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# Key Psychologists and Historic Figures

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The AP Psychology Course Description booklet lists the names of 62 “major historical figures” and “key contributors” to the development of psychology.

These figures and contributors offered insights, designed research studies, and formulated theories that are frequently tested on the AP Psychology exam. This chapter provides a concise summary of the key contributions of each of these 62 people. See the relevant sections in Chapters 3–16 for additional information on the contributions of these key psychologists and historic figures.

## I. HISTORY AND APPROACHES

### 1. CHARLES DARWIN (1809–1882)

Darwin was a British naturalist whose controversial and groundbreaking theory of evolution had a significant influence on the early development of psychology. Darwin’s theory of natural selection continues to influence the modern evolutionary perspective.

### 2. WILHELM WUNDT (1832–1920).

Wundt is remembered as a German scientist who established the first psychology research laboratory. He pioneered a research method called introspection in which his subjects reported detailed descriptions of their own conscious mental experiences.

**3. WILLIAM JAMES (1842–1910)**

William James was a Harvard professor who played a key role in establishing psychology in the United States. He emphasized studying the purpose, or function, of behavior and mental experiences. According to the James-Lange theory of emotion, the experience of emotion follows a three-part sequence beginning with the perception of a stimulus. This triggers physiological arousal, which is interpreted as a specific emotion.

**4. G. STANLEY HALL (1844–1924)**

After studying psychology under William James, Hall established America's first psychology laboratory. He served as the first president of the American Psychological Association.

**5. MARY WHITON CALKINS (1863–1930)**

Like Hall, Mary Whiton Calkins studied psychology under William James. Denied a Ph.D. at Harvard, she established a psychological laboratory at Wellesley College. Calkins served as the first elected female president of the American Psychological Association.

**6. MARGARET FLOY WASHBURN (1871–1939)**

Margaret Floy Washburn holds the distinction of being the first American woman to be awarded a Ph.D. in psychology. She is best known for her experimental work in animal behavior.

**7. SIGMUND FREUD (1856–1939)**

Sigmund Freud ranks as one of the most influential thinkers of the twentieth century. He founded the psychoanalytic school of psychological thought and developed a theory of personality that emphasized the role of unconscious conflicts in determining behavior and psychological disorders. Freud placed special emphasis on how childhood experiences influenced adult personality. He believed that dreams provided a particularly important insight into unconscious motives.

**8. JOHN B. WATSON (1878–1958)**

John Watson was an American psychologist who departed from Wundt and the early psychologists by emphasizing the

scientific study of observable behaviors rather than the study of subjective mental processes. Watson is now remembered as one of the founders of behaviorism.

## II. BIOLOGICAL BASES OF BEHAVIOR

### 9. PAUL BROCA (1821–1880)

Paul Broca was a French physician and anatomist who discovered that the speech production center of the brain is located in an area of the lower left frontal lobe. Today, this area in the left cerebral hemisphere is referred to as Broca's area. The discovery of Broca's area revolutionized the understanding of speech production.

### 10. CARL WERNICKE (1848–1905)

Carl Wernicke was a German neurologist and psychiatrist who discovered that damage to an area on the left temporal lobe caused deficits in language comprehension. Today, this area in the left hemisphere is called Wernicke's area.

### 11. ROGER SPERRY (1913–1994)

Roger Sperry is best known for his pioneering research with split-brain patients. He demonstrated that the brain's right and left hemispheres have specialized functions.

### 12. MICHAEL GAZZANIGA (B. 1939)

Michael Gazzaniga continued Roger Sperry's research by advancing understanding of how the two cerebral hemispheres communicate with one another.

## III. SENSATION AND PERCEPTION

### 13. ERNST HEINRICH WEBER (1795–1878)

Ernst Heinrich Weber was a German physician who discovered the just noticeable difference (JND) and what we now call Weber's Law. Weber's law holds that for each sense, the size of

the just noticeable difference will vary depending on its relation to the strength of the original stimulus.

**14. GUSTAV FECHNER (1801–1887)**

Gustav Fechner was a German experimental psychologist who demonstrated that mental processes can be measured.

**15. DAVID HUBEL (b. 1926)**

David Hubel is a Canadian neurophysiologist whose research on feature detectors helped demonstrate the presence of specialized neurons in the occipital lobe's visual cortex that have the ability to respond to specific features of an image.

**16. TORSTEN WIESEL (b. 1924)**

Torsten Wiesel is a Swedish neurophysiologist who collaborated with Hubel. Their joint work expanded the scientific knowledge of sensory processing and perception.

## **IV. STATES OF CONSCIOUSNESS**

**17. ERNEST HILGARD (1904–2001)**

Ernest Hilgard is renowned for his research on hypnosis and pain control. He theorized that a hypnotized person experiences a special state of dissociation or divided consciousness. As a result, the hypnotized person experiences one stream of mental activity that responds to the hypnotist's suggestions while a second stream of mental activity is also processing information that is unavailable to the consciousness of the hypnotized subject. Hilgard named this second, disassociated stream of mental activity the "hidden observer."

## **V. LEARNING**

**18. IVAN PAVLOV (1849–1936)**

Ivan Pavlov was a world-famous Russian (and later Soviet) physiologist who devoted three decades and 532 carefully

designed experiments to studying and formulating the principles of classical learning.

**19. JOHN GARCIA (b. 1917)**

John Garcia conducted pioneering research on taste aversion. He discovered that when rats drank flavored water before becoming nauseated from a drug that produced gastrointestinal distress, they acquired a conditioned taste aversion for the flavored water. Additional studies, in which Garcia paired noise or a shock with the nausea-producing drug, did not produce a taste aversion. Garcia's research supports the evolutionary perspective that being biologically prepared to quickly associate nausea with food or drink is adaptive.

**20. ROBERT RESCORLA (b. 1940)**

Robert Rescorla's experiments refined Pavlov's principle that classical conditioning occurs simply because two stimuli are closely associated in time. Rescorla's research indicated that the conditioned stimulus must be a reliable signal that predicts the presentations of the unconditional stimulus. To Rescorla, classical conditioning "is not a stupid process by which the organism willy-nilly forms associations between any two stimuli that happen to co-occur." Instead, his research demonstrated that "the animal behaves like a scientist, detecting causal relationships among events and using a range of information about those events to make the relevant inferences."

**21. EDWARD L. THORNDIKE (1874–1949)**

Edward L. Thorndike conducted the first systematic investigations of animal behavior. His famous law of effect states that responses followed by a satisfying outcome are more likely to be repeated, while responses followed by unpleasant outcomes are less likely to be repeated.

**22. B.F. SKINNER (1904–1990)**

B.F. Skinner insisted that psychologists should focus on observable behavior that could be objectively measured and verified. During his long career, Skinner formulated the principles of operant conditioning. A 2002 survey ranked Skinner as the most frequently cited psychologist of all time.

**23. EDWARD TOLMAN (1898–1959)**

Thorndike and Skinner believed that behavior is a complex chain of stimulus-response connections that is strengthened or “stamped in” by a rewarding consequence. Edward Tolman challenged this view by conducting a series of experiments demonstrating that rats formed a cognitive map or mental representation of a maze. They then used this prior learning to quickly find food placed at the end of the maze. Tolman concluded that learning involves the acquisition and use of knowledge rather than simply conditioned changes in outward behavior.

**24. WOLFGANG KOHLER (1887–1967)**

Like Tolman, Wolfgang Kohler believed that behaviorists underestimated animals’ cognitive processes and abilities. In a pioneering series of experiments, Kohler suspended bananas just outside the reach of a caged chimpanzee named Sultan. Unlike Skinner’s rats and pigeons, Sultan did not solve the problem through trial-and-error. Instead, he studied the situation and, in a flash of insight, used a stick to knock down the fruit. Kohler called this sudden understanding of a problem insight.

**25. ALBERT BANDURA (b. 1925)**

Albert Bandura is best known for his famous “Bobo doll” experiments illustrating the role of modeling in human behavior. Bandura contends that observational learning is responsible for most human behavior.

**VI. COGNITION**

**26. GEORGE A. MILLER (b. 1920)**

Although he has had a long and varied career, George A. Miller is best known for his classic paper, “The Magical Number Seven, Plus or Minus Two.” Miller presented convincing evidence that the capacity of short-term memory is limited to seven items (plus or minus two) of information. It is interesting to note that memory span depends upon the category of

chunks used. For example, the span is around seven for digits, six for letters, and just five for words. That helps explain why it takes so much work to learn and remember difficult SAT vocabulary words!

**27. HERMANN EBBINGHAUS (1850–1909)**

Hermann Ebbinghaus was a German psychologist who conducted pioneering research on forgetting. His famous forgetting curve shows a rapid loss of memories of relatively meaningless information, followed by a very gradual decline of the remaining information.

**28. ELIZABETH LOFTUS (b. 1944)**

Elizabeth Loftus is one of America's most influential, and most controversial, cognitive psychologists. Her extensive research on the misinformation effect demonstrated that eyewitness testimony is often unreliable and can be altered by simply giving a witness incorrect post-event information. Loftus is one of the 25 psychologists most often cited in psychology textbooks.

**29. NOAM CHOMSKY (b. 1928)**

Noam Chomsky is a renowned linguist who argues that young children possess an innate capacity to learn and produce speech. Chomsky notes that children in widely different cultures nonetheless progress through the same stages of language development at about the same time. He hypothesized that humans learn language because of innate speech-enabling structures called the language acquisition device or LAD.

## **VII. MOTIVATION AND EMOTION**

**30. ABRAHAM MASLOW (1908–1970)**

Abraham Maslow is considered the founder of the humanistic approach to psychology. While many psychologists followed Freud in studying mental disorders, Maslow focused on what constituted positive mental health. Maslow's famous hierarchy of needs begins with basic physiological and safety needs

and then ascends to belonging and self-esteem. Individuals reach Maslow's top level of "self-actualization" by realizing their full potential and achieving harmony and understanding.

**31. STANLEY SCHACHTER (1922–1997)**

Stanley Schachter is best known for his two-factor theory of emotions. According to this theory, our emotions depend on physical arousal and a cognitive labeling of that arousal. For example, if you cry after breaking up with your boyfriend, you label your emotion as sadness. If you cry at your sister's graduation, you label your emotion as happiness.

**32. HANS SELYE (1907–1982)**

Hans Selye is best known for his study of stress. According to Selye's three-stage general adaptation syndrome, stress begins with an alarm reaction when people confront a stress-producing event by mobilizing internal resources such as producing adrenaline, to bring about the fight-or-flight response. If the stressor continues, the body enters a second stage of resistance characterized by heightened physiological arousal and a sudden outpouring of hormones. Long-term exposure to the stressor event eventually leads to a third stage of exhaustion that depletes the body's resources and leads to physical disorders, vulnerability to illness, and a complete collapse.

**33. ALFRED KINSEY (1894–1956)**

Alfred Kinsey is renowned for his pioneering research on human sexuality. Although very controversial, Kinsey's extensive research provides data that is still used as a baseline for modern research.

**VIII. DEVELOPMENTAL PSYCHOLOGY**

**34. MARY AINSWORTH (1913–1999)**

Mary Ainsworth was a developmental psychologist who devised a research procedure called the Strange Situation to observe attachment relationships between infants and their mothers.



Based upon their behavior, Ainsworth labeled the infants as either securely attached or insecurely attached. Securely attached infants tend to be well adjusted, form successful social relationships, and perform better at school. Insecurely attached infants tend to form shallow relationships, appear withdrawn, and sometimes display a strong need for affection.

**35. HARRY HARLOW (1905–1981)**

Harry Harlow was a developmental psychologist who conducted a famous series of experiments on rhesus monkeys. Harlow gave orphaned baby monkeys two artificial surrogate “mothers.” A cloth “mother” provided no milk but offered a soft terrycloth cover. A wire “mother” provided milk but offered no contact comfort. Whenever Harlow placed a frightening stimulus into the cage, the monkeys ran to the cloth mother for protection and comfort. Harlow’s research contradicted the then common belief that bodily contact would spoil children. Harlow instead concluded that the stimulation and reassurance derived from the physical touch of a parent or caregiver play a key role in developing healthy physical growth and normal socialization.

**36. KONRAD LORENZ (1903–1989)**

Konrad Lorenz is regarded as the founder of ethology, the comparative study of animal behavior (including humans) and their natural surroundings. Lorenz earned widespread recognition for his study of imprinting and aggression. He concluded that the mechanism inhibiting aggression works less well in humans than among other species.

**37. JEAN PIAGET (1896–1980)**

Jean Piaget was a Swiss psychologist whose theories of cognitive development have had a profound impact upon our understanding of how the mind develops. Unlike B.F. Skinner, who focused on environmental influences, or Sigmund Freud, who emphasized unconscious drives and conflicts, Piaget focused on the rational, perceiving child who has the capacity to make sense of the world. Piaget’s stage theory describes how infants, children, and adolescents use distinctly different cognitive abilities to understand the world. Piaget identified

four distinct stages of cognitive development. Each stage marks a fundamental change in how a child thinks and understands the world.

**38. LEV VYGOTSKY (1896–1934)**

Lev Vygotsky was a pioneering Russian psychologist. Although he died at a relatively young age, Vygotsky was a prolific author. He placed particular emphasis on how culture and social interactions with parents and other significant people influenced a child's cognitive development. According to Vygotsky, children learn their culture's habits of mind through a process he called internalization.

**39. DIANA BAUMRIND (b. 1927)**

Diana Baumrind is best known for her work on parenting styles. Baumrind identified three distinct parenting styles based upon "parental responsiveness" and "parental demandingness." Permissive parents set few rules, make minimal demands, and allow children to reach their own decisions. Authoritative parents set firm rules, make reasonable demands, and listen to their child's viewpoint while still insisting on responsible behavior. And finally, authoritarian parents set rigid rules, enforce strict punishments, and rarely listen to their child's viewpoint.

**40. ERIK ERIKSON (1902–1994)**

Erik Erikson created an influential theory of social development. According to Erikson, as we progress from infancy to old age, we enter eight psychosocial stages of development. Each stage corresponds to a physical change and takes place in a distinctive setting. This combination of physiological change and new social environments creates a psychosocial crisis that can be resolved with either a positive or a negative response. Erikson was particularly interested in the adolescent's struggle to overcome role confusion and find an identity. He coined the phrase "identity crisis" to describe how adolescents struggle to create a meaningful sense of identity.

**41. LAWRENCE KOHLBERG (1927–1987)**

Lawrence Kohlberg was an American psychologist who used hypothetical moral dilemmas to study moral reasoning. His influential theory of the stages of moral development is a milestone in developmental psychology.

**42. CAROL GILLIGAN (b. 1936)**

Carol Gilligan is best known for her critique of Kohlberg's theory of moral development. In a book entitled *In a Different Voice*, Gilligan argued that the participants in Kohlberg's basic study were all male. She contended that the scoring method Kohlberg used tended to favor a principled way of reasoning that was more common to boys. According to Gilligan, the moral concerns of women focus on caring and compassion.

**IX. PERSONALITY****43. ALFRED ADLER (1870–1937)**

Alfred Adler enjoyed an influential career in both Europe and the United States. Known as a Neo-Freudian, Adler pioneered the use of psychiatry in both social work and early childhood education. Adler introduced such fundamental mental-health concepts as "inferiority feeling," "life-style," "striving for superiority," and "social interest." Adler tried to help his patients "see the power of self-determination" and "command the courage" to alter their interpretation of events and life experiences.

**44. CARL JUNG (1875–1961)**

Carl Jung is best known as a Neo-Freudian who developed the concept of the collective unconsciousness. According to Jung, the collective unconsciousness includes shared human experiences embodied in myths and cultural archetypes, such as the wise grandfather, the innocent child, and the rebellious son. Jung's study of the collective unconscious influenced psychological thinking about humans as symbol-using beings.

**45. CARL ROGERS (1902–1987)**

Carl Rogers rejected Freud's pessimistic view of human nature. Instead, Rogers offered the optimistic view that people are innately good, and, thus, "positive, forward-moving, constructive, realistic, [and] trustworthy." Rogers argued that self-concept is the cornerstone of a person's personality. People whose self-concept matches their life experiences usually have high self-esteem and better mental health. Influenced by Abraham Maslow, Rogers believed that people are motivated to achieve their full potential or self-actualize.

**46. PAUL COSTA (b. 1942) AND ROBERT MCCRAE (b. 1949)**

Paul Costa and Robert McCrae are personality theorists best known for their work in developing the Five-Factor Model of Personality. Popularly known as the "Big Five Model," it identifies openness, conscientiousness, extroversion, agreeableness, and neuroticism as broad domains or dimensions of personality. Costa and McCrae believe that these five dimensions represent the basic structure behind all personality traits.

**X. TESTING AND INDIVIDUAL DIFFERENCES**

**47. FRANCIS GALTON (1822–1911)**

Francis Galton was a multifaceted British psychologist who had a passion for applying statistics to the variations in human abilities. Galton developed the statistical concept of correlation and was the first to demonstrate that the "normal distribution" could be applied to intelligence.

**48. CHARLES SPEARMAN (1863–1945)**

Charles Spearman was a British psychologist who observed that an individual's scores on various tests of intellectual performance correlated with one another. That is, people who performed well on a test of one mental ability, such as mathematical reasoning, tend to also do well on tests of verbal ability. Based upon this observation, Spearman proposed that

intelligence is a single, underlying factor, which he termed general intelligence or the g factor.

**49. ROBERT STERNBERG (b. 1949)**

Robert Sternberg is an American psychologist best known for his triarchic theory of intelligence. The triarchic model distinguishes among analytic, creative, and practical intelligences. Sternberg believes that each of these three intelligences is learned and can therefore be developed and enhanced.

**50. HOWARD GARDNER (b. 1943)**

Howard Gardner is widely known for his theory of multiple intelligences. Gardner disputes Spearman's assertion that there is a single general intelligence. Instead, Gardner believes that there are a number of intelligences including linguistic, logic-mathematical, musical, spatial, bodily kinesthetic, naturalist, interpersonal, and intrapersonal.

**51. ALFRED BINET (1857–1911)**

Alfred Binet was a French psychologist who invented the first usable intelligence test. Binet made an important distinction between a child's mental and chronological ages.

**52. LEWIS TERMAN (1877–1956)**

Lewis Terman was a pioneer in educational psychology who is best known as the inventor of the Stanford-Binet IQ test. Terman computed a child's intelligence quotient or IQ by dividing mental age by chronological age and then multiplying the result by 100. Terman also conducted an influential longitudinal study of gifted children.

**53. DAVID WECHSLER (1896–1981)**

David Wechsler was a leading American psychologist who developed a series of widely used intelligence tests. Instead of using Terman's approach to calculate an IQ score, Wechsler determined how far a person's score deviates from a bell-shaped normal distribution of scores. Most intelligence tests now use this system.

## **XI. TREATMENT OF ABNORMAL BEHAVIOR**

### **54. DOROTHEA DIX (1802–1887)**

Dorothea Dix was an American reformer who documented the deplorable conditions of how states cared for their insane poor. Dix's single-minded zeal helped persuade state legislatures to create the first generation of American mental hospitals.

### **55. ALBERT ELLIS (1913–2007)**

Albert Ellis is renowned for developing the principles and procedures of rational-emotive therapy. Ellis helped his clients dispute irrational beliefs and replace them with more rational interpretations of events. A survey of American and Canadian psychologists ranked Ellis as the second most influential psychotherapist in history. (Carl Rogers ranked first and Sigmund Freud ranked third).

### **56. AARON BECK (b. 1921)**

Aaron Beck is widely regarded as the father of cognitive therapy. His pioneering theories are widely used to treat clinical depression.

### **57. MARY COVER JONES (1896–1987)**

Mary Cover Jones conducted pioneering research in applying behavioral techniques to therapy. As a result, Jones is often called "the mother of behavior therapy."

### **58. JOSEPH WOLPE (1915–1997)**

Mary Cover Jones's successful use of behavioral techniques inspired the South African psychologist Joseph Wolpe to perfect a technique for treating anxiety-producing phobias that he named systematic desensitization. Wolpe first taught his client how to maintain a state of deep relaxation. He and his client then created a hierarchy of anxiety-arousing images and situations. Wolpe and his client began with the least threatening experience and then gradually worked their way up to the top level of the anxiety-producing hierarchy.

**XII. SOCIAL PSYCHOLOGY****59. LEON FESTINGER (1919–1989)**

Leon Festinger is best known for formulating the theory of cognitive dissonance. According to Festinger, cognitive dissonance is the state of psychological tension and anxiety that occurs when an individual's attitudes and behaviors are inconsistent. Although it is possible to reduce dissonance by changing either one's behavior or one's attitude, most people modify their attitudes.

**60. PHILIP ZIMBARDO (b. 1933)**

Philip Zimbardo is a textbook author and the developer of the popular PBS-TV series *Discovering Psychology*. Zimbardo is best known for his classic, but controversial, Stanford Prison Experiment. The experiment vividly illustrated how the process of deindividuation led to the reduction of personal responsibility and the abuse of power. Zimbardo's findings have been applied to the U.S. military abuses revealed in 2004 at Iraq's Abu Ghraib Prison.

**61. SOLOMON ASCH (1907–1996)**

Solomon Asch is widely recognized as one of the pioneers in developing social psychology as an academic discipline. His celebrated study of conformity provided a vivid demonstration of how individuals respond to the social pressures and expectations of others.

**62. STANLEY MILGRAM (1933–1984)**

Stanley Milgram's famous and controversial study of obedience to authority comprises one of the largest research programs in the history of social psychology. Milgram transformed our understanding of human nature by demonstrating that ordinary citizens were willing to obey an authority figure who instructed them to administer electric shocks to an innocent "learner." Milgram's experiment also transformed our understanding of the proper code of ethics that should be used in psychological research.