

# Reductionism

## Reductionism

- Reductionism - the argument that we can explain behaviour and experiences by reference to only one factor, such as physiology or learning.
- Reductionism and determinism → closely linked, where you find one, likely to find the other.
- Rose (1997) - identified 3 different forms of reductionism
  - **Methodological reductionism** - refers to the use of reductionism as a method of investigating phenomena. A researcher reduces behaviour to a set of variables which can be controlled and measured, thus cause and effect relationships can be established.
  - **Philosophical reductionism** - an attempt to find a 'Grand Theory of Everything' - 1 language that can be used to talk about everything in the universe. Will help to form an all-embracing explanation of the world
  - **Ideological reductionism** - serves a vested political interest, usually in the form of coercion.
- There are many different types of reductionism:
  - **Physiological reductionism** - argues that all behaviour and experiences can be explained (or reduced to) by biological factors such as hormones or the nervous system
  - **Genetic reductionism** - reduces all causes of behaviour to genetic inheritance.
  - **Social reductionism** - argues that all behaviour and experiences can be explained simply by the affect of groups on the individual.

## Arguments for reductionism

- By breaking down a phenomenon to its constituent parts it may be possible to understand the whole.
- This type of single mindedness has led to some great discoveries in psychology as it has in the 'natural' sciences
- Is appropriate for certain levels of explanation - e.g. if your talking about living cells, it makes sense to use cellular biology and not psychology.

## Arguments against reductionism

- Too simplistic because they ignore the complexities of human behaviour and experience. Behaviour often has a number of different causes and to reduce the possible explanations to one level can only provide a limited understanding.
- Inappropriate for psychology - methodological reductionism reducing complex behaviour to variables which can be manipulated and measured, the results from these types of experiments cannot be generalised as they lack ecological validity.
- Holistic may be more appropriate for psychology- looks at the process as a whole.

## Examples of Reductionism in Psychological Theories and Studies

## **Schizophrenia**

- The cause has been linked to excessive activity by dopamine
- Anti-psychotic drugs can be used to reduce dopamine activity in the brain and symptoms of the disorder
- As a result, the drug itself may be able to eradicate schizophrenia by controlling the levels of dopamine. So where does this leave the environmental factors of schizophrenia?