapt to us
- Technological advances have held back evolution, challenging evolutionary adaptation - getting in the way of natural selection (e.g lens for bad eyesight, passing down of bad eye genes)

Mate Preference

- Sex and death can be considered the gas pedal and brake for evolution
- Remove moral restriction can learn a lot about the importance of sex

Sexual Division of Labor Sex is good for whom?

- Males: females did all the work, led to supply and demand
- Females: choosy for their mate, led to competitiveness for males

Parental Investment Theory

- Males: primarily courtship costs (e.g Peacocks borne pretty feathers to attract female peacocks however also make themselves easy prey by the same bright feathers)

What determines female attractiveness?

- Driven by fertility cues: beauty & youth
- Neotony: babylike looks are attractive
- WHR: 0.7

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Methods: How To Do Psychology

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The Scientific Method

Why is psych a science?

- Because science is determined by method not content
 - Most reliable factual path to truth
 - Characterized by **skepticism**, **self-doubt** and **other-doubt**
 - **Skepticism** is necessary our minds crave being proved right - make us reject things that might be true, accept things that might not be
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- “ The duty of the man that investigate....” Alhazen - radical doubt process (we as humans are tempted to believe what we want to be true)

1. *Feelings aren't facts (can't rely on our intuitions/feelings we have to favour the facts rather than what we want is to be true)*

Two Principle

- What we believe should be based on testing: prediction, observations and replication
- Nothing is ever fully “proven” because there can always be another attack. Always open-ended endeavour (open to being overturned).

The Scientific Process: Theory, Hypothesis, Data

Theory

- An explanation of why things are the way they are
- A good theory: agrees with existing observations
- Generations testable predictions about what new things should be able to observe
- Parental investment theory: Men and women have evolved to face different goals and fears in romantic relationships

How we measure things

Construct

Real world phenomenon we want to study

1. Love
2. Shyness
3. Hunger
4. Intelligence
5. Anxiety

Operationalize

Turn an abstract concept into something you can systematically observe and verify

Operational Definition

- defines psych construct in terms of procedures used to measure it
- Eg. Amount of food consumed on one sitting - HUNGER
Number of cigs smoked in an hour - ANXIETY

What makes a good operational definition?

- **Validity:** do the numbers actually correspond to the variable that you think they do?
- **Reliability:** if you repeated the measurement procedures under similar circumstances would you get the same results?

Ways of measuring

Observation

- Observe the behaviour that we are interested in

Self-Report:

- Asking people to measure
- Limitations to self-report is there are going to be social bias

Implicit measures

- Get underneath the self report bias to get an accurate indications
- The implicit association test

Physiological Measures

- Heart rate
- Measure anxiety - machine
- MRI

- Social exclusions (e.g cyberball - Eisenberg et al. 2003) - social rejections activated the same brain regions as physical pain

Research Design

Choosing a research design depends on your research

- **Simple description:** measuring characteristics of a group
- **Correlation:** examining “what goes with what?”
- **Prediction:** a correlation between something we can measure now and something that might happen in the future
- **Explanation:** examining cause and effect (requires a test)

Correlation Design

Measures two or more variables and tests for a *correlation* between them

- **Cause and effect**
- **Reverse Causation** - reasons for two things to correlate
- **Unrelated trends**

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Developmental I

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Babies

- The obvious does not seem obvious yet
- Going through developmental stages to acquire knowledge

Jean Piaget (1896-1980)

- Based rigorously on observation
- Active thinkers trying to understand their complex surrounding
- 4 stages: Sensorimotor stage (Freud: oral), Preoperational stage, Concrete operational, Formal operational
- Environment expected development

Development Humans vs. Chimps vs. Orangutan

- Chimps have strong memory
- Humans do better in a social domain distinguishing us

Theory of the Mind and Play

- *Levels* of theory of mind: refer to chart on powerpoint
- First we have to learn to learn
- All mammals tend to play, essentially allows you to integrate necessary skills
- Regulate their play to favour others at time to share the references of others

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Developmental II

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- Antifragile - concept that you need disorder or threats ("push") to in order to grow become stronger
 - Ex. bones
- Emotional Recognition Test: adults show more activation in frontal "reason/logic"
Teens showed activation in lower

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Social Psych I

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4. Confirmation bias and motivated reasoning

Confirmation Bias

- Natural instinct to be right - brain squirms out of anything that makes it uncomfortable
- Ex. horoscope - interpret everything according to their horoscope and disregard anything that does not
- Feeds our ideologies that may be false
- Easily find information online that feeds our bias - search engines like google, amazon have algorithms that sell products based on your bias

Motivated Reasoning

- Finding evidence that fit your bias by believing what you want, and dismissing what you don't

Echo chambers

- Social media - your own views, opinion are echoed back to you based on the people that your follow because they all have the same view and opinion as you

Filter Bubbles

- Lord, Lepper & Ross - filter bubbles were dilated, found that they reinforced their beliefs by finding everything that undermines their opposing side
- ONLY ONLINE

The Cultural Brain Hypothesis

- Developed a mind to understand and absorb the culture that gets passed down by these large groups
- Feedback process of genetic evolution that led to cultural evolution and vice versa until anatomical constraints

Mechanism of Cultural Transmission

- Content-based Mechanisms
 - Rhyme for remembrance/retention
- Context-based Mechanisms
 - Frequency-dependent cultural learning bias: everyone wears jeans, i wear jeans
 - Conformity bias: conFORM to others belief
 - Model-based cultural learning bias: do what the popular people (models) are doing
 - Prestige Bias: inclination to learn from and imitate prestige people

Deindividuation - "The Mob Mentality"

- Find yourself dissolved into the group
- And now you don't think you can hold responsibility because it's a group effort
- Uniforms, marching drills - suppress individuality
- Accountability to sustain their good reputation, people act morally good however when merged into a group their individuality is removed and thus inclined to behave outside their norm

Diffusion of Responsibility

- When people have other people around, responsibility gets diffused
- The Bystander Effect - *someone* will do it

Groupthink

- Everybody ignores every other information because they all want to agree

Spotlight Effect

- We believe people notice us way more than we think

Enhancement of the Self

- People rate themselves higher
- Told more about your success, so people tend to enhance themselves
- The Self-Serving bias: we attribute our success to our internal distributions
 - E.g bad on the test - wasn't my fault, the circumstance
 - Something good happens "I" did it, something bad happens "something" else did it
- Simplification of the other: everything they do is always due to internal factors
 - I fall, there was a bump on the road but if he falls, he's a clumsy guy
- Social Identity Theory: how ready we are to split people into *us* and *them*
- *Klee and Kandinsky Study*: people were able to hurt the other group, even if it meant hurting their own BUT it would increase the divide between the two, making t both in total worst BUT their group better

Moral Emotion

- Motivated by emotion they came up with a way of rationalizing the footbridge problem
- Not on rational decision just emotion
- Difference disappeared when the discomfort emotion was negated by happiness (the saturday night sketch)
- Morality is fundamentally social - produces social relations and cooperation
- Cooperation is a successful evolutionary invention - can achieve more together than by them themselves
- Humans taken over the world because they are the most cooperative species
- This cooperation adoption would be beneficial but it is hard and not adopted by most species because of the group cooperation problem
- Fictive Kin: "fictional" kin (ex. Sororities - activates sibling/kin based psychology)
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Judgement and Decision Making

- Cognitive errors that deviate us from the truth
- Visual illusions are ways of showing that our brains are not built for truth
- Availability Heuristic - tendency to overestimate things that come easily to mind
- Survivorship Bias: Past serves as a filter that only lets those that are good survive
- Anchoring: in a situation of uncertainty we use cues to find an answer/decision
- Cognitive Dissonance: uncomfortable to have contradicting thoughts so our brains try to force one attitude
- Overjustification Effect: consequence of cognitive dissonance
- The Halo Effect: if you are good at one thing, probably good at other things
- Loss Aversion: It hurts more to lose something than it feels to gain something
- The Endowment Effect: owning something makes it valued more

Psychological Disorders

- Product of witchcraft/possession, tried to cure them by putting them into near death experiences
- 'The Line' is arbitrary
- Depression affects the silver lining in the brain
- West exports our psychological disorders to other countries
- Major depression - fourth most prevalent and willing to rise
- Antidepressants don't seem that effective for those suffering with mild depression
- Medication doesn't "fix" the problem but "suppresses" it - relapse if no physical change has happened (e.x. Leaving a sad job environment)
- Window for suicide peaks when the energy gained from starting antidepressant

Cognitive-Behavioural Therapy

- Medication + "talking cure" = most effective way
- Andrew found with his patients that if you tackle their current negative behaviour and thinking you can help their depressive thoughts
- Dissolves the distinction between those that are mentally well and those that are mentally ill

Mikayla - Suicide and Suicidal Thoughts

- Suicide rates remain constant or slight rise
- 2 disorder that include suicide in diagnostic criteria: Depression and Borderline Personality Disorder
- Most common are hopelessness and unbearable psych pain
- Least common: help seeking and influencing/communication
- Three-Step Theory of Suicide
 - How does one start thinking about suicide in the first place? Pain and hopelessness starts the thoughts of suicide ideation
 - Does the pain exceed your connectedness? (Anomie) What makes your life worth living
 - Do they have the capacity to attempt suicide?
- 4 Targets of Intervention
 - Decrease pain, increases hope - intervention in each three step to prevent suicide
- Treatments of Suicidality
 - Dialectical Behaviour Therapy - aim to build a life that is worth living, effective for long-time suicidal people
 - Collaborative Assessment and Management of Suicidality - fit it into different therapies, effective for more recent suicidal people

Personality Disorder

- At extremes there is a big difference in sexes, however in the mean/middle/overlap there is a more equal distribution
- Borderline Personality Disorder: a disposition *not* a distortion

Positive Psychology

- How to improve not only those that are struggling but those that are doing alright to make both groups the best

Factoids

Romantic Relationship

- Physical or psychological proximity is one of the main drivers of interpersonal attraction
- Mere Exposure Effect: the more you are exposed to something the more you like it

Hypersensitive Agency Detection

- Tuned to be aware of other people because they are crucial in our survival (mating, relations etc.)
- Tuned to also be aware of other agents such as prey or predator
- Tendency to over perceive things lead us to have supernatural fallacies
- Intuitive dual

- Eastern Paradox - diminishing happiness returns based on economic success
 - rich countries are not happy
- Sexual selection is part of the gene selection
- How is empathy prejudice?
 - Compassion fatigue - idea that empathy isn't rationale
Empathy gets distributed when there are more people
- Schachter-singer - HAVE to label the emotion
- Homoeructus - 2million BRAIN SIZE SHOT UP
 - Anxiety, depression, schizophrenia, bipolar- KNOW DIFFERENCE BETWEEN BIPOLAR AND UNIPOLAR - know symptoms
Bipolar - has the two poles -low/high effects of manian
Unipolar - respond to different treatment, lower rate of risky behaviour than bipolar
- Existential terror - terror management theory, all culture is a way of literally or symbolically denying we are going to die
- Robber's Cave Experiment - only a common enemy made the two groups make peace

- Watch: WATCHMEN
- Life history theory: body according to different life events