

biological approach

genes and twin studies

- **Genotype** = genetic code of the individual. Info found in the cells.
- **Phenotype** = expression of the genotype and is visible to other people.
- Example of difference: genotype is the maximum height you can be. Your actual height is phenotype and is affected by environmental factors e.g. nutrition.
- **monozygotic twins** = one zygote split into 2 (identical)
- **dizygotic twins** = 2 separate eggs are both fertilised (non-identical)
- should always expect 100% concordance rates between MZ twins → they share 100% of their genes.
- MZ concordance is higher than DZ → behav. partly due to nature.
- MZ concordance is similar to DZ → behav. entirely due to nurture.
- MZ concordance is 100% → behav. entirely due to nature.
- MZ concordance is lower than DZ → behav. partly due to nurture.

evolution + behaviour

- **Natural selection**: certain characteristics provide an evolutionary advantage are passed from 1 generation to the next.
- Bussé's 1994 survey of heterosexual mate selection. Across 37 countries, he found that men preferred good looks, youth + chastity. Women preferred good financial prospects, industriousness and dependability.
- This suggests certain behaviours + traits have evolved in both males and females since they promote better prospects for passing on favourable genes.

neurochemistry + biological structure

- the brain relies on hormones and neurotransmitters
- too much / too little of these chemicals can result in over or under-activity in various parts of the brain. Changes to thinking / feeling / behaviour.
- Example: high dopamine levels linked with schizophrenia.
- CNS, PNS + endocrine system all determine behaviour e.g. eating + breathing is controlled by neural actions
- different lobes have generic functions e.g. occipital lobe linked with vision.
- Phineas Gage → iron bar damaged his prefrontal cortex.

evolution

- **Strength** = scientific approach. Use of complex machinery e.g. PET, fMRI, EEG allows objective, accurate + precise measurements since machines don't have bias → reliable data
- **Strength** = RWA. Impact of bio. on behav. lead to treatment. e.g. biochemistry involved with depression enabled drugs to be developed → allows patients to manage their condition + avoid hospitalisation (improves economy)
- **Weakness** = bio. treatments aren't always effective. Drugs only treat biologically-visible effects, not causes of the problem. Childhood experiences (trauma + depression) can't be fixed by drugs (drugs can't fix nature) → psychological treatments (CBT) may be more appropriate.
- **Weakness** = cause-effect or correlation? Many disorders assume high/low levels of certain characteristics / neurotransmitters cause the disorder. e.g. assuming headache is caused by lack of paracetamol. → only a relationship between variables, not causation.
- **Weakness** = reductionist. States all human behav. can be explained through bio. process + not unique as individuals. Dehumanises humans to 'biological machines'. Ignores environmental factors (it should be used in combination, known as biosocial / interactionist app.)
- **Weakness** = deterministic = behav. determined by physiological, genetic or evolutionary makeup. Stating there's no free will. Biological determinism has implications for legal system + wider soc. (mentally ill → blame crime on their genes)