

# [Biological psychology chapter 1](https://assignbuster.com/biological-psychology-chapter-1/)

biological psychologythe study of the biological bases of psychological processes and behaviour (also called behavioural neuroscience)neuronthe basic unit of the nerve system ONBIOLOGICAL PSYCHOLOGY CHAPTER 1 SPECIFICALLY FOR YOUFOR ONLY$13. 90/PAGEOrder Nowneurosciencethe study of the nervous systemconservedin the context of evolution, referring to a trait that is passed on from a common ancestor to two or more descendant species. five research perspectives on the biology of behaviour1. description: structural and functional
2. evolution
3. development over the life span
4. mechanisms
5. applicationsphysiological psychologyMore specific and defined area of biological psychology - Deals with the relationship between mind and body (i - Tends to be invasive (i. e., manipulating directly the nervous or endocrine system of animals)
- Focus is on the central nervous systempsychophysiologyTends to take physiological measures, and correlate them with behavioural or cognitive measures.
- Focuses on autonomic nervous system measures, brain waves, muscle activity, etc.
- Ex: EEG, EMG, EOG, GSR, etc.
- Applications: Biofeedback, sleep studies, polygraphneuropsychologyTypically in the human and clinical context (" clinical neuropsychology")
- A clinical psychology Ph. D or PsyD is required.
- based on assessment of patients (for brain disorders and injuries) and rehabilitation.
- Working with neurologists (MD's) is often required in hospitals)behavioural neuroscienceTends to be defined as " biological psychology" (so quite general) with the exclusion of cognitive neuroscience.
- Fundamental (basic) research with both animal models and humans.
- Definitions depend on how you define " behaviour"
- Focus on observable behaviours (i. e., motor behaviour), and emotions (affective processes) and motivational processesethologythe science of animal behaviourbehaviourismthe theory that human and animal behavior can be explained in terms of conditioning, without appeal to thoughts or feelings, and that psychological disorders are best treated by altering behavior patterns. striated muscleA type of muscle with a striped appearance, gen-
erally under voluntary control. Compare smooth musclecognitive neuroscienceFundamental research with predominantly human but some animal models
- Heavy reliance on non-invasive neuroimaging techniques (e. g., CAT, PET, fMRI, etc.).
- Focuses on cognitive processes (covert processes) and functions (e. g., behavioural plasticity, communication, etc.): Learning and memory, Attention and perception, Problem solving, decision making, Languagedevelopmental psychology or neuroscience and behaviour geneticsStudy of
- life-span development
- early development (pre-natal, peri-natal, early post natal)
- aging
- genetic vs. environmental influences
- epigenetics
- brain growth and regeneration, neuroplasticity, etc.
- In behavioural endocrinology and toxicology: organizational effects of hormones, endocrine disruptors, neuroteratology3 emerging areas of neuroscience1. Affective neuroscience: The neuroscience of emotions, affect
2. Social neuroscience: The neuroscience of social behaviour and socio-affective processes.
3. Motivational neuroscience: the study of motivational processes. " Drives" and incentives, and how the brain responds to " reward", and becomes addictedbehavioural pharmacology or psychopharmacologyThe study of the effects of drugs on brain, behaviour, cognitionbehavioural endocrinology and psychoendocrinologyThe study of the effect of hormones on brain and behaviour and also the effect of behaviour on the endocrine systembehavioural toxicologyThe study of the effect of neurotoxins (and sometimes endocrine disruptors) on brain and behaviourneurotoxina poison that acts on the nervous systempsychoneuroimmunologyStudy of the relationship between the immune system, the nervous system and behaviour3 main approaches to studying the neuroscience of behaviour1. somatic intervention
2. behavioural intervention
3. both of these variables measured to allow for correlations between somatic and behavioural changes
- each approach enriches the otherssomatic interventioninvestigators change the body structure or chemistry of
an animal in some way and observe and measure any resulting behavioral effects. behavioural interventionAn approach to ﬁnding relations between body variables and behavioural variables that involves intervening in the behaviour of an organism and looking for resultant changes in body structure or function. epigeneticsThe study of heritable changes in gene activity that are not caused by changes in the DNA sequence
- The study of factors that affect gene expression without making any changes in the nucleotide sequence of the genes themselves. monismthe brain and the mind are the same
- also physicalism, materialismdualismbrain and mind are not the same
- but could interact (interactionism)
- Cartesian dualismtelencephalonThe frontal subdivision of the forebrain that includes the cerebral hemispheres when fully developed. MacLean's brain theoryThe Triune Brain
- telecephalic components:
1. reptilian brain
2. paleo-mammalian brain
3. neo-mammalian brainreptilian brainbasal ganglia and extrapyrimidal motor systempaleo-mammalian brain" visercal" or " ventral" brain
- limbic system, social emotionsneo-mammalian brain" dorsal" brain
- neocortex, complex cognitions