SPECIAL FIELDS OF PSYCHOLOGY

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**1. Introduction**

Psychology, scientific study of behavior and experience—that is, the study of how human beings and animals sense, think, learn, and know. Modern psychology is devoted to collecting facts about behavior and experience and systematically organizing such facts into psychological theories. These theories aid in understanding and explaining people’s behavior and sometimes in predicting and influencing their future behavior.

Psychology, historically, has been divided into many subfields of study; these fields, however, are interrelated and frequently overlap. Physiological psychologists, for instance, study the functioning of the brain and the nervous system, and experimental psychologists devise tests and conduct research to discover how people learn and remember. Subfields of psychology may also be described in terms of areas of application. Social psychologists, for example, are interested in the ways in which people influence one another and the way they act in groups. Industrial psychologists study the behavior of people at work and the effects of the work environment. School psychologists help students make educational and career decisions. Clinical psychologists assist those who have problems in daily life or who are mentally ill.

**History**. The science of psychology developed from many diverse sources, but its origins as a science may be traced to ancient Greece.

Philosophical Beginnings. Plato and Aristotle, as well as other Greek philosophers, took up some of the basic questions of psychology that are still under study: Are people born with certain skills, abilities, and personality, or do all these develop as a result of experience? How do people come to know the world? Are certain ideas and feelings innate, or are they all learned?

Such questions were debated for many centuries, but the roots of modern psychological theory are found in the 17th century in the works of the French philosopher Ren Descartes and the British philosophers Thomas Hobbes and John Locke. Descartes argued that the bodies of people are like clockwork machines, but that their minds (or souls) are separate and unique. He maintained that minds have certain inborn, or innate, ideas and that these ideas are crucial in organizing people’s experiencing of the world. Hobbes and Locke, on the other hand, stressed the role of experience as the source of human knowledge. Locke believed that all information about the physical world comes through the senses and that all correct ideas can be traced to the sensory information on which they are based.

Most modern psychology developed along the lines of Locke’s view. Some European psychologists who studied perception, however, held onto Descartes’s idea that some mental organization is innate, and the concept still plays a role in theories of perception and cognition.

Against this philosophical background, the field that contributed most to the development of scientific psychology was physiology—the study of the functions of the various organ systems of the body. The German physiologist Johannes Miller tried to relate sensory experience both to events in the nervous system and to events in the organism’s physical environment. The first true experimental psychologists were the German physicist Gustav Theodor Fechner and the German physiologist Wilhelm Wundt. Fechner developed experimental methods for measuring sensations in terms of the physical magnitude of the stimuli producing them. Wundt, who in 1879 founded the first laboratory of experimental psychology in Leipzig, Germany, trained students from around the world in this new science.

Physicians who became concerned with mental illness also contributed to the development of modern psychological theories. Thus, the systematic classification of mental disorders developed by the German psychiatric pioneer Emil Kraepelin remains the basis for methods of classification that are now in use. Far better known, however, is the work of Sigmund Freud, who devised the system of investigation and treatment known as psychoanalysis. In his work, Freud called attention to instinctual drives and unconscious motivational processes that determine people’s behavior. This stress on the contents of thought, on the dynamics of motivation rather than the nature of cognition in itself, exerted a strong influence on the course of modern psychology.

Modern psychology still retains many aspects of the fields and kinds of speculation from which it grew. Some psychologists, for example, are primarily interested in physiological research, others are medically oriented, and a few try to develop a more encompassing, philosophical understanding of psychology as a whole. Although some practitioners still insist that psychology should be concerned only with behavior—and may even deny the meaningfulness of an inner, mental life—more and more psychologists would now agree that mental life or experience is a valid psychological concern.

The areas of modern psychology range from the biological sciences to the social sciences.

**2. Physiological psychology**

The study of underlying physiological bases of psychological functions is known as physiological psychology. The two major communication systems of the body—the nervous system and the circulatory system—are the focus of most research in this area.

The nervous system consists of the central nervous system (the brain and the spinal cord) and its outlying neural network, the peripheral nervous system; the latter communicates with the glands and muscles and includes the sensory receptors for seeing, hearing, smelling, tasting, touching, feeling pain, and sensing stimuli within the body. The circulatory system circulates the blood and also carries the important chemical agents known as hormones from the glands to all parts of the body. Both these communication systems are very important in overall human behavior.

The smallest unit of the nervous system is the single nerve cell, or neuron. When a neuron is properly stimulated, it transmits electrochemical signals from one place in the system to another. The nervous system has 12.5 billion neurons, of which about 10 billion are in the brain itself.

One part of the peripheral nervous system, the somatic system, transmits sensations into the central nervous system and carries commands from the central system to the muscles involved in movement. Another part of the peripheral nervous system, the autonomic system, consists of two divisions that have opposing functions. The sympathetic division arouses the body by speeding the heartbeat, dilating the pupils of the eye, and releasing adrenaline into the blood. The parasympathetic division operates to calm the body by reversing these processes.

A simple example of communication within the nervous system is the spinal arc, which is seen in the knee-jerk reflex. A tap on the patellar tendon, just below the kneecap, sends a signal to the spinal cord via sensory neurons. This signal activates motor neurons that trigger a contraction of the muscle attached to the tendon; the contraction, in turn, causes the leg to jerk. Thus, a stimulus can lead to a response without involving the brain, via a connection through the spinal cord.

Circulatory communication is ordinarily slower than nervous-system communication. The hormones secreted by the body’s endocrine glands circulate through the body, influencing both structural and behavioral changes . The sex hormones, for example, that are released during adolescence effect many changes in body growth and development as well as changes in behavior, such as the emergence of specific sexual activity and the increase of interest in the opposite sex. Other hormones may have more direct, short-term effects; for instance, adrenaline, which is secreted when a person faces an emergency, prepares the body for a quick response—whether fighting or flight.

**3. Psychoanalysis**

Psychoanalysis, name applied to a specific method of investigating unconscious mental processes and to a form of psychotherapy. The term refers, as well, to the systematic structure of psychoanalytic theory, which is based on the relation of conscious and unconscious psychological processes.

## Theory of Psychoanalysis

The technique of psychoanalysis and much of the psychoanalytic theory based on its application were developed by Sigmund Freud. His work concerning the structure and the functioning of the human mind had far-reaching significance, both practically and scientifically, and it continues to influence contemporary thought.

### The Unconscious

The first of Freud’s innovations was his recognition of unconscious psychiatric processes that follow laws different from those that govern conscious experience. Under the influence of the unconscious, thoughts and feelings that belong together may be shifted or displaced out of context; two disparate ideas or images may be condensed into one; thoughts may be dramatized in the form of images rather than expressed as abstract concepts; and certain objects may be represented symbolically by images of other objects, although the resemblance between the symbol and the original object may be vague or farfetched. The laws of logic, indispensable for conscious thinking, do not apply to these unconscious mental productions.

Recognition of these modes of operation in unconscious mental processes made possible the understanding of such previously incomprehensible psychological phenomena as dreaming. Through analysis of unconscious processes, Freud saw dreams as serving to protect sleep against disturbing impulses arising from within and related to early life experiences. Thus, unacceptable impulses and thoughts, called the latent dream content, are transformed into a conscious, although no longer immediately comprehensible, experience called the manifest dream. Knowledge of these unconscious mechanisms permits the analyst to reverse the so-called dream work, that is, the process by which the latent dream is transformed into the manifest dream, and through dream interpretation, to recognize its underlying meaning.

### Instinctual Drives

A basic assumption of Freudian theory is that the unconscious conflicts involve instinctual impulses, or drives, that originate in childhood. As these unconscious conflicts are recognized by the patient through analysis, his or her adult mind can find solutions that were unattainable to the immature mind of the child. This depiction of the role of instinctual drives in human life is a unique feature of Freudian theory.

According to Freud’s doctrine of infantile sexuality, adult sexuality is an end product of a complex process of development, beginning in childhood, involving a variety of body functions or areas (oral, anal, and genital zones), and corresponding to various stages in the relation of the child to adults, especially to parents. Of crucial importance is the so-called Oedipal period, occurring at about four to six years of age, because at this stage of development the child for the first time becomes capable of an emotional attachment to the parent of the opposite sex that is similar to the adult’s relationship to a mate; the child simultaneously reacts as a rival to the parent of the same sex. Physical immaturity dooms the child’s desires to frustration and his or her first step toward adulthood to failure. Intellectual immaturity further complicates the situation because it makes children afraid of their own fantasies. The extent to which the child overcomes these emotional upheavals and to which these attachments, fears, and fantasies continue to live on in the unconscious greatly influences later life, especially love relationships.

The conflicts occurring in the earlier developmental stages are no less significant as a formative influence, because these problems represent the earliest prototypes of such basic human situations as dependency on others and relationship to authority. Also basic in molding the personality of the individual is the behavior of the parents toward the child during these stages of development. The fact that the child reacts, not only to objective reality, but also to fantasy distortions of reality, however, greatly complicates even the best-intentioned educational efforts.

### Id, Ego, and Superego

The effort to clarify the bewildering number of interrelated observations uncovered by psychoanalytic exploration led to the development of a model of the structure of the psychic system. Three functional systems are distinguished that are conveniently designated as the id, ego, and superego.

The first system refers to the sexual and aggressive tendencies that arise from the body, as distinguished from the mind. Freud called these tendencies *Triebe,* which literally means “drives,” but which is often inaccurately translated as “instincts” to indicate their innate character. These inherent drives claim immediate satisfaction, which is experienced as pleasurable; the id thus is dominated by the pleasure principle. In his later writings, Freud tended more toward psychological rather than biological conceptualization of the drives.

How the conditions for satisfaction are to be brought about is the task of the second system, the ego, which is the domain of such functions as perception, thinking, and motor control that can accurately assess environmental conditions. In order to fulfill its function of adaptation, or reality testing, the ego must be capable of enforcing the postponement of satisfaction of the instinctual impulses originating in the id. To defend itself against unacceptable impulses, the ego develops specific psychic means, known as defense mechanisms. These include repression, the exclusion of impulses from conscious awareness; projection, the process of ascribing to others one’s own unacknowledged desires; and reaction formation, the establishment of a pattern of behavior directly opposed to a strong unconscious need. Such defense mechanisms are put into operation whenever anxiety signals a danger that the original unacceptable impulses may reemerge.

An id impulse becomes unacceptable, not only as a result of a temporary need for postponing its satisfaction until suitable reality conditions can be found, but more often because of a prohibition imposed on the individual by others, originally the parents. The totality of these demands and prohibitions constitutes the major content of the third system, the superego, the function of which is to control the ego in accordance with the internalized standards of parental figures. If the demands of the superego are not fulfilled, the person may feel shame or guilt. Because the superego, in Freudian theory, originates in the struggle to overcome the Oedipal conflict, it has a power akin to an instinctual drive, is in part unconscious, and can give rise to feelings of guilt not justified by any conscious transgression. The ego, having to mediate among the demands of the id, the superego, and the outside world, may not be strong enough to reconcile these conflicting forces. The more the ego is impeded in its development because of being enmeshed in its earlier conflicts, called fixations or complexes, or the more it reverts to earlier satisfactions and archaic modes of functioning, known as regression, the greater is the likelihood of succumbing to these pressures. Unable to function normally, it can maintain its limited control and integrity only at the price of symptom formation, in which the tensions are expressed in neurotic symptoms.

### Anxiety

A cornerstone of modern psychoanalytic theory and practice is the concept of anxiety, which institutes appropriate mechanisms of defense against certain danger situations. These danger situations, as described by Freud, are the fear of abandonment by or the loss of the loved one (the object), the risk of losing the object’s love, the danger of retaliation and punishment, and, finally, the hazard of reproach by the superego. Thus, symptom formation, character and impulse disorders, and perversions, as well as sublimations, represent compromise formations—different forms of an adaptive integration that the ego tries to achieve through more or less successfully reconciling the different conflicting forces in the mind.

## Psychoanalytic Schools

Various psychoanalytic schools have adopted other names for their doctrines to indicate deviations from Freudian theory.

### Carl Jung

Carl Gustav Jung, one of the earliest pupils of Freud, eventually created a school that he preferred to call analytical psychology. Like Freud, Jung used the concept of the libido; however, to him it meant not only sexual drives, but a composite of all creative instincts and impulses and the entire motivating force of human conduct. According to his theories, the unconscious is composed of two parts; the personal unconscious, which contains the results of the individual’s entire experience, and the collective unconscious, the reservoir of the experience of the human race. In the collective unconscious exist a number of primordial images, or archetypes, common to all individuals of a given country or historical era. Archetypes take the form of bits of intuitive knowledge or apprehension and normally exist only in the collective unconscious of the individual. When the conscious mind contains no images, however, as in sleep, or when the consciousness is caught off guard, the archetypes commence to function. Archetypes are primitive modes of thought and tend to personify natural processes in terms of such mythological concepts as good and evil spirits, fairies, and dragons. The mother and the father also serve as prominent archetypes.

An important concept in Jung’s theory is the existence of two basically different types of personality, mental attitude, and function. When the libido and the individual’s general interest are turned outward toward people and objects of the external world, he or she is said to be extroverted. When the reverse is true, and libido and interest are centered on the individual, he or she is said to be introverted. In a completely normal individual these two tendencies alternate, neither dominating, but usually the libido is directed mainly in one direction or the other; as a result, two personality types are recognizable.

Jung rejected Freud’s distinction between the ego and superego and recognized a portion of the personality, somewhat similar to the superego, that he called the persona. The persona consists of what a person appears to be to others, in contrast to what he or she actually is. The persona is the role the individual chooses to play in life, the total impression he or she wishes to make on the outside world.

### Alfred Adler

Alfred Adler, another of Freud’s pupils, differed from both Freud and Jung in stressing that the motivating force in human life is the sense of inferiority, which begins as soon as an infant is able to comprehend the existence of other people who are better able to care for themselves and cope with their environment. From the moment the feeling of inferiority is established, the child strives to overcome it. Because inferiority is intolerable, the compensatory mechanisms set up by the mind may get out of hand, resulting in self-centered neurotic attitudes, overcompensations, and a retreat from the real world and its problems.

Adler laid particular stress on inferiority feelings arising from what he regarded as the three most important relationships: those between the individual and work, friends, and loved ones. The avoidance of inferiority feelings in these relationships leads the individual to adopt a life goal that is often not realistic and frequently is expressed as an unreasoning will to power and dominance, leading to every type of antisocial behavior from bullying and boasting to political tyranny. Adler believed that analysis can foster a sane and rational “community feeling” that is constructive rather than destructive.

### Otto Rank

Another student of Freud, Otto Rank, introduced a new theory of neurosis, attributing all neurotic disturbances to the primary trauma of birth. In his later writings he described individual development as a progression from complete dependence on the mother and family, to a physical independence coupled with intellectual dependence on society, and finally to complete intellectual and psychological emancipation. Rank also laid great importance on the will, defined as “a positive guiding organization and integration of self, which utilizes creatively as well as inhibits and controls the instinctual drives.”

### Other Psychoanalytic Schools

Later noteworthy modifications of psychoanalytic theory include those of the American psychoanalysts Erich Fromm, Karen Horney, and Harry Stack Sullivan. The theories of Fromm lay particular emphasis on the concept that society and the individual are not separate and opposing forces, that the nature of society is determined by its historic background, and that the needs and desires of individuals are largely formed by their society. As a result, Fromm believed, the fundamental problem of psychoanalysis and psychology is not to resolve conflicts between fixed and unchanging instinctive drives in the individual and the fixed demands and laws of society, but to bring about harmony and an understanding of the relationship between the individual and society. Fromm also stressed the importance to the individual of developing the ability to fully use his or her mental, emotional, and sensory powers.

Horney worked primarily in the field of therapy and the nature of neuroses, which she defined as of two types: situation neuroses and character neuroses. Situation neuroses arise from the anxiety attendant on a single conflict, such as being faced with a difficult decision. Although they may paralyze the individual temporarily, making it impossible to think or act efficiently, such neuroses are not deeply rooted. Character neuroses are characterized by a basic anxiety and a basic hostility resulting from a lack of love and affection in childhood.

Sullivan believed that all development can be described exclusively in terms of interpersonal relations. Character types as well as neurotic symptoms are explained as results of the struggle against anxiety arising from the individual’s relations with others and are a security system, maintained for the purpose of allaying anxiety.

### Melanie Klein

An important school of thought is based on the teachings of the British psychoanalyst Melanie Klein. Because most of Klein’s followers worked with her in England, this has come to be known as the English school. Its influence, nevertheless, is very strong throughout the European continent and in South America. Its principal theories were derived from observations made in the psychoanalysis of children. Klein posited the existence of complex unconscious fantasies in children under the age of six months. The principal source of anxiety arises from the threat to existence posed by the death instinct. Depending on how concrete representations of the destructive forces are dealt with in the unconscious fantasy life of the child, two basic early mental attitudes result that Klein characterized as a “depressive position” and a “paranoid position.” In the paranoid position, the ego’s defense consists of projecting the dangerous internal object onto some external representative, which is treated as a genuine threat emanating from the external world. In the depressive position, the threatening object is introjected and treated in fantasy as concretely retained within the person. Depressive and hypochondriacal symptoms result. Although considerable doubt exists that such complex unconscious fantasies operate in the minds of infants, these observations have been of the utmost importance to the psychology of unconscious fantasies, paranoid delusions, and theory concerning early object relations.

**4. Behaviriourism**

The literature of this school of psychology is still awaiting its bibliographer. Though this interpretation of human actions and reactions has been strongly criticized by other psychologists, the leading figures - B.F.Skinner, J.B.Watson and E.C.Tolman - have also been recognized and respected as great scholars. Skenner`s own summary About behaviorism, 1974, contained numerous bibliographic references to this important interpretation of man’s relationship to the world around him. Strange compilation of references designed to show the errors of this school of psychology was published by A.A.Roback in 1923 as part of his critical discussion entitled Behaviorism and Psychology; it is now only of historical interest.

We have already referred to Robert 1 Watson`s The history of psychology and behavioral sciences: a bibliographic guide, 1978. in our discussion of the general background guides to psychology. It suffices to note, here, that this work, though by one of the leading scholars of the behaviorist school, is not, and does not pretend to be, a bibliography of Behaviourism. In some respects the same can be said of C.Heidenreich`s Dictionary of personality: behavior and adjustment terms, which appeared in 1968. Both these books have been compiled by leading members of this behaviorist school and unquestionably representative of the views of that school. We have mentioned these works here for that reason, but stress that these are scholarly and unbiased reference works which do not include or misrepresent references to other interpretations of human behavior.

**5. Gestalt psychology**

**Gestalt Psychology,** school of psychology that deals mainly with the processes of perception. According to Gestalt psychology, images are perceived as a pattern or a whole rather than merely as a sum of distinct component parts. The context of an image plays a key role. For instance, in the context of a city silhouette the shape of a spire is perceived as a church steeple. Gestalt psychology tries to formulate the laws governing such perceptual processes.

Gestalt psychology began as a protest. At the beginning of the 20th century, associationism dominated psychology. The associationist view that stimuli are perceived as parts and then built into images excluded as much as it sought to explain; for instance, it allowed little room for such human concepts as meaning and value. About 1910, German researchers Max Wertheimer, Wolfgang Köhler, and Kurt Koffka rejected the prevailing order of scientific analysis in psychology. They did not, however, reject science; rather they sought a scientific approach more nearly related to the subject matter of psychology. They adopted that of field theory, newly developed in physics. This model permitted them to look at perception in terms other than the mechanistic atomism of the associationists.

Gestalt psychologists found perception to be heavily influenced by the context or configuration of the perceived elements. The word Gestalt can be translated from the German approximately as “configuration.” The parts often derive their nature and purpose from the whole and cannot be understood apart from it. Moreover, a straightforward summation process of individual elements cannot account for the whole. Activities within the total field of the whole govern the perceptual processes.

The approach of Gestalt psychology has been extended to research in areas as diverse as thinking, memory, and the nature of aesthetics. Topics in social psychology have also been studied from the structuralist Gestalt viewpoint, as in Kurt Lewin’s work on group dynamics. It is in the area of perception, however, that Gestalt psychology has had its greatest influence.

In addition, several contemporary psychotherapies are termed Gestalt. These are constructed along lines similar to Gestalt psychology’s approach to perception. Human beings respond holistically to experience; according to Gestalt therapists, any separation of mind and body is artificial. Accurate perception of one’s own needs and of the world is vital in order to balance one’s experience and achieve “good Gestalten.” Movement away from awareness breaks the holistic response, or Gestalt. Gestalt therapists attempt to restore an individual’s natural, harmonic balance by heightening awareness. The emphasis is on present experience, rather than on recollections of infancy and early childhood as in psychoanalysis. Direct confrontation with one’s fears is encouraged.

**6. Cognition psychology**

Cognition**,** act or process of knowing. Cognition includes attention, perception, memory, reasoning, judgment, imagining, thinking, and speech. Attempts to explain the way in which cognition works are as old as philosophy itself; the term, in fact, comes from the writings of Plato and Aristotle. With the advent of psychology as a discipline separate from philosophy, cognition has been investigated from several viewpoints.

An entire field—cognitive psychology—has arisen since the 1950s. It studies cognition mainly from the standpoint of information handling. Parallels are stressed between the functions of the human brain and the computer concepts such as the coding, storing, retrieving, and buffering of information. The actual physiology of cognition is of little interest to cognitive psychologists, but their theoretical models of cognition have deepened understanding of memory, psycholinguistics, and the development of intelligence.

Social psychologists since the mid-1960s have written extensively on the topic of cognitive consistency—that is, the tendency of a person’s beliefs and actions to be logically consistent with one another. When cognitive dissonance, or the lack of such consistency, arises, the person unconsciously seeks to restore consistency by changing his or her behavior, beliefs, or perceptions. The manner in which a particular individual classifies cognitions in order to impose order has been termed cognitive style.

**7. Tests and Measurements**

Many fields of psychology use tests and measurement devices. The best-known psychological tool is intelligence testing. Since the early 1900s psychologists have been measuring intelligence—or, more accurately, the ability to succeed in schoolwork. Such tests have proved useful in classifying students, assigning people to training programs, and predicting success in many kinds of schooling. Special tests have been developed to predict success in different occupations and to assess how much knowledge people have about different kinds of specialties. In addition, psychologists have constructed tests for measuring aspects of personality, interests, and attitudes. Thousands of tests have been devised for measuring different human traits.

A key problem in test construction, however, is the development of a criterion—that is, some standard to which the test is to be related. For intelligence tests, for example, the usual criterion has been success in school, but intelligence tests have frequently been attacked on the basis of cultural bias (that is, the test results may reflect a child’s background as much as it does learning ability). For vocational-interest tests, the standard generally has been persistence in an occupation. One general difficulty with personality tests is the lack of agreement among psychologists as to what standards should be used. Many criteria have been proposed, but most are only indirectly related to the aspect of personality that is being measured.

Very sophisticated statistical models have been developed for tests, and a detailed technology underlies most successful testing. Many psychologists have become adept at constructing testing devices for special purposes and at devising measurements, once agreement is reached as to what should be measured.

### Types of Tests

Currently, a wide range of testing procedures is used in the U.S. and elsewhere. Each type of procedure is designed to carry out specific functions.

*Achievement Tests .* These tests are designed to assess current performance in an academic area. Because achievement is viewed as an indicator of previous learning, it is often used to predict future academic success. An achievement test administered in a public school setting would typically include separate measures of vocabulary, language skills and reading comprehension, arithmetic computation and problem solving, science, and social studies. Individual achievement is determined by comparison of results with average scores derived from large representative national or local samples. Scores may be expressed in terms of “grade-level equivalents”; for example, an advanced third-grade pupil may be reading on a level equivalent to that of the average fourth-grade student.

*Aptitude Tests.* These tests predict future performance in an area in which the individual is not currently trained. Schools, businesses, and government agencies often use aptitude tests when assigning individuals to specific positions. Vocational guidance counseling may involve aptitude testing to help clarify individual career goals. If a person’s score is similar to scores of others already working in a given occupation, likelihood of success in that field is predicted. Some aptitude tests cover a broad range of skills pertinent to many different occupations. The General Aptitude Test Battery, for example, not only measures general reasoning ability but also includes form perception, clerical perception, motor coordination, and finger and manual dexterity. Other tests may focus on a single area, such as art, engineering, or modern languages.

*Intelligence Tests.* In contrast to tests of specific proficiencies or aptitudes, intelligence tests measure the global capacity of an individual to cope with the environment. Test scores are generally known as intelligence quotients, or IQs, although the various tests are constructed quite differently. The Stanford-Binet is heavily weighted with items involving verbal abilities; the Wechsler scales consist of two separate verbal and performance subscales, each with its own IQ. There are also specialized infant intelligence tests, tests that do not require the use of language, and tests that are designed for group administration.

The early intelligence scales yielded a mental-age score, expressing the child’s ability to do as well as average children who were older, younger, or equivalent in chronological age. The deviation IQ used today expresses the individual’s position in comparison to a representative group of people of the same age. The average IQ is set at 100; about half of those who take the test achieve scores between 90 and 110. IQ scores may vary according to testing conditions, and, thus, it is advisable to understand results of the tests as falling within a certain range, such as average or superior.

*Interest Inventories.* Self-report questionnaires on which the subject indicates personal preferences among activities are called interest inventories. Because interests may predict satisfaction with some area of employment or education, these inventories are used primarily in guidance counseling. They are not intended to predict success, but only to offer a framework for narrowing career possibilities. For example, one frequently used interest inventory, the Kudor Preference Record, includes ten clusters of occupational interests: outdoors, mechanical, computational, scientific, persuasive, artistic, literary, musical, social service, and clerical. For each item, the subject indicates which of three activities is best or least liked. The total score indicates the occupational clusters that include preferred activities.

*Objective Personality Tests.* These tests measure social and emotional adjustment and are used to identify the need for psychological counseling. Items that briefly describe feelings, attitudes, and behaviors are grouped into subscales, each representing a separate personality or style, such as social extroversion or depression. Taken together, the subscales provide a profile of the personality as a whole. One of the most popular psychological tests is the Minnesota Multiphasic Personality Inventory (MMPI), constructed to aid in diagnosing psychiatric patients. Research has shown that the MMPI may also be used to describe differences among normal personality types.

*Projective Techniques.* Some personality tests are based on the phenomenon of projection, a mental process described by Sigmund Freud as the tendency to attribute to others personal feelings or characteristics that are too painful to acknowledge. Because projective techniques are relatively unstructured and offer minimal cues to aid in defining responses, they tend to elicit concerns that are highly personal and significant. The best-known projective tests are the Rorschach test, popularly known as the inkblot test, and the Thematic Apperception Test; others include word-association techniques, sentence-completion tests, and various drawing procedures. The psychologist’s past experience provides the framework for evaluating individual responses. Although the subjective nature of interpretation makes these tests particularly vulnerable to criticism, in clinical settings they are part of the standard battery of psychological tests.

### Interpretation of Results

The most important aspect of psychological testing involves the interpretation of test results.

*Scoring.* The raw score is the simple numerical count of responses, such as the number of correct answers on an intelligence test. The usefulness of the raw score is limited, however, because it does not convey how well someone does in comparison with others taking the same test. Percentile scores, standard scores, and norms are all devices for making this comparison.

Percentile scoring expresses the rank order of the scores in percentages. The percentile level of a person’s score indicates the proportion of the group that scored above and below that individual. When a score falls at the 50th percentile, for example, half of the group scored higher and half scored lower; a score at the 80th percentile indicates that 20 percent scored higher and 80 percent scored lower than the person being evaluated.

Standard scores are derived from a comparison of the individual raw score with the mean and standard deviation of the group scores. The mean, or arithmetic average, is determined by adding the scores and dividing by the total number of scores obtained. The standard deviation measures the variation of the scores around the mean. Standard scores are obtained by subtracting the mean from the raw score and then dividing by the standard deviation.

Tables of norms are included in test manuals to indicate the expected range of raw scores. Normative data are derived from studies in which the test has been administered to a large, representative group of people. The test manual should include a description of the sample of people used to establish norms, including age, sex, geographical location, and occupation. Norms based on a group of people whose major characteristics are markedly dissimilar from those of the person being tested do not provide a fair standard of comparison.

*Validity.* Interpretation of test scores ultimately involves predictions about a subject’s behavior in a specified situation. If a test is an accurate predictor, it is said to have good validity. Before validity can be demonstrated, a test must first yield consistent, reliable measurements. In addition to reliability, psychologists recognize three main types of validity.

A test has content validity if the sample of items in the test is representative of all the relevant items that might have been used. Words included in a spelling test, for example, should cover a wide range of difficulty.

Criterion-related validity refers to a test’s accuracy in specifying a future or concurrent outcome. For example, an art-aptitude test has predictive validity if high scores are achieved by those who later do well in art school. The concurrent validity of a new intelligence test may be demonstrated if its scores correlate closely with those of an already well-established test.

Construct validity is generally determined by investigating what psychological traits or qualities a test measures; that is, by demonstrating that certain patterns of human behavior account to some degree for performance on the test. A test measuring the trait “need for achievement,” for instance, might be shown to predict that high scorers work more independently, persist longer on problem-solving tasks, and do better in competitive situations than low scores.

**Controversies.** The major psychological testing controversies stem from two interrelated issues: technical shortcomings in test design and ethical problems in interpretation and application of results. Some technical weaknesses exist in all tests. Because of this, it is crucial that results be viewed as only one kind of information about any individual. Most criticisms of testing arise from the overvaluation of and inappropriate reliance on test results in making major life decisions. These criticisms have been particularly relevant in the case of intelligence testing. Psychologists generally agree that using tests to bar youngsters from educational opportunities, without careful consideration of past and present resources or motivation, is unethical. Because tests tend to draw on those skills associated with white, middle-class functioning, they may discriminate against disadvantaged and minority groups. As long as unequal learning opportunities exist, they will continue to be reflected in test results. In the U.S., therefore, some states have established laws that carefully define the use of tests in public schools and agencies. The American Psychological Association, meanwhile, continues to work actively to monitor and refine ethical standards and public policy recommendations regarding the use of psychological testing.

**8. Development psychology**

Developmental Psychology study of behavioral changes and continuity from infancy to old age. Much emphasis in psychology has been given to the child and to the deviant personality. Developmental psychology is particularly significant, then, in that it provides for formal study of children and adults at every stage of development through the life span.

Developmental psychology reflects the view that human development and behavior throughout the life span is a function of the interaction between biologically determined factors, such as height or temperament, and environmental influences, such as family, schooling, religion, and culture. Studies of these interactions focus on their consequences for people at different age levels. For example, developmental psychologists are interested in how children who were physically abused by their parents behave when they themselves become parents. Studies, although inconclusive, suggest that abused children often become abusive parents.

Other recent studies have focused on the relationship between the aging process and intellectual competence; contrary to the traditional notion that a person’s intellectual skills decline rapidly after the age of 55, research indicates that the decline is gradual. American studies of adulthood, building on the work of Erik Erikson, point to stable periods with a duration of 5 to 7 years, during which energy is expended on career, family, and social relationships, punctuated by “transitional” periods lasting 3 to 5 years, during which assessment and reappraisal of major life areas occurs. These transitional periods may be smooth or emotionally stormy; the “midlife crisis” is an example of such a transition. Whether such transitions are the same for men and women, and whether they are universal, is currently under study.

**9. Social psychology**

Social Psychology branch of psychology concerned with the scientific study of the behavior of individuals as influenced, directly or indirectly, by social stimuli. Social psychologists are interested in the thinking, emotions, desires, and judgments of individuals, as well as in their overt behavior. An individual’s inner states can be inferred only from some form of observable behavior. Research has also proved that people are affected by social stimuli whether or not they are actually in the presence of others and that virtually everything an individual does or experiences is influenced to some extent by present or previous social contacts.

**Development of Theory.** Social psychology is rooted in the earliest intellectual probes made by individuals into their relations with society. Many of the major problems of concern to contemporary social psychology were recognized as problems by social philosophers long before psychological questions were joined to scientific method. The questions posed by Aristotle, the Italian philosopher Niccol Machiavelli, the English philosopher Thomas Hobbes, and others throughout history are still asked, in altered form, in the work of present-day social psychologists.

The more recent history of social psychology begins with the publication in 1908 of two textbooks—each having the term social psychology in its title—that examine the impact of society on the development and behavior of individuals. One of these was written by the British psychologist William McDougall, and the other by the American sociologist Edward Alsworth Ross. McDougall framed a controversial theory of human instincts, conceived of as broad, purposive tendencies emerging from the evolutionary process. Ross, on the other hand, was concerned with the transmission of social behavior from person to person, such as the influence of one person’s emotions on another’s in a crowd, or the following of fads and fashions.

Another textbook on social psychology, published in 1924 by the American psychologist Floyd H. Allport, had an important influence on the development of social psychology as a specialization of general psychology. Allport extended the principles of associative learning to account for a wide range of social behavior. He thus avoided reference either to such mysterious social forces as were proposed by Ross or to the elaborate instinctive dispositions used by McDougall and his followers to account for social behavior. Through the remainder of the decade, the literature of social psychology continued to be devoted to similar discussions and controversies about points of view, and little empirical work, that is, work relying on experience or observation, of theoretical or practical significance was done.

**Early Experimentation.** In the 1930s empirical research was first undertaken on such matters as animal social behavior, group problem-solving, attitudes and persuasion, national and ethnic stereotypes, rumor transmission, and leadership. The German-American psychologist Kurt Lewin emphasized the necessity of doing theoretical analysis before conducting research on a problem, the purpose of the research being to clarify explanatory mechanisms hypothesized to underlie the behavior being studied. The theory proposes an explanation of certain behavior and allows the investigator to predict the specific conditions under which the behavior will or will not occur. The investigator then designs experiments in which the appropriate conditions are methodically varied and the occurrence of the behavior can be observed and measured. The results allow modifications and extensions of the theory to be made.

In 1939 Lewin together with two of his doctoral students published the results of an experiment of significant historical importance. The investigators had arranged to have the same adults play different leadership roles while directing matched groups of children. The adults attempted to establish particular climates—that is, social environmental conditions—of democratic, autocratic, or completely laissez-faire leadership. The reactions of the children in the groups were carefully observed, and detailed notes were taken on the patterns of social interaction that emerged. Although the experiment itself had many deficiencies, it demonstrated that something as nebulous as a democratic social climate could be created under controlled laboratory conditions.

The originality and success of this research had a liberating effect on other investigators. By the end of World War II, an outpouring of experimental research involving the manipulation of temporary social environments through laboratory stagecraft began. At the same time, important advances occurred in nonexperimental, or field, research in social psychology. The objective rather than the speculative study of social behavior is the current trend in social psychology.

**Research Areas.** Social psychology shares many concerns with other disciplines, especially with sociology and cultural anthropology. The three sciences differ, however, in that whereas the sociologist studies social groups and institutions and the anthropologist studies human cultures, the social psychologist focuses attention on how social groups, institutions, and cultures affect the behavior of the individual. The major areas of research in social psychology are the following.

*Socialization.* Social psychologists who study the phenomena of socialization, meaning the process of being made fit or trained for a social environment, are interested in how individuals learn the rules governing their behavior toward other persons in society, the groups of which they are members, and individuals with whom they come into contact. Questions dealing with how children learn language, sex role, moral and ethical principles, and appropriate behavior in general have come under intensive investigation. Also widely studied are the methods by which adults learn to adapt their patterns of behavior when they are confronted by new situations or organizations.

*Attitudes and Attitude Change.* Attitudes have generally been regarded as learned predispositions that exert some consistent influence on responses toward objects, persons, or groups. Attitudes are usually seen as the products of socialization and therefore as modifiable. Because the behavior of a person toward others is often, although not always, consistent with his or her attitudes toward them, the investigation of how attitudes are formed, how they are organized in the mind, and how they are modified has been considered of great practical as well as theoretical importance.

The discovery that attitudes follow from behavior as well as vice versa emerges from the well-tested assumption that people desire to preserve logical consistency in their views of themselves and their environments. A number of theories of cognitive consistency have become important in social psychological thinking. These theories stress the idea that individuals have a personal stake in believing that their own thoughts and actions are in agreement with one another, and that perceiving inconsistency between one’s actions and thoughts leads to attempts to reduce the inconsistency. Through research, social psychologists attempt to understand the conditions under which people notice an inconsistency and the conditions under which they will attempt to reduce it by changing significant attitudes. Studies support the consistency-theory prediction that the attitudes of a person about a group of people can often be changed by inducing the person to change his or her behavior toward the group; the attitude change represents the efforts of the person to bring his or her ideas about the group into agreement with how he has just acted toward its members.

*Social Affiliation, Power, and Influence.* The factors that govern whether and with whom people will affiliate, as well as whether and how they will attempt to influence or be influenced by others, have received much attention by social psychologists. Researchers have determined, for example, that if people are unsure of how they should feel or behave in response to a new or unpleasant situation, they will seek the company of others who may be able to provide the lacking information. Social psychologists have also found that firstborn and only children are generally more inclined to join groups throughout their lives than are those born later.

*Group Structure and Functioning.* Social psychologists have studied many issues related to questions of how the group and the individual affect one another, including problems of leadership functions, styles, and effectiveness. Social psychologists investigate the conditions under which people or groups resolve their conflicts cooperatively or competitively and the many consequences of those general modes of conflict resolution. Research is conducted also to determine how the group induces conformity and how it deals with deviant members.

*Personality and Society.* Some social psychologists are particularly concerned with the development and consequences of stable individual differences among people. Differences in the degree of achievement motivation have been found to be measurable and to have important consequences for how a person behaves in various social situations. Systems of attitudes toward authority, such as the notion of the authoritarian personality, have been found to relate to attitudes toward ethnic minorities and to certain aspects of social behavior. A personality syndrome known as Machiavellianism, named after the Italian political philosopher Niccolò Machiavelli, has been used to predict the social manipulativeness of people in interaction and their ability to dominate certain interpersonal situations.

### Investigative Techniques

Numerous kinds of research methods and techniques are being used in social psychology. The tradition of theory-based investigation remains strong in the discipline. In recent years rigorously exact mathematical models of social behavior have been used increasingly in psychological studies. Such models are projections, based on theory and in arithmetic detail, of social behavior in a possible system of social relationships.

Other techniques include the questionnaire and the interview, both used widely in public opinion polls and studies of consumer preferences. These two methods pose a considerable challenge to investigators. The kind of control of the environment that is possible in the laboratory is not available in the field, and the effects of subtle variables that can be observed in experiments are easily obscured by other variables that may exist in natural environments.

Frequently, behavior in natural settings is systematically observed, or computers are programmed to simulate social behavior. Special techniques are used for analysis of statistics and other data and for attitude measurement as well as measurement of social choice and interpersonal attractiveness. Also important is psychophysiological measurement, that is, the measurement of shared mental and physiological characteristics. Cross-national and cross-cultural research is one of the modern techniques, designed to provide comparisons of behavior between nations and cultures; the same research study is carried out in several different countries in order to determine the cross-cultural validity of the research.

In the study of social behavior in animals, a laboratory environment facilitates controlled experimentation, that is, experimentation considering the previous history of the animals as well as their present environmental conditions. Simple behavioral acts, such as a pigeon pecking at an object, can be isolated and schedules of reinforcement—that is, repetition of stimuli—can be maintained. Social psychological research with animals has led to important new techniques for their training.

### Applied Social Psychology

The principles developed in laboratory and field research in social psychology have been applied to many social situations and problems. Applied researchers and consultants have worked to ameliorate problems found in ethnic relations, international relations, industrial and labor relations, political and economic behavior, education, advertising, and community mental health. Industries, organizations, schools, and task groups of many kinds regularly use the services of applied social psychologists to improve interpersonal relations, to increase understanding of relations between members of groups in conflict with one another, and to diagnose and help correct problems in group and organizational productivity.

**Psychiatry and mental health**

Psychiatry is the realm in which medical science and psychology join to provide help for persons whose mind (as one says) is disturbed and whose behavior does not conform to accept social patterns. Psychopathology and clinical psychology are integral sub-fields of this branch of medical psychology which, of necessity, also includes neurology, mental deficiency or retardation, forensic psychology, certain aspects of abnormal psychology, social psychology and psychotherapy.Mental illness has been recognized as such since the days of Aristotle and Hippocrates, and its long modern history has been able described by some scientists.

**Mental Health,** state characterized by psychological well-being and self-acceptance. The term mental health usually implies the capacity to love and relate to others, the ability to work productively, and the willingness to behave in a way that brings personal satisfaction without encroaching upon the rights of others. In a clinical sense, mental health is the absence of mental illness.

### The Mental Health Movement

Concern for the mentally ill has waxed and waned through the centuries, but the development of modern-day approaches to the subject dates from the mid-18th century, when reformers such as the French physician Philippe Pinel and the American physician Benjamin Rush introduced humane “moral treatment” to replace the often cruel treatment that then prevailed. Despite these reforms, most of the mentally ill continued to live in jails and poorhouses—a situation that continued until 1841, when the American reformer Dorothea Dix campaigned to place the mentally ill in hospitals for special treatment.

The modern mental health movement can be traced to the publication in 1908 of *A Mind That Found Itself,* an account of the experience of its author, Clifford Whittingham Beers, as a mental patient. The book aroused a storm of public concern for the mentally ill. In 1909 Beers founded the National Committee for Mental Hygiene.

Public awareness of the need for greater governmental attention to mental health services led to passage of the National Mental Health Act in 1946. This legislation authorized the establishment of the National Institute of Mental Health to be operated as a part of the U.S. Public Health Service. In 1950 the National Committee for Mental Hygiene was reorganized as the National Association for Mental Health, better known as the Mental Health Association.

In 1955 Congress established a Joint Commission on Mental Illness and Health to survey the mental health needs of the nation and to recommend new approaches. Based on the commission’s recommendations, legislation was passed in 1963 authorizing funds for construction of facilities for community-based treatment centers. A similar group, the President’s Commission on Mental Health, reported its findings in 1978, citing estimates of the cost of mental illness in the U.S. alone as being about $17 billion a year.

### Scope of the Problem

According to a common estimate, at any one time 10 percent of the American population has mental health problems sufficiently serious to warrant care; recent evidence suggests that this figure may be closer to 15 percent. Not all the people who need help receive it, however; in 1975 only 3 percent of the American population received mental health service. One major reason for this is that people still fear the stigma attached to mental illness and hence often fail to report it or to seek help.

Analysis of the figures on mental illness shows that schizophrenia afflicts an estimated 2 million Americans, another 2 million suffer from profound depressive disorders, and 1 million have organic psychoses or other permanently disabling mental conditions. As much as 25 percent of the population is estimated to suffer from mild or moderate depression, anxiety, and other types of emotional problems. Some 10 million Americans have problems related to alcohol abuse, and millions more are thought to abuse drugs. Some 5 to 15 percent of children between the ages of 3 and 15 are the victims of persistent mental health problems, and at least 2 million are thought to have severe learning disabilities that can seriously impair their mental health.

In addition, according to the President’s Commission, the list of mental health problems should be extended beyond identifiable psychiatric conditions to include the damage to mental health associated with unrelenting poverty, unemployment, and discrimination on the basis of race, sex, class, age, and mental or physical handicaps.

### Prevention

Public health authorities customarily distinguish among three forms of prevention. Primary prevention refers to attempts to prevent the occurrence of mental disorder, as well as to promote positive mental health. Secondary prevention is the early detection and treatment of a disorder, and tertiary prevention refers to rehabilitative efforts that are directed at preventing complications.

Two avenues of approach to the prevention of mental illness in adults were suggested by the President’s Commission. One was to reduce the stressful effects of such crises as unemployment, retirement, bereavement, and marital disruption; the second was to create environments in which people can achieve their full potential. The commission placed its heaviest emphasis, however, on helping children. It recommended the following steps:

good care during pregnancy and childbirth, so that early treatment can be instituted as needed;

early detection and correction of problems of physical, emotional, and intellectual development;

developmental day-care programs focusing on emotional and intellectual development;

support services for families, directed at preventing unnecessary and inappropriate foster care or other out-of-home placements for children.

### Treatment

Care of the mentally ill has changed dramatically in recent decades. Drugs introduced in the mid-1950s, along with other improved treatment methods, enabled many patients who would once have spent years in mental institutions to be treated as outpatients in community facilities instead. (A series of judicial decisions and legislative acts has promoted community care by requiring that patients be treated in the least restrictive setting available.) Between 1955 and 1980 the number of people in state mental hospitals declined from more than 550,000 to fewer than 125,000. This trend was due partly to improved community care and partly to the cost of operating hospitals; in an effort to save public money, some large state mental hospitals have been closed, forcing alternatives to be found for patients. This is generally considered a progressive trend because when patients spend extended periods in hospitals they tend to become overly dependent and lose interest in taking care of themselves. In addition, because the hospitals are often located long distances from the patients’ homes, families and friends can visit only infrequently, and the patients’ roles at home and at work are likely to be taken over by others.

The psychiatric wards of community general hospitals have assumed some of the responsibility for caring for the mentally ill during the acute phases of illness. Some of these hospitals function as the inpatient service for community mental health centers. Typically, patients remain for a few days or weeks until their symptoms have subsided, and they usually are given some form of psychotropic drug to help relieve their symptoms. Following the lead of Great Britain, American mental hospitals now also give some patients complete freedom of buildings and grounds and, in some instances, freedom to visit nearby communities. This move is based on the conclusion that disturbed behavior is often the result of restraint rather than of illness.

Treatment of patients with less severe mental disorders has also changed markedly in recent decades. Previously, patients with mild depression, anxiety disorders, and other neurotic conditions were treated individually with psychotherapy. Although this form of treatment is still widely used, alternative approaches are now available. In some instances, a group of patients meets to work through problems with the assistance of a therapist; in other cases, families are treated as a unit. Another form of treatment that has proven especially effective in alleviating phobic disorders is behavior therapy, which focuses on changing overt behavior rather than the underlying causes of a disorder. As in the serious mental illnesses, the treatment of milder forms of anxiety and depression has been furthered by the introduction of new drugs that help alleviate symptoms.

### Rehabilitation

The release of large numbers of patients from state mental hospitals, however, has caused significant problems both for the patients and for the communities that become their new homes. Adequate community services often are unavailable to former mental patients, a large percentage of whom live in nursing homes and other facilities that are not equipped to meet their needs. Most of these patients have been diagnosed as having schizophrenia, and only 15 to 40 percent of schizophrenics who live in the community achieve an average level of adjustment. Those who do receive care typically visit a clinic at periodic intervals for brief counseling and drug monitoring.

In addition to such outpatient clinics, rehabilitation services include sheltered workshops, day-treatment programs, and social clubs. Sheltered workshops provide vocational guidance and an opportunity to brush up on an old skill or learn a new one. In day-treatment programs, patients return home at night and on weekends; during weekdays, the programs offer a range of rehabilitative services, such as vocational training, group activities, and help in the practical problems of living. Ex-patient social clubs provide social contacts, group activities, and an opportunity for patients to develop self-confidence in normal situations.

Another important rehabilitative facility is the halfway house for patients whose families are not willing or able to accept them after discharge. It serves as a temporary residence for ex-patients who are ready to form outside community ties. A variant is the use of subsidized apartments for recently discharged psychiatric patients.

### Research

Many different sciences contribute to knowledge about mental health and illness. In recent decades these sciences have begun to clarify basic biological, psychological, and social processes, and they have refined the application of such knowledge to mental health problems.

Some of the most promising leads have come from biological research. For example, brain scientists who study neurotransmitters—chemicals that carry messages from one nerve cell to another—are contributing to knowledge of normal and abnormal brain functioning, and they may eventually discover better treatment methods for mental illness. Other researchers are trying to discover how the brain develops—they have learned, for example, that even in adults some nerve cells partially regenerate after being damaged—and such research adds to the understanding of mental retardation, untreatable forms of brain damage, and other conditions.

Psychological research relevant to mental health includes the study of perception, information processing, thinking, language, motivation, emotion, abilities, attitudes, personality, and social behavior. For example, researchers are studying stress and how to cope with it. One application of this type of research may help to prevent mental disorders; in the future, psychologists may be better able to match people (and their coping skills) to work settings and job duties.

Research in the social sciences focuses on problems of individuals in contexts such as the family, neighborhood, and work setting, as well as the culture at large. One example of such work is epidemiological research, which is the study of the occurrence of disease patterns, including mental illness, in a society.

**Forensic psychology and criminology**

The study of abnormal behaviour often leads to special investigations into the origins or causes of crime. This in turn will lead to the psychological study of criminals and also of the victims of crime. The literature on this topic is growing and there exist now a number of useful indexing services to help with the retrieval of particular contributions from many countries. While most of these indexes and abstracts are orientated towards the work of, and happenings in, the courts, all of them contain, references to the behaviour of criminals or social deviants. Criminology and penology abstracts has been in existence since 1960; its abstracts are arranged under broad subject heading which include psychology, psychopathology, psychiatry, social behaviour of groups.

 **Psychology, religion and phenomenology**

The long traditional links between religions and psychology go back to classical antiquity. They received much impetus in the middle ages and again during the many periods of religious and political fervour that stirred Europe during the past six centuries, reaching various climactic peaks through seers, visionaries and martyrs. Every one of these advocated social reforms on earth to attain a new heaven, or threatened new hells should the reforms not be adopted. All were persecuted by the established religious or political power, or both; then as now, the defenders of the status quo almost invariably accused the challengers of being madmen or psychopaths. It is all a matter of firmly held beliefs uttered from pulpits,chancery ballconies and soap boxes as well as printed in broadsides, pamphlets, or large books, or smeared on the walls of houses with a wide brush

#### 13. Parapsychology

**Psychical Research,** also parapsychology, scientific investigation of alleged phenomena and events that appear to be unaccounted for by conventional physical, biological, or psychological theories. Parapsychologists study two kinds of so-called psi phenomena: extrasensory perception (ESP), or the acquiring of information through nonsensory means; and psychokinesis (PK), or the ability to affect objects at a distance by means other than known physical forces. Psychical research also investigates the survival of personality after death and deals with related topics such as trance mediumship, hauntings, apparitions, poltergeists (involuntary PK), and out-of-body experiences. The name of this field of investigation is taken from the Society of Psychical Research, founded in England in 1882 and in the U.S. in 1884; both groups continue to publish their findings today.

### Historical Development

Among the early achievements of the British group was the investigation of hypnotism, a field later claimed by medicine and psychology. The society also investigated phenomena produced at spiritualistic seances and the claims of spiritualism. Psi phenomena to be investigated were classified as either physical or mental. The physical effects, or PK, include the movement of physical objects or an influence upon material processes by the apparent direct action of mind over matter. The mental manifestations, or ESP, include telepathy, which is the direct transmission of messages, emotions, or other subjective states from one person to another without the use of any sensory channel of communication; clairvoyance, meaning direct responses to a physical object or event without any sensory contact; and precognition, or a noninferential response to a future event.

One of the first specific investigations in the field was the examination, by the British chemist and physicist Sir William Crookes, of the phenomena produced at seances held by the Scottish medium Daniel Dunglas Home. Home, a physical medium, held his seances in full light, and the validity of the paranormal phenomena he produced has never been successfully impugned. The contents of verbal utterances by mental mediums were also studied. Significant early research involved the American medium Leonore E. Piper, whose apparent psychical gifts were discovered by the American philosopher and psychologist William James. Other lines of investigation dealt with psychic experiences that seemed to occur spontaneously in everyday life, and involved the controlled testing of persons with apparently outstanding ESP abilities.

### Rhine’s Laboratory

In the U.S., one of the earliest groups to become active in parapsychology was the Parapsychology Laboratory of North Carolina’s Duke University, which began publishing literature in the 1930s. There, under the direction of the American psychologist Joseph Banks Rhine, methods were developed that advanced psychical investigations from the correlations of isolated and often vague anecdotal reports to a mathematical study based on statistics and the laws of probability.

In the experiments dealing with ESP, Rhine and his associates used mainly a deck of 25 cards, somewhat similar to ordinary playing cards but bearing on their faces only five designs: star, circle, cross, square, and wavy lines. If a subject correctly named 5 out of the shuffled deck of 25 concealed cards, that was considered pure chance. Certain subjects, however, consistently named 6 out of 10 cards correctly; so Rhine and his associates concluded that this demonstrated the existence of ESP. In their experiments on PK, the group used ordinary dice that were thrown from a cup against a wall or tumbled in mechanically driven cages. In these tests, an apparent relationship was found between the mental effort of subjects to “will” particular faces of the dice to appear upward and the percentage of times the faces actually did so. The results obtained in many individual experiments and in the research as a whole, Rhine and his workers decided, could not reasonably be attributed to the fluctuations of chance.

Rhine retired from Duke University in 1965 and transferred his research to a privately endowed organization, the Foundation for Research on the Nature of Man. Since that time parapsychology has become better established in other universities, as illustrated by the offering of credit courses in the subject in increasing numbers. In addition, independent research centers continue to be founded, among them the American Society for Psychical Research, with headquarters in New York City. The Parapsychological Association, an international group of scholars actively working in the field, was formed in 1957 and was granted affiliation status by the American Association for the Advancement of Science in 1969.

### Criticisms

Although parapsychologists are increasingly employing and refining scientific methodologies for their observations, one of the chief criticisms of their work is that experiments in psi phenomena can rarely be duplicated. Under the most rigorous laboratory controls, for example, experiments on phenomena such as out-of-body experiences—in which individuals demonstrate an apparent ability to locate their center of perception outside their bodies—indicate that even reputable psychics are rarely able to duplicate earlier, high-scoring performances. The scores of such individuals, in fact, tend to drop to the level of probability the more the experiment is repeated. Nonparapsychologists find psi experiments even more difficult to repeat, and a majority of conventional scientists dismiss parapsychology findings as unscientific or at best inconclusive.

A similar criticism is based on the claim by most parapsychologists that psi phenomena occur beyond the law of causality, which is one of the fundamental premises of any scientific investigation. Indeed, results of psi experiments often turn out to be far from or even contradictory to the original predictions. Parapsychologists admit that psi phenomena fall so far outside ordinary comprehension that they are often unsure whether an ESP event or a PK event has occurred; Rhine himself stated that one kind of event could not occur without the other. Because these phenomena are difficult to define or isolate when they appear to happen—and, further, because the phenomena occur only for a select group of observers—most scientists think that psi investigations fall far short of the rules of objectivity required by the scientific method. As a result, many parapsychologists, rather than trying to demonstrate the reality of psi phenomena to a skeptical scientific community, have turned to exploring how such phenomena might actually work; they even have drawn on quantum physics for empirical support. Some workers in the field object to the very notion of repeatability of experiments as foreign to the nature of psi phenomena; they consider the scientific method, as currently understood, too restrictive a formulation for exploring the unknown.

#### 14. Industrial Psychology

Psychologists in industry serve many roles. In the personnel office, they assist in hiring through testing and interviewing, in developing training programs, in evaluating employees, and in maintaining good employee relations and communications. Some psychologists do research for marketing and advertising departments. Others work in the field of human engineering, which involves designing machines and workplaces to make them more suitable for people.

### School Psychology

Psychologists in the educational system give most of their attention to counseling and guidance. They help students plan their school and work careers. Educational psychologists deal with the processes of teaching and learning; for example, they may investigate new methods of teaching children how to read or to do mathematics, in order to make classroom learning more effective.

### Clinical Psychology

Many applied psychologists work in hospitals, clinics, and private practice, providing therapy to people who need psychological help. By testing and interviewing, they classify their patients and engage in all forms of treatment that are not exclusively medical, such as drug therapy and surgery.

A special contribution of clinical psychology is behavior therapy, which is based on principles of learning and conditioning. Through behavior therapy, clinical psychologists try to change the behavior of the patient and to remove unpleasant or undesirable symptoms by arranging the proper conditioning experiences or the proper rewards for desired behavior. A patient with a phobia about dogs, for example, might be “desensitized” by a series of rewards given for closer and closer contact with dogs in nonthreatening situations. In other forms of therapy, the psychologist may try to help patients better understand their problems and find new ways of dealing with them.

**Vocabulary**

**Contents**

*Physiological psychology* - психофизиология. Изучает психику в единстве с ее

нейрофизиологическим субстратом - рассматривает соотношение мозга и психики.

*Psychoanalysis -* психоанализ. Основывается на идее о том, что поведение определяется не

только и не столько сознанием, сколько бессознательным.

*Behaviourism -* бихевиоризм. Направление в американской психологии ХХ в., отрицающее

сознание как предмет научного исследования и сводящее психику к различным формам

поведения, понятого как совокупность организма на стимулы внешней среды.

*Gestalt psychology* - гештальт-психология. Программа изучения психики с точки зрения

целостных структур - гештальтов, первичным по отношению к своим компонентам.

*Cognition* - когнитивная психология. Исходит из того, что любая ассоциация между стимулом и

реакцией создается сначала в мозге.

*Tests and Measurements* **-** тесты

*Development psychology* - возрастная психология. Отрасль психологии, изучающая закономерности этапов психического развития и формирования личности в связи с возрастом - на протяжении онтогенеза человека от рождения до старости

*Social psychology -* социальная психология. Изучает психологические особенности и

закономерности поведения и деятельности людей, обусловленные их включением в группы

социальные и существованием в них, а также психологические характеристики самих этих

групп.

*Psychiatry and mental health* - психиатрия и психическое здоровье. Область клинической

медицины, изучающая психические болезни

*Forensic psychology -* судебная психология. Область психологии юридической, изучающая круг

вопросов, относящихся к судопроизводству.

*Сriminology -* криминология.

*Рhenomenology* - феноменология.

*Parapsychology-* парапсихология (психотроника). Именование гипотез и представлений, относящихся к психическим явлениям, объяснение коих не имеет строгого научного обоснования.

*Industrial Psychology* - индустриальная психология.

**2. Physiological psychology**

*Perception* - восприятие

Certain skills - определенные навыки

Innate - врожденный

Perception - восприятие

Nervous system - нервная система

Circulatory system - гормональная регуляция

Central nervous system - центральная нервная система

Spinal cord - спинной мозг

Peripheral nervous system - периферическая нервная система

Glands- железа

Muscles - мышца

Sensory - чувствительный

Neuron - нейрон

Somatic system - соматическая система

Autonomic system - вегетативная система

Sympathetic division - симпатический отдел

Parasympathetic division - парасимпатический отдел

Knee-jerk reflex - рефлекс коленный (пателлярный)

**3. Psychoanalysis**

Unconscious - бессознательное

Conscious - сознательное

Latent dream - тайные (латентные) мысли

Manifest dream - явные мысли

Instinctual drives - основные инстинкты

Infantile sexuality - инфантильная сексуальность

Adult sexuality - взрослая сексуальность

Oral, anal and genital zones - оральная, анальная и фаллическая стадии

Oedipal period - эдипов комплекс

Структурные компоненты души:

Id - Ид (оно) “содержит все унаследованное, все, что есть при рождении. Ид резервуар энергии для всей личности, содержание Ид бессознательно

Ego - эго - та часть психического аппарата, которая находится в контакте с внешней реальностью. Развивается из Ид по мере того, как ребенок начинает осознавать свою личность. Эго защищает Ид.

Superego - суперэго. Развивается и Эго. Служит судьей или цензором Эго.

Thinking - мышление

Motor control - моторные контроль

Defense mechanisms - защитные механизмы

Repression - подавление

Projection - проекция

Reaction formation - реактивные образование. Явная и обычно бессознательная инверсия желания

Anxiety - тревожность

Analytical psychology - аналитическая психология

Libido - либидо - половое влечение

Personal unconscious - личное бессознательное

Collective unconscious - коллективное бессознательное

Archetypes - архетипы. Психические структуры, формы без собственного содержания, которые организуют и канализируют психологический материал.

Persona - персона. Это то, какими мы представляем себя миру

Neurosis - невроз

Primary trauma of birth - первичная травма детства

Mental, emotional and sensory powers - ментальная, эмоциональная и чувственная сила

Situation neuroses - ситуационный невроз

Character neuroses - невротик

Complex unconscious fantasies in children - комплекс бессознательных фантазий в детстве

Death instinct - инстинкт смерти. Под ним понимаются присущие индивиду - как правило,

бессознательные - тенденции к саморазрушению и возврату в неорганическое состояние.

Depressive position - депрессивное состояние

Paranoid position - параноидальное состояние

**Gestalt psychology**

Associationism - ассоциативная психология

**Cognition psychology**

Attention - внимание

Perception - восприятие

Memory - память

Reasoning - мотивация

Judgment - суждение

Imagining - воображение

Thinking - мышление

Speech - речь

Psycholinguistics - психолингвистика. Научная дисциплина, изучающая обусловленность процессов речи и ее восприятия структурой соответствующего языка, или языка вообще.

Intelligence - интеллект

**Tests and Measurements**

Achievement tests - тест достижений

Aptitude tests - тест на профпригодность

Intellegence tests - тест умственных способностей

Verbal abilities - способности на восприятие вербального (знакового) материала

Infant intelligence tests - тесты на определение уровня интеллекта детей

Interest inventories - опросники профориентации

Objective Personality tests - объективные качества личности

Social extroversion or depression - социальные экстроверсия и интроверсия

Personality types - психотипы

Projective techniques - Проективные тесты

Validity - валидность. Указывает, что именно тест измеряет и насколько хорошо он это делает.

Criterion-related validity - критериально-связывающая валидность

Construct validity - конструктивная валидность

**Social psychology**

Emotions - эмоции

Desires - желания

Social Affiliation - социальная аффилиация (стремление быть в обществе других людей)

Influence - влияние

**10. Psychiatry and mental health**

Patterns - образ жизни

Depressive disorders - депрессия

Organic psychoses - органический психоз. Глубокие расстройства психики, психической деятельности; проявляются в нарушении отражения реального мира, возможности его познания, изменении поведения и отношения к окружающему.

 **13. Parapsychology**

Extrasensory perception (ESP) - экстрасенсорное восприятие

Psychokinesis (PK) - психокинез

Trance mediumship, hauntings, poltergeists (involuntary PK) - трансовый медиумизм, телепатия, полтергейст

Out-of-body experience - опыт вне телесного сознания

Hypnotism - гипноз (техника воздействия на индивида путем фокализации его внимания с целью сузить поле сознания и подчинить его влиянию,, контролю внешнего агента - гипнотизера, внушения коего гипнотизируемый будет выполнять.

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