

Chapter 1

What is Psychology?

Sociology

Social Psychology

Psychology

Biological Psychology (Neuroscience)

Biology

Biochemistry

Chemistry

Physical Chemistry

Physics

Psychology is a word deriving from Greek roots:

Psyche – “soul” or “mind”

Logos – “word”

Psychology is the systematic study of behavior and experience (Mental processes).

Psychologists engage in the study of psychology in order to understand, explain and predict behavior.

What are the major philosophical issues that are relevant to this study?

Free Will Versus Determinism

Are the causes of behavior knowable, and is behavior predictable?

Free will is the belief that behavior is caused by an individual's independent decision-making.

Determinism is the assumption that everything that happens has a cause or determinant in the observable world.

A believer in free will assumes that even with complete information regarding causes and conditions, predictions regarding human behavior can never be fully accurate.

A determinist assumes that everything that happens has a cause that can be known.

Benjamin Libet's experiment.

The Mind-Brain Problem

How is experience related to the organ system called the brain?

Dualism is the belief that the mind is separate from the brain but somehow controls the brain and through it also the rest of the body.

Monism is the view that conscious experience is generated by and therefore is inseparable from the brain.

Data from brain imaging research such as PET (positron emission tomography) suggests that brain activity and mental activity are two aspects of the same thing. Yet this question is far from resolved.

The Nature-Nurture Issue

How do differences in behavior relate to differences in heredity and environment?

Some scientists assume that the larger proportion of differences in potential and behavior are due to the influence of genes.

Some scientists assume that most differences are a result of aspects of the environment such as culture, expectations, and resources.

This issue shows up in virtually every field of psychology, and knowledge gained through research seldom provides a simple answer.

Approaches in Psychology – Structuralism

William Wundt

The first psychological laboratory: The work of William Wundt, Leipzig, Germany - 1879

William Wundt was trained as a physician and did research on the workings of the senses.

Although other psychology experiments had been done, this was the first laboratory devoted exclusively to the activities of psychological research.

Wundt's fundamental question was: What are the components of experience, or mind?

He presented his subjects with a wide variety of stimuli, and asked them to look within themselves, to introspect. He tried to measure the changes in their experiences as the stimuli changes.

Wundt and his students did experiments in a wide range of areas related to psychology, and they wrote prolifically about their findings.

Most importantly, Wundt demonstrated that it was possible to perform meaningful experiments in the science of psychology.

Edward Titchener

Edward Titchener was a student of Wundt who immigrated to the United States in 1892.

He developed the approach he called structuralism.

In structuralism, the researcher attempts to describe the structures that compose the mind – the sensations, feelings and images.

Titchener presented a stimulus to his subjects and asked them to analyze its separate features.

After Titchener's death in 1927, his research methods were abandoned.

There was no feasible way to check the accuracy of his subjects' observations.

As psychology evolved through the 20th century, psychological researchers became more interested in describing and analyzing readily observable behaviors.

Approaches in Psychology – Functionalism

William James: The Principles of Psychology (1890)

The American psychologist William James was keenly interested in what the mind does, rather than the elements of mind.

He rejected the methods of Wundt and Titchener.

He wanted to learn how the mind produces behaviors. He called his approach *functionalism*.

Typical questions asked from a functionalist perspective:

How does a person recall the answer to a question?
How does a person inhibit an undesirable impulse?
Can a person attend to more than one task at a time?

Evolutionary Psychology

An Evolutionary Psychologist tries to explain behavior in terms of the evolutionary history of the species, and how specific behaviors are selected through Natural Selection.

The enormous impact of Darwin: The origin of species (1859); The descent of man (1871)

In his presentation of compelling evidence that humans and other animal species were related, Charles Darwin forced scientists and thoughtful people working in many disciplines to consider the basic features held in common by many or all animals, such as thinking and intelligence.

Comparative psychologists, who use this perspective, are specialists who compare different animal species.

Comparative psychology

Early comparative psychologists devised a number of experiments to try to measure animal intelligence, such as:

The delayed response problem
The detour problem
The pattern recognition problems

Some species appeared to be gifted in one set of tasks and highly deficient in another.

Eventually the inconsistencies in performance between different tasks across a single species suggested to comparative psychologists that questions about animal intelligence might be meaningless.

This issue is similar to some of the problems that we currently are encountering in the controversial area of measuring human intelligence.

Human intelligence and IQ testing

Francis Galton was one of the first scientists to try to measure human intelligence and determine to what extent heredity influenced variations in human cognitive abilities.

He studied the sons of accomplished men and found that the offspring of the talented and famous had a high probability of being accomplished too.

He explained this as due chiefly to the influence of heredity. Is this the only possible explanation?

Alfred Binet (and Simon) devised the first useful intelligence test 1905, at the behest of the French government, for use in identifying children in the public school system who might be in need of special services.

His test was imported to the United States after his death, and was the "template" for the development of many tests of intelligence and other qualities of interest in the field of psychology.

Approaches in Psychology – Behaviorism

Behaviorism – John B. Watson and B.F. Skinner

Recall that structuralism was abandoned because it was difficult to study the subjective perception of experience.

Behaviorism is a field of psychology that concentrates on observable, measurable behaviors and not mental processes.

Behaviorists primarily seek to study the observable behaviors associated with what is generally referred to as learning.

Behaviorism and Studies of Learning

The earliest researchers in the field of learning expected to find that it operated using simple, basic and predictable laws, comparable to Newton's physical laws of the universe.

Much as Newton's "majestic clockwork" has given way to the more random and unpredictable world of modern quantum physics, the specialty of behaviorism has revealed some laws of behavior, but a good deal of complication arising from other processes (such as the influence of cognition and motivation.)

Learning and Motivation

A psychologist who studies and does research in this area is interested in how behavior depends on outcomes of past behaviors and on current motivations.

Approaches in Psychology – Cognitive

By the 1950s, researchers such as Ulric Neisser were challenging the behaviorists' assumptions, arguing that internal cognitive processes could and should be studied by psychologists.

Early cognitive psychologists developed techniques for measuring thinking and reasoning processes objectively that are still used by researchers today.

Approaches in Psychology – Psychoanalysis

Sigmund Freud and Psychoanalysis

Sigmund Freud revolutionized psychology by proposing the existence of an "unconscious mind" rooted in our animal origins.

He worked with his patients to understand how this hidden part of the mind influenced their mood and behavior by analyzing their dreams, fantasies, and exploring their perceptions of their own early childhood experiences.

Although much of his theory has been recently questioned or rejected as unscientific, modern psychology is still heavily influenced by his ideas about treatment of psychological distress.

Approaches in Psychology – Humanistic

Humanistic psychology, led by Abraham Maslow and Carl Rogers in the 1960s, was a reaction against both behaviorism and Freud's psychodynamic theory.

Unlike the behaviorists, the humanists felt that internal experience was extremely important for understanding behavior. Unlike Freud, however, the humanists proposed that human nature is inherently good, and that all people want to improve themselves if they can.

Humanistic approaches involved treating clients as peers rather than subordinates, and changing the environment as a way to help improve the individual – ideas that are still very influential in clinical psychology today.

Women in Psychology

In the early days of psychology, opportunities for women were limited as they were in so many areas at the time.

Mary Calkins was one of the pioneering women in the field. Her graduate education in psychology at Harvard was paid for as part of her teaching salary at Wellesley College.

Although she never received the Ph.D. that she earned from Harvard, she went on to do research, study the function of memory, and serve as the president of the American Psychological Association.

Christine Ladd-Franklin -- psychologist, logician, mathematician, physicist and astronomer
Leta Stetter Hollingworth -- Psychology of women and sex differences
Margaret Washburn -- First PhD; animal behavior, and motor theory
Karen Horney & Anna Freud -- Psychoanalysis

Perspectives in Psychology

There are many specialties in the broad science of psychology. Psychologists practice within their chosen specialty in 3 main areas:

Teaching and Research

Service Providers to Individuals

Service Providers to Organizations

Teaching and Research

Most teaching psychologists work in colleges and universities.

Most psychologists who teach also engage in research and writing.

Some psychologists are employed in full-time research positions.

Major categories of psychological research

Biological Psychology (or neuroscience)

A bio-psychologist tries to explain behavior in terms of biological factors, such as anatomy, electrical and chemical activities in the nervous system, and the effects of drugs, hormones, genetics and evolutionary pressures.

Cognitive Psychology

A cognitive psychologist studies the processes of thinking and acquiring knowledge.

Social Psychology

A social psychologist studies how an individual influences and is influenced by other people

Developmental Psychology

A developmental psychologist studies the behavioral capacities typical of different ages and how behavior changes with age.

Service Providers to Individuals

There are many types of psychotherapists, professionals with training in psychology who specialize in helping people with psychological problems, actually are trained in a variety of disciplines.

Clinical psychologists have advanced degrees in psychology, with a specialty in understanding and helping people with mental and emotional problems.

They receive training in intellectual and psychological testing intended to aid in diagnosis and treatment.

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