

Essential Questions: Prologue and Chapter 1
Prologue

1. What events defined the founding of the science of psychology?

In December 1879, a philosopher named Wilhelm Wundt established the first psychological laboratory at the University of Leipzig, Germany. Wundt was a physiobiologist, conducting the first psychological experiment, which tested time lag between a person's hearing a ball drop onto a platform and reacting by pressing a button. Wundt's ultimate goal through this experiment was to measure the simplest mental processes. Not long after, the new science of psychology was divided into different branches: structuralism, functionalism, Gestalt psychology, behaviorism, and psychoanalysis.

One of Wundt's students, Edward Titchener, earned his Ph.D. in 1892 and later joined Cornell University, teaching his students through introspection, which trained them to be more self-reflective; however, ideas of structuralism soon died out and was replaced with functionalism. William James, now known as the "father of psychology in the U.S." introduced functionalism with a pragmatic approach, finding practical purposes through testing. Over 20 years of teaching at Harvard, James bound all of his lectures together and compiled them into the first psychology textbook. Until the 1920s, psychology was defined as "the science of mental life". It then became redefined as "the science of observable behavior," by John B. Watson and B. F. Skinner, through the idea that, although you cannot observe thoughts, feelings, or sensations, you *can* observe and record a person's behavior in certain situations. Today, psychology is defined as "the science of behavior and mental processes".

2. What are the reoccurring issues that cut across psychology?

There are three majorly discussed and reoccurring issues in psychology that are still extensively argued today: "stability vs. change", "rationality vs. irrationality", and "nature vs. nurture." Each of these issues pit rivaling beliefs against one another for debates that still today have the ability to baffle even the most trained professional psychologists.

The issue of "stability vs. change" involves the question of how people change over time. Do we retain our individual traits throughout life, and only yield physical changes? Does one's personality mature with their body? For instance, can a shy, reserved child grow into an outspoken adult, or will they keep to themselves through adolescence and into adulthood?

The second major issue, "rationality vs. irrationality", focuses on the differentiation of logic and exaggeration. Are we humans as advanced in knowledge and wisdom as we think we are? Most humans are quite adept at recognizing patterns, learning languages, and processing the most abstract of ideas; however, we are vulnerable to making simple

mistakes. Humans tend to forget, overestimate our own abilities, and ignore realistic and logical thoughts. Our irrationality makes us see only what we want to see, rather than what is really there, which can severely mislead us to confirm inaccurate ideas about others.

The third, most argued issue of psychology is the issue of “nature vs. nurture”. This issue links philosophy to scientific psychology. Are we born with traits, or do we develop them throughout our lifetimes? Charles Darwin’s *Origin of Species* describes the idea of natural selection—how stronger traits are passed from generation to generation, based on the need for survival, supporting the “nature” side of the issue. This theory of evolution has become a rather prominent principle in modern-day psychology.

3. What are Psychology’s major perspectives and what do they focus on?

Psychology’s current major perspectives are neuroscience, evolutionary, behavior genetics, psychodynamic, cognitive, behavioral, and social-cultural. Neuroscience focuses on how emotions, memories, and sensory experiences are affected by the body and brain. People who study the evolutionary and behavior genetics perspectives concentrate on natural selection of individual traits and how our genes and environment affect our behavior and individuality. The psychodynamic perspective analyzes our behavior based on possible underlying factors and unconscious motives. People who work from a cognitive perspective study how we interpret, store, and recall information. People who study the behavioral and social-cultural perspectives focus on how we learn responses to particular situations and how these responses vary across different circumstances and cultures.

Chapter 1

1. Which methods of research are appropriate for the study of different behavior?

There are three different research methods to study behavior: the case study, the survey, and the naturalistic observation. These three methods do not explain behavior, but rather describe it and help us to form theories and predict the behavior of others.

The case study method is one of the oldest research methods used by psychologists. In a case study, psychologists study one individual intensely. They then record observations made about the individual and form theories on how and why people behave in a certain way. In the past, case studies have helped us learn about and better understand the brain and how it works.

Surveys are used to study groups of individuals in less depth than case studies. In a survey, people are asked to describe their own behavior or opinions. Generally, the samples selected to partake in a survey are chosen randomly to eliminate bias and to avoid skewing the results. The samples also represent the population proportionately and through subgroups.

Naturalistic observation is the study of a subject in its natural environment that is not aware of the fact that it is being observed. These studies have been used to gain

knowledge about the animal world and human world alike and have yielded results describing not only how we behave and act, but also how we solve everyday problems.

2. Why does correlation permit prediction but not explanation?

Correlation permits prediction because it shows the relationship between the dependent variable and independent variable in an experiment and how closely each varies with the other. While correlation can help us foresee possible results in studies, it cannot be used to describe a reason for the relationship between the variables. This is because assuming that a change in one variable initiates a change in another implies that every time one variable is changed, the other is affected, and there are possible third factors that we don't see that can come into play. For example, it is known that there is a strong correlation between self-esteem and depression; however, saying that low self-esteem causes depression and vice versa based on their relationship is wrong because depression and low self-esteem are also linked to heredity and brain chemistry.

3. What is random assignment, and why is it important?

Random assignment in an experiment is the unsystematic assignment of subjects to tested groups. This is important because it gives each subject an equal chance to be selected for participation in an experimental group or control group. Random assignment also helps to reduce bias in an experiment, yielding more accurate observations and conclusions.

4. How can statistics help us organize, summarize, and make inferences from the data we have gathered?

Statistics help us to express data from studies by allowing us to simplify findings to general terms, such as mean (or average), median, and mode, describe through those terms the conclusions we deduce through experimentation, and infer what future experimentation may lead us to find. When researchers collect raw data from experiments, they first organize it in tables and graphs to show differences in observations and help themselves to summarize the data and predict the outcomes of future testing. Summarizing data from graphs is useful in describing a researcher's findings to others, whether they are a fellow researcher or a curious citizen. Making inferences from data helps us predict what observations and conclusions future experiments may yield.