


Personality psychology

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Personality psychology is a branch of psychology that studies personality and its variation between individuals. Its areas of focus include:

- Construction of a coherent picture of the individual and his or her major psychological processes
- Investigation of individual psychological differences
- Investigation of human nature and psychological similarities between individuals

"Personality" is a dynamic and organized set of characteristics possessed by a person that uniquely influences his or her cognitions, emotions, motivations, and behaviors in various situations. The word "personality" originates from the Latin *persona*, which means mask. In the theatre of the ancient Latin-speaking world, the mask was not used as a plot device to *disguise* the identity of a character, but instead was a convention employed to represent or *typify* that character.

Personality also refers to the pattern of thoughts, feelings, social adjustments, and behaviors consistently exhibited over time that strongly influences one's expectations, self-perceptions, values, and attitudes. It also predicts human reactions to other people, problems, and stress.^{[2][3]} There is still no universal consensus on the definition of "personality" in psychology. Gordon Allport (1937) described two major ways to study personality: the nomothetic and the idiographic. *Nomothetic psychology* seeks general laws that can be applied to many different people, such as the principle of self-actualization or the trait of extraversion. *Idiographic psychology* is an attempt to understand the unique aspects of a particular individual.

The study of personality has a broad and varied history in psychology with an abundance of theoretical traditions. The major theories include dispositional (trait) perspective, psychodynamic, humanistic, biological, behaviorist, evolutionary and social learning perspective. However, many researchers and psychologists do not explicitly identify themselves with a certain perspective and instead take an eclectic approach. Research in this area is empirically driven, such as dimensional models, based on multivariate statistics, such as factor analysis, or emphasizes theory development, such as that of the psychodynamic theory. There is also a substantial emphasis on the applied field of personality testing. In psychological education and training, the study of the nature of personality and its psychological development is usually reviewed as a prerequisite to courses in abnormal psychology or clinical psychology.

Philosophical assumptions

Many of the ideas developed by historical and modern personality theorists stem from the basic philosophical assumptions they hold. The study of personality is not a purely empirical discipline, as it brings in elements of art, science, and philosophy to draw general conclusions. The following five categories are some of the most fundamental philosophical assumptions on which theorists disagree:

1. Freedom versus determinism

This is the question whether humans have control over their own behavior and understand the motives behind it or if their behavior is causally determined by forces beyond their control. Behavior is categorized as being either unconscious, environmental, or biological by various theories.

2. Heredity versus environment

Personality is thought to be determined largely either by genetics and biology, or by environment and experiences. Contemporary research suggests that most personality traits are based on the joint influence of genetics and environment. One of the forerunners in this arena is C. Robert Cloninger, who pioneered the Temperament and Character model.

3. Uniqueness versus universality

This question discusses the extent of each human's individuality (uniqueness) or similarity in nature (universality). Gordon Allport, Abraham Maslow, and Carl Rogers were all advocates of the uniqueness of individuals. Behaviorists and cognitive theorists, in contrast, emphasize the importance of universal principles, such as reinforcement and self-efficacy.

4. Active versus reactive

This question explores whether humans primarily act through individual initiative (active) or through outside stimuli. Traditional behavioral theorists typically believed that humans are passively shaped by their environments, whereas humanistic and cognitive theorists believe that humans are more active in their role. Most modern theorists agree that both are important, with aggregate behavior being primarily determined by traits and situational factors being the primary predictor of behavior in the short term.

5. Optimistic versus pessimistic

Personality theories differ with regard to whether humans are integral in the changing of their own personalities. Theories that place a great deal of emphasis on learning are often more optimistic than those that do not.

Personality theories

The study of personality is based on the essential insight that all people are similar in some ways, yet different in others. There have been many different definitions of personality proposed. However, many contemporary psychologists agree on the following definition:

Personality is that pattern of characteristic thoughts, feelings, and behaviors that distinguishes one person from another and that persists over time and situations.

Trait theories

According to the *Diagnostic and Statistical Manual* of the American Psychiatric Association, personality traits are "enduring patterns of perceiving, relating to, and thinking about the environment and oneself that are exhibited in a wide range of social and personal contexts." Theorists generally assume that a) traits are relatively stable over time, b) traits differ among individuals, and c) traits influence behavior. They consistently are used in order to help define people as a whole. Traits are relatively constant; they do not usually change. Traits are also bipolar; they vary along a continuum between one extreme and the other (e.g. friendly vs. unfriendly).

The most common models of traits incorporate three to five broad dimensions or factors. All trait theories incorporate at least two dimensions, extraversion and neuroticism, which historically featured in Hippocrates'

humoral theory.

- Gordon Allport delineated different kinds of traits, which he also called dispositions. *Central traits* are basic to an individual's personality, while *secondary traits* are more peripheral. *Common traits* are those recognized within a culture and thus may vary from culture to culture. *Cardinal traits* are those by which an individual may be strongly recognized. In his book, *Personality: A Psychological Interpretation*, Gordon Allport (1937) both established personality psychology as a legitimate intellectual discipline and introduced the first of the modern trait theories.
- Raymond Cattell's research propagated a two-tiered personality structure with sixteen "primary factors" (16 Personality Factors) and five "secondary factors." In Cattell's lengthy career, he had written 50 books, 500 journals, and 30 different types of standardized tests. For Cattell, personality itself was defined in terms of behavioral prediction. He defined personality as *that which permits a prediction of what a person will do in a given situation*.
- John Gittinger's theory and its applications^{[4][5]} (the Personality Assessment System (PAS)) uses the Wechsler intelligence tests, which are well standardized and objective instruments rather than self-report tests. PAS factors out personality traits (primitivity) and two additional levels, Basic and Surface, which are adaptations by environmentally induced pressures and learning. Gittinger's multivariate personality descriptions exceed 500 data-based outcome descriptions.^[6]
- Hans Eysenck believed just three traits—extraversion, neuroticism and psychoticism—were sufficient to describe human personality. Differences between Cattell and Eysenck emerged due to preferences for different forms of factor analysis, with Cattell using oblique, Eysenck orthogonal rotation to analyze the factors that emerged when personality questionnaires were subjected to statistical analysis. Today, the Big Five factors have the weight of a considerable amount of empirical research behind them, building on the work of Cattell and others. Eysenck, along with another contemporary in trait psychology named J. P. Guilford (1959), believed that the resultant trait factors obtained from factor analysis should be statistically independent of one another—that is, the factors should be arranged (rotated) so that they are uncorrelated or orthogonal (at right angles) to one another.
- Lewis Goldberg proposed a five-dimension personality model, nicknamed the "Big Five":
 1. *Openness to Experience*: the tendency to be imaginative, independent, and interested in variety vs. practical, conforming, and interested in routine.
 2. *Conscientiousness*: the tendency to be organized, careful, and disciplined vs. disorganized, careless, and impulsive.
 3. *Extraversion*: the tendency to be sociable, fun-loving, and affectionate vs. retiring, somber, and reserved.
 4. *Agreeableness*: the tendency to be softhearted, trusting, and helpful vs. ruthless, suspicious, and uncooperative.
 5. *Neuroticism*: the tendency to be calm, secure, and self-satisfied vs. anxious, insecure, and self-pitying^[7]

The Big Five contain important dimensions of personality. However, some personality researchers argue that this list of major traits is not exhaustive. Some support has been found for two additional factors: excellent/ordinary and evil/decent. However, no definitive conclusions have been established.
- Michael Ashton and Kibeom Lee, in 2008, proposed a six dimensional HEXACO model of personality structure. The HEXACO personality traits/factors are: Honesty-Humility (H), Emotionality (E), Extraversion (X), Agreeableness (A), Conscientiousness (C), and Openness to Experience (O). The three dimensions - Extraversion, Conscientiousness and Openness to Experience are considered to be basically the same as their counterpart dimensions in the Big Five Model. However, in the HEXACO model, Honesty-Humility, Emotionality and Agreeableness differ from the Neuroticism and Agreeableness factors of the Big Five Model. Ashton and Lee especially emphasize the Honesty-Humility (H) factor as differentiating the HEXACO model from other personality frameworks. Specifically, the H factor is described as sincere, honest, faithful/loyal, modest/unassuming, fair-minded, *VERSUS* sly, deceitful, greedy, pretentious, hypocritical, boastful and pompous.

The H factor has been linked to criminal, materialistic, power-seeking and unethical tendencies.

Trait models have been criticized as being purely descriptive and offering little explanation of the underlying causes of personality. Eysenck's theory, however, proposes biological mechanisms as driving traits, and modern behavior genetics researchers have shown a clear genetic substrate to them. Wikipedia: Vagueness Another potential weakness of trait theories is that they may lead some people to accept oversimplified classifications—or worse, offer advice—based on a superficial analysis of personality. Finally, trait models often underestimate the effect of specific situations on people's behavior.

Traits are considered to be statistical generalizations that do not always correspond to an individual's behavior.

The importance that genetic influences have on personality characteristics can change across a five-year period. Age differences create more variables even within a family, so the best comparisons are found using twins. Twins typically share a family environment called a shared environment because they may share other aspects like teachers, school, and friends. A non-shared environment means completely different environment for both subjects. "Biologically related children who are separated after birth and raised in different families live in non-shared environments." Identical twins separated at birth and raised in different families constitute the best cases for heredity and personality because similarities between the two are due only to genetic influences. Vulnerability was a factor in this study that was taken into consideration regarding the issue of genetic influences on vulnerability. The study concluded that the monozygotic co-twins would be more similar than dizygotic co-twins in change over time. The data concluded that there were no significant differences for either variances between the monozygotic and dizygotic co-twins.

Another current open question is whether genetic influences are important for the likeliness of co-twins to change in the same way over a period of time. A link was found between the personality trait of neuroticism and a polymorphism called 5-HTTLPR in the serotonin transporter gene, but this association was not replicated in larger studies. Other candidate gene studies have provided weak evidence that some personality traits are related to *AVPR1A* ("ruthlessness gene") and *MAOA* ("Warrior gene"). Genotypes, or the genetic make up of an organism, influence but don't fully decide the physical traits of a person. Those are also influenced by the environment and behaviors they are surrounded by. For example, a person's height is affected by genetics, but if they are malnourished growth will be stunted no matter what their genetic coding says. Environment is also not completely responsible for an outcome in personality. An example from *Psychobiology of Personality* by Marvin Zuckerman is alcoholism: Studies suggest that alcoholism is an inherited disease, but if a subject with a strong biological background of alcoholism in their family tree is never exposed to alcohol, they will not be so inclined regardless of their genome.^[8]

It is also a question open to debate whether there are genetic influences on the tendency of the co-twins to change, without keeping in mind the direction of the change. Another factor that can be addressed is biological versus adoptive relatives, and can be clearly seen in what is a real-life experiment, adoption. This creates two groups: genetic relatives (biological parents and siblings) and environmental relatives (adoptive parents and siblings). After studying hundreds of adoptive families, the discovery was that people who grow up together, whether biologically related or not, do not much resemble one another in personality. In characteristics such as extroversion and agreeableness, adoptees are more like their biological parents than to their adoptive parents. However, the minute shared-environment effects do not mean that adoptive parenting is ineffective. Even though genetics may limit the family environment's influence on personality, parents do influence their children's attitudes, values, faith, manners and politics. In adoptive homes, child neglect and abuse and even divorce between the parents is uncommon. In accordance to that, it is not surprising, despite a somewhat greater risk of psychological disorder, most adopted children excel, especially when they're adopted as infants. In fact, seven out of eight have reported feeling a strong connection with one or even both of their adoptive parents.^[9]

Type theories

Personality type refers to the psychological classification of different types of people. Personality types are distinguished from personality traits, which come in different levels or degrees. For example, according to type theories, there are two types of people, introverts and extroverts. According to trait theories, introversion and extroversion are part of a continuous dimension, with many people in the middle. The idea of psychological types originated in the theoretical work of Carl Jung, specifically in his 1921 book *Psychologische Typen* (*Psychological Types*) and William Marston.

Building on the writings and observations of Jung during World War II, Isabel Briggs Myers and her mother, Katharine C. Briggs, delineated personality types by constructing the Myers-Briggs Type Indicator. This model was later used by David Keirsey with a different understanding from Jung, Briggs and Myers. In the former Soviet Union, Lithuanian Aušra Augustinavičiūtė independently derived a model of personality type from Jung's called Socionics.

The model is an older and more theoretical approach to personality, accepting extroversion and introversion as basic psychological orientations in connection with two pairs of psychological functions:

- *Perceiving functions*: sensing and intuition (trust in concrete, sensory-oriented facts vs. trust in abstract concepts and imagined possibilities)
- *Judging functions*: thinking and feeling (basing decisions primarily on logic vs. considering the effect on people).

Briggs and Myers also added another personality dimension to their type indicator to measure whether a person prefers to use a judging or perceiving function when interacting with the external world. Therefore they included questions designed to indicate whether someone wishes to come to conclusions (judgment) or to keep options open (perception).

This personality typology has some aspects of a trait theory: it explains people's behaviour in terms of opposite fixed characteristics. In these more traditional models, the sensing/intuition preference is considered the most basic, dividing people into "N" (intuitive) or "S" (sensing) personality types. An "N" is further assumed to be guided either by thinking or feeling, and divided into the "NT" (scientist, engineer) or "NF" (author, humanitarian) temperament. An "S", by contrast, is assumed to be guided more by the judgment/perception axis, and thus divided into the "SJ" (guardian, traditionalist) or "SP" (performer, artisan) temperament. These four are considered basic, with the other two factors in each case (including always extraversion/introversion) less important. Critics of this traditional view have observed that the types can be quite strongly stereotyped by professions (although neither Myers nor Keirsey engaged in such stereotyping in their type descriptions), and thus may arise more from the need to categorize people for purposes of guiding their career choice. This among other objections led to the emergence of the five-factor view, which is less concerned with behavior under work conditions and more concerned with behavior in personal and emotional circumstances. (It should be noted, however, that the MBTI is not designed to measure the "work self", but rather what Myers and McCaulley called the "shoes-off self.") Some critics have argued for more or fewer dimensions while others have proposed entirely different theories (often assuming different definitions of "personality").

Type A and Type B personality theory: During the 1950s, Meyer Friedman and his co-workers defined what they called Type A and Type B behavior patterns. They theorized that intense, hard-driving Type A personalities had a higher risk of coronary disease because they are "stress junkies." Type B people, on the other hand, tended to be relaxed, less competitive, and lower in risk. There was also a Type AB mixed profile.

John L. Holland's *RIASEC* vocational model, commonly referred to as the *Holland Codes*, stipulates that six personality types lead people to choose their career paths. In this circumplex model, the six types are represented as a hexagon, with adjacent types more closely related than those more distant. The model is widely used in vocational counseling.

Eduard Spranger's personality-model, consisting of six (or, by some revisions, 6 +1) basic types of *value attitudes*, described in his book *Types of Men (Lebensformen*; Halle (Saale): Niemeyer, 1914; English translation by P. J. W. Pigors - New York: G. E. Stechert Company, 1928).

The Enneagram of Personality, a model of human personality which is principally used as a typology of nine interconnected personality types. It has been criticized as being subject to interpretation, making it difficult to test or validate scientifically. It is not commonly taught or researched in academic psychology.

Psychoanalytic theories

Psychoanalytic theories explain human behavior in terms of the interaction of various components of personality. Sigmund Freud was the founder of this school of thought. Freud drew on the physics of his day (thermodynamics) to coin the term psychodynamics. Based on the idea of converting heat into mechanical energy, he proposed psychic energy could be converted into behavior. Freud's theory places central importance on dynamic, unconscious psychological conflicts.

Freud divides human personality into three significant components: the id, ego, and super-ego. The **id** acts according to the *pleasure principle*, demanding immediate gratification of its needs regardless of external environment; the **ego** then must emerge in order to realistically meet the wishes and demands of the id in accordance with the outside world, adhering to the *reality principle*. Finally, the **superego** (conscience) inculcates moral judgment and societal rules upon the ego, thus forcing the demands of the id to be met not only realistically but morally. The superego is the last function of the personality to develop, and is the embodiment of parental/social ideals established during childhood. According to Freud, personality is based on the dynamic interactions of these three components.^[10]

The channeling and release of sexual (libidal) and aggressive energies, which ensues from the "Eros" (sex; instinctual self-preservation) and "Thanatos" (death; instinctual self-annihilation) drives respectively, are major components of his theory. It is important to note that Freud's broad understanding of sexuality included all kinds of pleasurable feelings experienced by the human body.

Freud proposed five psychosexual stages of personality development. He believed adult personality is dependent upon early childhood experiences and largely determined by age five. Fixations that develop during the infantile stage contribute to adult personality and behavior.

One of Sigmund Freud's earlier associates, Alfred Adler, did agree with Freud that early childhood experiences are important to development and believed birth order may influence personality development. Adler believed that the oldest child was the individual who would set high achievement goals in order to gain attention lost when the younger siblings were born. He believed the middle children were competitive and ambitious. He reasoned that this behavior was motivated by the idea of surpassing the firstborn's achievements. He added, however, that the middle children were often not as concerned about the glory attributed with their behavior. He also believed the youngest would be more dependent and sociable. Adler finished by surmising that an only child loves being the center of attention and matures quickly but in the end fails to become independent.

Heinz Kohut thought similarly to Freud's idea of transference. He used narcissism as a model of how people develop their sense of self. Narcissism is the exaggerated sense of one self in which one is believed to exist in order to protect one's low self-esteem and sense of worthlessness. Kohut had a significant impact on the field by extending Freud's theory of narcissism and introducing what he called the 'self-object transferences' of mirroring and idealization. In other words, children need to idealize and emotionally "sink into" and identify with the idealized competence of admired figures such as parents or older siblings. They also need to have their self-worth mirrored by these people. These experiences allow them to thereby learn the self-soothing and other skills that are necessary for the development of a healthy sense of self.

Another important figure in the world of personality theory is Karen Horney. She is credited with the development of the "real self" and the "ideal self". She believes all people have these two views of their own self. The "real self" is how humans act with regard to personality, values, and morals; but the "ideal self" is a construct individuals

implement in order to conform to social and personal norms.

Behaviorist theories

Behaviorists explain personality in terms of the effects external stimuli have on behavior. The approaches used to analyze the behavioral aspect of personality are known as behavioral theories or learning-conditioning theories. These approaches were a radical shift away from Freudian philosophy. One of the major tenets of this concentration of personality psychology is a strong emphasis on scientific thinking and experimentation. This school of thought was developed by B. F. Skinner who put forth a model which emphasized the mutual interaction of the person or "the organism" with its environment. Skinner believed children do bad things because the behavior obtains attention that serves as a reinforcer. For example: a child cries because the child's crying in the past has led to attention. These are the *response*, and *consequences*. The response is the child crying, and the attention that child gets is the reinforcing consequence. According to this theory, people's behavior is formed by processes such as operant conditioning. Skinner put forward a "three term contingency model" which helped promote analysis of behavior based on the "Stimulus - Response - Consequence Model" in which the critical question is: "Under which circumstances or antecedent 'stimuli' does the organism engage in a particular behavior or 'response', which in turn produces a particular 'consequence'?"

Richard Herrnstein extended this theory by accounting for attitudes and traits. An attitude develops as the response strength (the tendency to respond) in the presences of a group of stimuli become stable. Rather than describing conditionable traits in non-behavioral language, response strength in a given situation accounts for the environmental portion. Herrnstein also saw traits as having a large genetic or biological component as do most modern behaviorists.

Ivan Pavlov is another notable influence. He is well known for his classical conditioning experiments involving dogs. These physiological studies led him to discover the foundation of behaviorism as well as classical conditioning.

Social cognitive theories

In cognitive theory, behavior is explained as guided by cognitions (e.g. expectations) about the world, especially those about other people. Cognitive theories are theories of personality that emphasize cognitive processes, such as thinking and judging.

Albert Bandura, a social learning theorist suggested the forces of memory and emotions worked in conjunction with environmental influences. Bandura was known mostly for his "Bobo Doll experiment". During these experiments, Bandura video taped a college student kicking and verbally abusing a bobo doll. He then showed this video to a class of kindergarten children who were getting ready to go out to play. When they entered the play room, they saw bobo dolls, and some hammers. The people observing these children at play saw a group of children beating the doll. He called this study and his findings observational learning, or modeling.

Early examples of approaches to cognitive style are listed by Baron (1982).^[11] These include Witkin's (1965) work on field dependency, Gardner's (1953) discovering people had consistent preference for the number of categories they used to categorise heterogeneous objects, and Block and Petersen's (1955) work on confidence in line discrimination judgments. Baron relates early development of cognitive approaches of personality to ego psychology. More central to this field have been:

- Attributional style theory dealing with different ways in which people explain events in their lives. This approach builds upon locus of control, but extends it by stating we also need to consider whether people attribute to stable causes or variable causes, and to global causes or specific causes.

Various scales have been developed to assess both attributional style and locus of control. Locus of control scales include those used by Rotter and later by Duttweiler, the Nowicki and Strickland (1973) Locus of Control Scale for Children and various locus of control scales specifically in the health domain, most famously that of Kenneth Wallston and his colleagues, The Multidimensional Health Locus of Control Scale.^[12] Attributional style has been

assessed by the Attributional Style Questionnaire,^[13] the Expanded Attributional Style Questionnaire,^[14] the Attributions Questionnaire,^[15] the Real Events Attributional Style Questionnaire^[16] and the Attributional Style Assessment Test.^[17]

- Achievement style theory focuses upon identification of an individual's Locus of Control tendency, such as by Rotter's evaluations, and was found by Cassandra Bolyard Whyte to provide valuable information for improving academic performance of students. Individuals with internal control tendencies are likely to persist to better academic performance levels, presenting an achievement personality, according to Cassandra B. Whyte

Recognition that the tendency to believe that hard work and persistence often results in attainment of life and academic goals has influenced formal educational and counseling efforts with students of various ages and in various settings since the 1970s research about achievement.^[18] Counseling aimed toward encouraging individuals to design ambitious goals and work toward them, with recognition that there are external factors that may impact, often results in the incorporation of a more positive achievement style by students and employees, whatever the setting, to include higher education, workplace, or justice programming.

Walter Mischel (1999) has also defended a cognitive approach to personality. His work refers to "Cognitive Affective Units", and considers factors such as encoding of stimuli, affect, goal-setting, and self-regulatory beliefs. The term "Cognitive Affective Units" shows how his approach considers affect as well as cognition.

Cognitive-Experiential Self-Theory (CEST) is another cognitive personality theory. Developed by Seymour Epstein, CEST argues that humans operate by way of two independent information processing systems: experiential system and rational system. The experiential system is fast and emotion-driven. The rational system is slow and logic-driven. These two systems interact to determine our goals, thoughts, and behavior.^[19]

Personal construct psychology (PCP) is a theory of personality developed by the American psychologist George Kelly in the 1950s. Kelly's fundamental view of personality was that people are like naive scientists who see the world through a particular lens, based on their uniquely organized systems of construction, which they use to anticipate events. But because people are naive scientists, they sometimes employ systems for construing the world that are distorted by idiosyncratic experiences not applicable to their current social situation. A system of construction that chronically fails to characterize and/or predict events, and is not appropriately revised to comprehend and predict one's changing social world, is considered to underlie psychopathology (or mental illness.)^[citation needed] From the theory, Kelly derived a psychotherapy approach and also a technique called *The Repertory Grid Interview* that helped his patients to uncover their own "constructs" with minimal intervention or interpretation by the therapist. The Repertory Grid was later adapted for various uses within organizations, including decision-making and interpretation of other people's world-views.

Humanistic theories

Humanistic psychology emphasizes that people have free will and that this plays an active role in determining how they behave. Accordingly, humanistic psychology focuses on subjective experiences of persons as opposed to forced, definitive factors that determine behavior. Abraham Maslow and Carl Rogers were proponents of this view, which is based on the "phenomenal field" theory of Combs and Snygg (1949).^[20] Rogers and Maslow were among a group of psychologists that worked together for a decade to produce the *Journal of Humanistic Psychology*. This journal was primarily focused on viewing individuals as a whole, rather than focusing solely on separate traits and processes within the individual.

Robert W. White wrote the book *The Abnormal Personality* that became a standard text on abnormal psychology. He also investigated the human need to strive for positive goals like competence and influence, to counterbalance the emphasis of Freud on the pathological elements of personality development.

Maslow spent much of his time studying what he called "self-actualizing persons", those who are "fulfilling themselves and doing the best they are capable of doing". Maslow believes all who are interested in growth move towards self-actualizing (growth, happiness, satisfaction) views. Many of these people demonstrate a trend in

dimensions of their personalities. Characteristics of self-actualizers according to Maslow include the four key dimensions:

1. **Awareness** - maintaining constant enjoyment and awe of life. These individuals often experienced a "peak experience". He defined a peak experience as an "intensification of any experience to the degree there is a loss or transcendence of self". A peak experience is one in which an individual perceives an expansion of his or herself, and detects a unity and meaningfulness in life. Intense concentration on an activity one is involved in, such as running a marathon, may invoke a peak experience.
2. **Reality and problem centered** - having a tendency to be concerned with "problems" in surroundings.
3. **Acceptance/Spontaneity** - accepting surroundings and what cannot be changed.
4. **Unhostile sense of humor/democratic** - do not take kindly to joking about others, which can be viewed as offensive. They have friends of all backgrounds and religions and hold very close friendships.

Maslow and Rogers emphasized a view of the person as an active, creative, experiencing human being who lives in the present and subjectively responds to current perceptions, relationships, and encounters. They disagree with the dark, pessimistic outlook of those in the Freudian psychoanalysis ranks, but rather view humanistic theories as positive and optimistic proposals which stress the tendency of the human personality toward growth and self-actualization. This progressing self will remain the center of its constantly changing world; a world that will help mold the self but not necessarily confine it. Rather, the self has opportunity for maturation based on its encounters with this world. This understanding attempts to reduce the acceptance of hopeless redundancy. Humanistic therapy typically relies on the client for information of the past and its effect on the present, therefore the client dictates the type of guidance the therapist may initiate. This allows for an individualized approach to therapy. Rogers found patients differ in how they respond to other people. Rogers tried to model a particular approach to therapy- he stressed the reflective or empathetic response. This response type takes the client's viewpoint and reflects back his or her feeling and the context for it. An example of a reflective response would be, "It seems you are feeling anxious about your upcoming marriage". This response type seeks to clarify the therapist's understanding while also encouraging the client to think more deeply and seek to fully understand the feelings they have expressed.

Biopsychological theories

Biology plays a very important role in the development of personality. The study of the biological level in personality psychology focuses primarily on identifying the role of genetic determinants and how they mold individual personalities.^[21] Some of the earliest thinking about possible biological bases of personality grew out of the case of Phineas Gage. In an 1848 accident, a large iron rod was driven through Gage's head, and his personality apparently changed as a result, although descriptions of these psychological changes are usually exaggerated.

In general, patients with brain damage have been difficult to find and study. In the 1990s, researchers began to use Electroencephalography (EEG), Positron Emission Tomography (PET) and more recently functional Magnetic Resonance Imaging (fMRI), which is now the most widely used imaging technique to help localize personality traits in the brain.

Genetic bases of personality

Ever since the Human Genome Project allowed for a much more in depth understanding of genetics, there has been an ongoing controversy involving heritability, personality traits, and environmental vs. genetic influence on personality. The human genome is known to play a role in the development of personality.

Previously, genetic personality studies focused on specific genes correlating to specific personality traits. Today's view of the gene-personality relationship focuses primarily on the activation and expression of genes related to personality. Genes provide numerous options for varying cells to be expressed, however, the environment determines which of these are activated. Many studies have noted this relationship in varying ways in which our bodies can develop, but the interaction between genes and the shaping of our minds and personality is also relevant to this biological relationship.^[22]

DNA-environment interactions are important in the development of personality because this relationship determines what part of the DNA code is actually made into proteins that will become part of an individual. It has been noted that while different choices are made available by the genome, in the end, the environment is the ultimate determinant of what becomes activated. Small changes in DNA in individuals are what lead to the uniqueness of every person as well as differences in looks, abilities, brain functioning, and all the factors that culminate to develop a cohesive personality.^[23]

Cattell and Eysenck have proposed that genetics have a strong influence on personality. A large part of the evidence collected linking genetics and the environment to personality have come from twin studies. This "twin method" compares levels of similarity in personality using genetically identical twins. One of the first of these twin studies measured 800 pairs of twins, studied numerous personality traits, and determined that identical twins are most similar in their general abilities. Personality similarities were found to be less related for self-concepts, goals, and interests.^[24]

Twin studies have also been important in the creation of the five factor personality model : neuroticism, extraversion, openness, agreeableness and conscientiousness. Neuroticism and extraversion are the two most widely studied traits. A person that may fall into the extrovert category can display characteristics such as impulsiveness, sociability, and activeness. A person falling into the neuroticism category may be more likely to be moody, anxious, or irritable. Identical twins however, have higher correlations in personality traits than fraternal twins. One studied measuring genetic influence on twins in five different countries found that the correlations for identical twins were .50, while for fraternal they were about .20. It is suggested that heredity and environment interact to determine one's personality.^[25]



Graphic by Damasio *et al.* showing how the tamping iron may have damaged both frontal lobes. (A 2004 study by Ratiu and colleagues suggests the damage was more limited.)

Evolutionary theory

Charles Darwin is the founder of the theory of the evolution of the species. The evolutionary approach to personality psychology is based on this theory.^[26] This theory examines how individual personality differences are based on natural selection. Through natural selection organisms change over time through adaptation and selection. Traits are developed and certain genes come into expression based on an organism's environment and how these traits aid in an organism's survival and reproduction.

The theory of evolution has wide ranging implications on personality psychology. Personality viewed through the lens of evolutionary psychology places a great deal of emphasis on specific traits that are most likely to aid in survival and reproduction, such as conscientiousness, sociability, emotional stability, and dominance.^[27] The social aspects of personality can be seen through an evolutionary perspective. Specific character traits develop and are selected for because they play an important and complex role in the social hierarchy of organisms. Such characteristics of this social hierarchy include the sharing of important resources, family and mating interactions, and the harm or help organisms can bestow upon one another.

Mate competition within humans is theorized to play a very important role in the development of personality through evolution. Characteristics that are typically selected for through evolution are usually related to fertility and sexuality, as these traits will help ensure the continuation of the species. Some examples of this are traits that females seek in males related to features that will be helpful in a partner such as dominance, powerful status, and access to resources. Another such trait that can be explained by an evolutionary standpoint is sexual jealousy. Males are in competition to reproduce with the most fertile females and in order to prevent other weaker and less adept males from mating with their potential partners over time males evolved a predisposition to rage, aggression, and jealousy. It has also been speculated that violence and killing is much more common in young males because they need to eliminate their competition in order for successful mating and reproduction to occur. Consequently, the age in which killing occurs the most frequently in males is also the age in which mating is the highest.^[28]

One of the reasons in which men pursue romantic relationships can be explained by evolutionary theory. Sexual and romantic relationships increase the likelihood that an individual will be able to pass on his genetic material so men are predisposed to pursuing many women. Women have a different set of priorities because once they are pregnant they cannot reproduce during this time period and when they are rearing children they need to use the time they have available to nurture and protect them. Studies have supported this idea and found that in the area of romantic relationships and sexual behavior men had felt much more regret looking back on the sexual experiences they did not have than did women.^[29]

Personality tests

There are two major types of personality tests, projective and objective.

Projective tests assume personality is primarily unconscious and assess individuals by how they respond to an ambiguous stimulus, such as an ink blot. Projective tests have been in use for about 60 years and continue to be used today. Examples of such tests include the Rorschach test and the Thematic Apperception Test.

The Rorschach Test involves showing an individual a series of note cards with ambiguous ink blots on them. The individual being tested is asked to provide interpretations of the blots on the cards by stating everything that the ink blot may resemble based on their personal interpretation. The therapist then analyzes their responses. Rules for scoring the test have been covered in manuals that cover a wide variety of characteristics such as content, originality of response, location of "perceived images" and several other factors. Using these specific scoring methods, the therapist will then attempt to relate test responses to attributes of the individual's personality and their unique characteristics.^[30] The idea is that unconscious needs will come out in the person's response, e.g. an aggressive person may see images of destruction.

The Thematic Apperception Test (also known as the TAT) involves presenting individuals with vague

pictures/scenes and asking them to tell a story based on what they see. Common examples of these "scenes" include images that may suggest family relationships or specific situations, such as a father and son or a man and a woman in a bedroom.^[31] Responses are analyzed for common themes. Responses unique to an individual are theoretically meant to indicate underlying thoughts, processes, and potentially conflicts present within the individual. Responses are believed to be directly linked to unconscious motives. There is very little empirical evidence available to support these methods.^[32]

Objective tests assume personality is consciously accessible and that it can be measured by self-report questionnaires. Research on psychological assessment has generally found objective tests to be more valid and reliable than projective tests. Critics have pointed to the Forer effect to suggest some of these appear to be more accurate and discriminating than they really are. Issues with these tests include false reporting because there is no way to tell if an individual is answering a question honestly or accurately.

Inner experience

Psychology has traditionally defined personality through its behavioral patterns, and more recently with neuroscientific studies of the brain. In recent years, some psychologists have turned to the study of inner experiences for insight into personality as well as individuality. Inner experiences are the thoughts and feelings to an immediate phenomenon. Another term used to define inner experiences is qualia. Being able to understand inner experiences assists in understanding how humans behave, act, and respond. Defining personality using inner experiences has been expanding due to the fact that solely relying on behavioral principles to explain one's character may seem incomplete. Behavioral methods allow the subject to be observed by an observer, whereas with inner experiences the subject is its own observer.

Methods measuring inner experience

Descriptive experience sampling (DES), developed by psychologist Russel Hurlburt. This is an idiographic method that is used to help examine inner experiences. This method relies on an introspective technique that allows an individual's inner experiences and characteristics to be described and measured. A beep notifies the subject to record their experience at that exact moment and 24 hours later an interview is given based on all the experiences recorded. DES has been used in subjects that have been diagnosed with schizophrenia and depression. It has also been crucial to studying the inner experiences of those who have been diagnosed with common psychiatric diseases.

Articulated thoughts in stimulated situations (ATSS): ATSS is a paradigm which was created as an alternative to the TA (think aloud) method. This method assumes that people have continuous internal dialogues that can be naturally attended to. ATSS also assesses a person's inner thoughts as they verbalize their cognitions. In this procedure, subjects listen to a scenario via a video or audio player and are asked to imagine that they are in that specific situation. Later, they are asked to articulate their thoughts as they occur in reaction to the playing scenario. This method is useful in studying emotional experience given that the scenarios used can influence specific emotions. Most importantly, the method has contributed to the study of personality. In a study conducted by Rayburn and Davison (2002), subjects' thoughts and empathy toward anti-gay hate crimes were evaluated. The researchers found that participants showed more aggressive intentions towards the offender in scenarios which mimicked hate crimes.

Experimental method: This method is an experimental paradigm used to study human experiences involved in the studies of sensation and perception, learning and memory, motivation, and biological psychology. The experimental psychologist usually deals with intact organisms although studies are often conducted with organisms modified by surgery, radiation, drug treatment, or long-standing deprivations of various kinds or with organisms that naturally present organic abnormalities or emotional disorders. Economists and psychologists have developed a variety of experimental methodologies to elicit and assess individual attitudes where each emotion differs for each individual. The results are then gathered and quantified to conclude if specific experiences have any common factors. This

method is used to seek clarity of the experience and remove any biases to help understand the meaning behind the experience to see if it can be generalized.

References

- [1] http://en.wikipedia.org/w/index.php?title=Template:Psychology_sidebar&action=edit
- [2] Winnie, J.F. & Gittinger, J.W. (1973) An introduction to the personality assessment system. *Journal of Clinical Psychology, Monograph Supplement*, 38,1=68
- [3] Krauskopf, C.J. & Saunders, D.R. (1994) Personality and Ability: The Personality Assessment System. University Press of America, Lanham, Maryland
- [4] Gittinger, 1963
- [5] Couchon, A.R. (1983) The Personality Assessment System Journal Inc. dba PASF Inc., N. Eastham, Massachusetts
- [6] See PASF.org and U. Akron, History of Psychology Archives.
- [7] Santrock, J.W. (2008). The Self, Identity, and Personality. In Mike Ryan (Ed). *A Topical Approach to Life-Span Development*. (p. 411-412). New York:McGraw-Hill.
- [8] Marvin Zuckerman, *Psychobiology of Personality*
- [9] Myers, D. G. (2010). *Psychology* (9th ed.). New York: Worth Publishers.
- [10] Carver, C., & Scheier, M. (2004). *Perspectives on Personality* (5th ed.). Boston: Pearson.
- [11] Baron, J. (1982). "Intelligence and Personality." In R. Sternberg (Ed.). *Handbook of Intelligence*. Cambridge: Cambridge University Press.
- [12] Wallston et al, 1978
- [13] Peterson et al, 1982
- [14] Peterson & Villanova, 1988
- [15] Gong-guy & Hammen, 1990
- [16] Norman & Antaki, 1988
- [17] Anderson, 1988
- [18] Lauridsen Kurt (ed) and Whyte, Cassandra B. (1985) An Integrated Counseling and Learning Assistance Center-Chapter for New Directions Sourcebook. Jossey-Bass, Inc
- [19] Epstein, Seymour; In: Handbook of psychology: Personality and social psychology, Vol. 5. Millon, Theodore (Ed.); Lerner, Melvin J. (Ed.); Hoboken, NJ, US: John Wiley & Sons Inc, 2003. pp. 159-184. [Chapter]
- [20] Combs, Arthur W., and Snygg, Donald. : *A New Frame of Reference for Psychology*. New York, Harper and Brothers. Article on Snygg and Combs' Phenomenological Field Theory (<http://webpace.ship.edu/cgboer/snygg&combs.html>)
- [21] Plomin, R., DeFries, J.C., McClearn, G.E., & Rutter, M. (1997). *Behavioral genetics* (3rd Ed.). New York: Freeman.
- [22] Gazzaniga, M.S., & Heatherton, T.F. (2006). *Psychological science: Mind, brain, and behavior* (2nd ed.). New York: Norton.
- [23] Marcus, G. (2004). *The birth of the mind*. New York: Basic Books.
- [24] Loehlin, J.C., & Nichols, R.C. (1976). *Hereditary, environment, and personality: A study of 850 sets of twins*. Austin: University of Texas Press
- [25] Goldberg, L.R. (1990). An alternative "description of personality": The Big-Five factor structure. *Journal of Personality and Social Psychology*, 59, 1216-1229
- [26] , D.M. (1991). Evolutionary personality psychology. *Annual Review of Psychology*, 42, 459-491.
- [27] Kenrick, D.T., Sadalla, E.K., Groth, G., & Trost, M.R. (1990). Evolution, traits, and the stages of human courtship: Qualifying the parental investment model. *Journal of Personality*, 58, 97-116
- [28] Wilson, M.I., & Daly, M. (1996). Male sexual proprietariness and violence against wives. *Current Directions in Psychological Sciences*, 5, 2-7.
- [29] Buss, D.M.,&Schmitt, D.P. (1993).Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review*, 100, 204-232.
- [30] Exner, J.E. (1993). *The Rorschach: A comprehensive system, Vol. 1: Basic foundations* (3rd ed.). New York: Wiley
- [31] Bellak, L., & Abrams, D.M. (1997). *The Thematic Apperception Test, the Children's Apperception Test, and the Senior Apperception Technique in clinical use* (6th ed.). Boston: Allyn & Bacon.
- [32] Watkins, C.E., Campbell, V.L., Nieberding, R., & Hallmark, R. (1995). Contemporary practice of psychological assessment by clinical psychologists. *Professional Psychology, Research and Practice*, 26, 54-60.

Further reading

- Allport, G. W. (1937). *Personality: A psychological interpretation*. New York: Holt, Rinehart & Winston.
- Mischel, Walter (1999-01-01). *An Introduction to Personality* (<http://books.google.com/books?id=FfQ8PgAACAAJ>). John Wiley & Sons Incorporated. ISBN 978-0-470-00552-1. Retrieved 30 April 2012.
- Buss D.M., Greiling H. (1999). "Adaptive Individual Differences". *Journal of Personality* **67** (2): 209–243. doi: 10.1111/1467-6494.00053 (<http://dx.doi.org/10.1111/1467-6494.00053>) .
- Lombardo G.P., Foschi R. (2003). "The Concept of Personality between 19th Century France and 20th Century American Psychology". *History of Psychology* **6** (2): 133–142. doi: 10.1037/1093-4510.6.2.123 (<http://dx.doi.org/10.1037/1093-4510.6.2.123>) . PMID 12817602 (<http://www.ncbi.nlm.nih.gov/pubmed/12817602>).
- Lombardo G.P., Foschi R. (2002). "The European origins of "personality psychology". *European Psychologist* **7** (2): 134–145. doi: 10.1027//1016-9040.7.2.134 (<http://dx.doi.org/10.1027//1016-9040.7.2.134>) .
- Engler, Barbara (2008-08-25). *Personality Theories: An Introduction* (<http://books.google.com/books?id=UHCdjI36q9cC>). Cengage Learning. ISBN 978-0-547-14834-2. Retrieved 30 April 2012.
- John, Oliver P.; Robins, Richard W.; Pervin, Lawrence A. (2010-11-24). *Handbook of Personality, Third Edition: Theory and Research* (<http://books.google.com/books?id=olgW-du4RBcC>). Guilford Press. ISBN 978-1-60918-059-1. Retrieved 30 April 2012.
- Hall, Calvin S., and Gardner Lindzey (1957). *Theories of Personality*. New York: J. Wiley & Sons. xi, 571 p., ill. with diagrams.
- Hjelle, Larry A.; Ziegler, Daniel J. (1992-01-01). *Personality theories: basic assumptions, research, and applications* (<http://books.google.com/books?id=VdF-AAAAMAAJ>). McGraw-Hill. ISBN 978-0-07-029079-2. Retrieved 30 April 2012.
- Lombardo, Giovanni Pietro; Foschi, Renato (2002). "The European Origins of "Personality Psychology"". *European Psychologist* **7** (2): 134–145. doi: 10.1027//1016-9040.7.2.134 (<http://dx.doi.org/10.1027//1016-9040.7.2.134>) .
- Lombardo, Giovanni Pietro; Foschi, Renato (2003). "The concept of personality in 19th-century French and 20th-century American psychology". *History of Psychology* **6** (2): 123–142. doi: 10.1037/1093-4510.6.2.123 (<http://dx.doi.org/10.1037/1093-4510.6.2.123>) . PMID 12817602 (<http://www.ncbi.nlm.nih.gov/pubmed/12817602>).
- Ryckman, Richard M. (2007-03-15). *Theories of Personality* (http://books.google.com/books?id=_1mQhvUfYFWC). Cengage Learning. ISBN 978-0-495-09908-6. Retrieved 30 April 2012.

External links

- Northwestern University-led collaboration between personality psychologists worldwide to "attempt to bring information about current personality theory and research to the readers of the World Wide Web" (<http://www.personality-project.org/>)
- Cambridge University based myPersonality project offering to researchers access to robust database of millions of detailed psycho-demographic profiles (<http://www.psychometrics.ppsis.cam.ac.uk/page/255/mypersonality-database.htm>)Wikipedia:Link rot
- Personality Theories (<http://www.ship.edu/~cgboeree/perscontents.html>)
- Trait Emotional Intelligence: EI as personality (<http://www.psychometriclab.com/>)
- Personality: Theory & Perspectives - Individual Differences (<http://www.wilderdom.com/personality/personality.html>)
- Personality Synopsis at the Virtual Psychology Classroom (<http://allpsych.com/personalitysynopsis/contents.html>)

- Holland's Types (http://www.hopkinsmedicine.org/fac_development/video/pdf/lisa_heiser_faculty_development_handout.pdf)
 - Henry A. Murray and Clyde Kluckhohn, *Personality in Nature, Society, and Culture* (1953) (<http://www.panarchy.org/kluckhohn/personality.1953.html>)
 - What is Personality Psychology? (http://www.hoganassessments.com/_hoganweb/documents/what%20is%20personality%20psychology.pdf)
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