

Chapter 1 - An Introduction to Psychology

A Brief History of Psychology

Psychology is defined as the science of the mind and human behavior. The concern is how and why humans do what they do. Psychology involves the study of sensations, language, memory, emotional reactions, and thought formation. Psychology studies individual and group behavior by observing normal human interaction, in addition to identifying and treating abnormal behavior. This text will place an emphasis on psychology in the medical field.

The history of psychology consists of the pre-scientific and the scientific epoch. Questions relating to the mind and human behavior have preoccupied philosophers, such as Aristotle and Plato, for thousands of years. This philosophical approach to the study of human behavior was maintained for the majority of the history in the field. Even as late as the end of the 19th century, psychology was still regarded as a branch of philosophy. The modern approach to psychology assumes a more scientific methodology, and is a result of a gradual shift from its philosophical roots over the last two centuries. The history of psychology can be reduced to four main stages.

Stages of Psychology

Stage 1 (VII-VI B.C.) – This stage is characterized by non-scientific approaches to the field. The themes studied were related to religion, mythology, or the soul, although there were some rational concepts. The underlying belief was that the soul was the regulator of activity and behavior.

Stage 2 (XVIII-XIX) – This era reflects a fundamental change in the approach taken by psychologists. During this time, there was an explosion of scientific development in the fields of math, physics, chemistry, and biology. Psychology as well, changed its focus of study from a spiritual religious context, to a scientific perspective focusing on consciousness. This transformation occurred with attention to feelings, sensations, and thinking. The beginning of scientific psychology took place in Germany and is associated with two individuals, Wilhelm Wundt and William James. Wundt is considered the father of Scientific Psychology or Experimental Psychology as he developed the first psychological research laboratory at the University of Leipzig in Germany in 1879. He believed that the mind could be measured, and thus devised a new apparatus to measure stimuli and responses. Wundt's psychology was limited to the study of immediate experience. His approach was referred to as **Structuralism**; because it was believed that the structure of mental life could be disclosed through the measurements of immediate experience.

William James, an American in Germany, wrote the first textbook in psychology. James' two volume *Principles of Psychology* appeared in 1890 and received international acclaim. James' psychology was not concerned with the structure of the mind, but rather its functions, therefore assuming the name, **Functionalism**. His work played an integral role in the development of psychology's identity and scope. James is considered the father of American psychology because his functionalist view was the foundation of both American and Modern Psychology.

Stage 3 – Behavior –(XIX-XX)- *Behaviorism* developed as a protest against Wundt's study of consciousness. The main point of behaviorism is that psychological principles can only be developed through the study of overt, observable behavior. John B. Watson, the leader of the behaviorist movement, argued that for psychology to be a science, then, just as in other sciences, it must be based on objective information and study human beings as an object in nature. Behaviorist psychology is often referred to stimulus-response psychology or S-R psychology, because of its emphasis on observing a stimulus, which is any event that arouses behavior, and a response, which is the organism's reaction to a stimulus.

Behaviorism's second influential scientist was B.F. Skinner. Skinner was influenced by Ivan Pavlov's work with dogs. Pavlov's research in conditioning, led Skinner to apply the behaviorist

principles of objective investigation to the idea that external stimuli can develop and sustain behavior. This is the idea that smiles, food, freedom, and other environmental circumstances can serve as reinforcement for behaviors that precede them, thus increasing the likelihood that they will recur. Likewise, negative reinforcements, such as punishment or food withdrawal, can reduce the likelihood that the preceding behavior will recur.

Stage 4 – Psyche (XX)

Psychoanalysis

Sigmund Freud's theory of **Psychoanalysis** is based on the premise that behavior can be influenced by conflicts, which are relegated to the unconscious. The study of the unconscious sphere includes examination of behavior, thoughts, feelings and childhood experiences including dreams. The fundamental principle is that unconscious conflicts influence behavior and functioning. The adult personality, according to psychoanalytic theory, is significantly influenced by childhood development.

Psychoanalytic theory has influenced both psychology and psychiatry in addition to modern social sciences, art, and literature.

Humanistic Psychology is based on the human's capacity for personal growth and choice, which is not found in other animals. At the center of the humanistic psychology model is the concern with free will and choice. Led by Carl Rogers, the emphasis of this model is on conscious experience, meaning one's feelings at the moment, not the unconscious, as in psychoanalysis. Humanistic psychologists generally follow the dictum that the whole person, whole situation, or whole of consciousness is distinctly different from the sum of its parts.

In **Cognitive Psychology**, the basic concern is with mental processes; the focus on perceiving, remembering, and especially thinking. The term cognition means knowledge or understanding, and cognitive psychology is concerned with mental processes by which we understand our world. The cognitive approach is broadly based, including the study of thought in the child, strategies in adult memory, individual differences in perception, and so on.

Soviet Psychology is most strikingly represented by the *theory of activity*, which is a kind of anti-behaviorism, that is, a radical behaviorism, which challenges the so-called "radical behaviorism" of Skinner. In this theory, the traditional S-R model of cognitive process is seen as a "passive" model of cognition. The alternative view is that of the human being as an *active process*, as a kind of worker whose "inputs" and "outputs" are to be made sense of only in terms of the activity of being.

The main point here is that Soviet psychology categorizes the cognitive process in a very different way from that of American psychology. In simple terms, soviet psychologists view the individual as an active participant in his or her behavior and thought processes, whereas American psychologists tend to view the individual as a passive acceptor or observer. The diverse interests and approaches to the study of human behavior and experience make psychology a pluralistic science. All approaches have influenced modern psychology with respect to its scope, methods, and theoretical orientation.

Methods of Study in Psychology

Psychology is defined as a science because its tenets are based on the scientific method, a process that involves collecting data, systematic observation, generating explanatory theories and testable hypotheses, empirically testing the hypotheses, and then using the results of studies to describe, understand, and predict. Along with the scientific method, psychologists employ critical thinking skills to further examine information before making judgments and decisions.

The Primary Methods of Study in Psychology are:

- Experimental Methods
- Naturalistic Observation

- Case Study
- Survey
- Psychological Testing
- Introspection
- Statistical
- Evidence Based

Experimental Methods

The *Scientific Method* acquires new knowledge to integrate observations. Fundamental to this approach is the formation of a *Hypothesis*, which is a testable form of an occurrence or phenomenon. Experiments then prove or disprove the proposed hypothesis. A *Theory* can be defined as a general principle proposed to explain how a number of separate facts are related.

Every Experiment Has Two Types of Variables:

Independent Variable – the variable that is manipulated by the experimenter (input variable)

Dependent Variable – the outcome variable (results of the experiment)

Naturalistic Observation

Naturalistic Observation is the monitoring of behavior in a natural environment. It often involves counting behaviors, such as number of aggressive acts, number of smiles, etc.

Advantages: This method of study of behavior being observed is naturally occurring, meaning that there is no manipulation by a researcher. Furthermore, it can provide more qualitative data as opposed to merely quantitative information.

Limitations: There are limitations present in naturalistic observation as well. Even the presence of someone observing can cause those being observed to alter their behavior. Researcher's beliefs can also alter their observations; it is very difficult to coordinate multiple observers since observed behaviors must be operationally defined (e.g. what constitutes an aggressive act).

Case Study

A *Case Study* is the observation of a single case, typically over an extended period of time. This method can involve naturalistic observations in addition to psychological testing, interviews with the subject and others that are related to the experiment, and the application of a treatment.

Advantages: A case study can gather extensive information, both qualitative and quantitative and it can be helpful in better understanding rare cases or very specific interventions

Limitations: Only one case is involved, severely limiting the generalization to the rest of the population. It can also be very time consuming and can involve other problems specific to the techniques used, including researcher bias.

Survey

Darwin and Galton are credited for the origins of the *Survey Method*. Survey is a technique for gathering information from a large number of users. This method is a way to investigate ideas, attitudes, and other responses in a large sample population. Survey may be conducted through a short paper-and-pencil feedback form, telephone, mail, or by intensive interviews.

The Steps in Designing and Conducting a Survey can be listed as Follows:

Set the Goals - What do you want to capture?

Decide the Target Population and Sample Size - Who will you ask?

Determine the Questions - What will you ask?

Pre-test the Survey - Test the questions.

Conduct the Survey - Ask the questions.

Analyze the Data Collected - Produce the report.

To analyze the data in order to make conclusions, it is very important to compare results with norms.

Norms are set by a large number of subjects and vary from population to population. What is considered to be a normal behavior in one society may be very different in another.

Advantages: A survey can gather large amounts of information in a relatively short period of time, especially with many surveys now being conducted on the internet.

Limitations: Survey data is based solely on subjects' responses, which can be inaccurate due to outright lying, misunderstanding of the question, the placebo effect, or even the manner in which the question is asked.

Psychological Testing

Psychological Testing is the acquisition of data regarding a subject's behavior to learn about the mental state of the individual.

Advantages: Most tests are normalized and standardized, which means they provide reliable and valid results. Psychological tests provide information to complement therapy or enhance employment opportunities.

Limitations: Tests which are not reliable and valid produce inaccurate results.

Types of Psychological Testing:

Intelligence and Achievement Tests - These tests are designed to measure specific cognitive functioning such as Intelligence, often referred to as Intelligence Quotient (**IQ**) and the extent of learning (Achievement test). Tests, such as the Wexler Adult Intelligence Scale IV edition (WAIS-IV), measure general knowledge, verbal skill, memory, attention span, logical reasoning, and visual/spatial perception. Many tests have been developed to identify academic competence.

Personality Tests - Personality tests describe patterns of behavior, thoughts, and feelings that are not directly available during clinical interview or evaluation. They generally fall within two categories: objective and projective. *Objective Measures*, such as the Minnesota Multiphasic Personality Inventory (**MMPI**), are based on restricted answers—such as yes/no, true/false, or a rating scale—which allow for the computation of scores that can then be compared to a normative group. Projective tests, such as the Rorschach Inkblot Test allow for open-ended answers, based on ambiguous stimuli, revealing unconscious psychological dynamics.

Neuropsychological Tests - These tests measure psychological functions linked to a particular brain structure. The instruments are used to assess impairment due to injury, or illness which affect neuro-cognitive functioning.

Introspection

Introspection is the self-observation and reporting of conscious inner thoughts, desires, and sensations. It is a conscious mental and usually purposive process relying on thinking, reasoning, and examining one's own thoughts, feelings, and in more spiritual cases, one's soul.

Introspection may be used synonymously with self-reflection and used in a similar way. This was a central component to the early days of psychology during the Structuralist period. Wundt and other psychologists had people introspect and then report on their feelings, thoughts, etc.

Statistical

When conducting research, psychologists need statistics to analyze data to support the hypothesis.

Research Biases

To ensure that what is being observed in an experiment is indeed what is occurring, certain precautions must be taken in an attempt to minimize the effects of research biases. *Research Biases* are aspects of research that can alter or contaminate the results.

Types of Research Bias:

Selection Bias – Occurs when differences between groups are present at the beginning of the experiment.

Placebo Effect – Involves the influencing of performance due to the subject's belief regarding the results. In other words, if a subject were to believe that a certain medication is effective, any medication given could result in the subject claiming to feel better, even if only a sugar pill is given. This demonstrates the power of the mind to change a person's perceptions of reality.

Experimenter Bias – The same way a subject's beliefs can influence his/her perception, so can the beliefs of the experimenter. If an experimenter is convinced of his/her treatment, or if the treatment may result in a positive outcome for the experimenter if found to have a certain outcome (i.e., monetary reward, fame) then one must be cautious of this bias, which may influence the outcome of the experiment.

Controlling for Biases - After carefully reviewing a study and determining what factors may unintentionally affect the results, these biases must be controlled for. To *control* for selection bias, most experiments use what's called Random Assignment, which means assigning the subjects to each group based on chance rather than human decision. To control for the placebo effect, subjects are often not informed of the purpose of the experiment. This is called a Blind study because the subjects are not aware of the expected results. To control for experimenter biases, a Double-Blind study can be utilized, which means that both the experimenter and the subjects are blind to the purpose and anticipated results of the study.

Chapter 2 – Medical Psychology

An Introduction to Medical Psychology

The study of psychology as a science has applications to many disciplines. This chapter focuses on Medical psychology.

Psychology can be divided into two groups: Research and Applied. **Research** psychologists perform scientific studies to acquire further knowledge. They investigate human and animal behavior to identify contributing factors to the development of psychological principles. **Applied Psychology** utilizes psychological principles identified from Research psychology. Psychologists applying these principles engage in clinical areas such as administering clinical tests and providing therapy to individuals with emotional problems. In addition they may consult in such areas as school psychology, forensic psychology and sport psychology.

Practitioners utilizing Applied Psychology, as it relates to the treatment of emotional disturbances, collaborate with the discipline of Psychiatry. Both fields are concerned with the treatment of mental illness. Clinical Psychologists provide treatment and apply clinical tests. Psychiatrists provide treatment and medication. Professionals from both fields work together to provide diagnosis and treatment.

Medical psychology integrates Medicine by recognizing the emotional and behavioral issues with all medical illnesses.

Medical psychology is concerned with:

The effect of psychological processes on physical illness and recovery;

Psychological states during treatment;

Psychological problems related to doctor-patient relationships and family issues.

Medical Psychology is divided into *General* and *Specific* subdivisions.

General medical psychology involves:

The development of the criteria needed to differentiate normal, temporary symptoms due to a medical illness from symptoms due to abnormal mental states.

The development of personality theories to determine a patient's temperament, character, and emotional state, as well as the particular behaviors associated with developmental stage.

The study of psychosomatic interactions and co-relations.

The implementation of ethical standards such as confidentiality, informed consent and the promotion of positive doctor-patient relations¹.

The adoption preventive measures to maintain and promote mental health, including psychotherapy.

Specific Medical Psychology *includes*:

- Neuropsychological problems;

¹ extends beyond observing the Hippocratic oath into proper relations with patients and their family members. Another important issue is the psychological climate of the medical institution (professional staff relations) and the creation of a therapeutic environment

- Psychological reactions and the behaviors related to somatic illnesses such as cardiovascular, infectious, endocrinologic and gynecologic diseases, as well as pre/post-surgical psychological reactions.
- Other divisions such as military and forensic psychology.

Clinical Psychology

Clinical psychology is the branch of psychology concerned with the assessment and treatment of mental illnesses. The field integrates the science of psychology with the treatment of complex human problems, thus making it an exciting career choice for people who are looking for a challenging and rewarding field.

American psychologist Lightner Whitmer, a student of Wilhelm Wundt, introduced the term “Clinical Psychology” and defined it as “the study of individuals by observation or experimentation, with the intention of promoting change”. Today, clinical psychology is one of the popular areas of psychology.

General Characteristics of Clinical Psychology put emphasize:

Science - adheres to two important assumptions of science:

Determinism-events have determinable causes

Empiricism-events must be observable and measurable

Maladjustment- The concern is with the scientific understanding of abnormal behavior and emotional suffering

Individual- Clinical psychology uses research information gathered in groups of people to guide their work with individuals

The activities and work settings of clinical psychologists are:

- Research
- Teaching
- Psychotherapy
- Assessment
- Consultation
- Case administration

Thus the field of Clinical Psychology integrates science, theory, and practice to understand, predict, and alleviate maladjustment, and personal development.

Chapter 3 –Concept of Psyche

Overview of the Psyche

The concept of the psyche is central to the study of Psychology. There are number of definitions for psyche depending on the context in which studied. Psyche is the reflection of reality reflected through the sensory inputs processed in the brain. Psyche is defined as the system which regulates behavior and activity. There is a big difference between religious (soul) and scientific approach to psyche. There are at least two manifestations of the psyche: external (behavior, body language) and internal (thoughts, motives, drives and states). The psyche is an abstract concept. In psychology the psyche is divided into the following parts:

Divisions of the Psyche			
Mental Processes	Mental States	Mental Attributes	Mental Formations
Cognitive Processes, Senses, Perception, Memory, Thinking, Imagination, Fantasy, Attention, The Emotional Sphere, Feelings, Will	Mood, Frustration, Passion, Temptation, Stress related states, etc...	Character, Temperament, Abilities	Interests, Ideology, Values, Professional and Personal Skills, Knowledge, Hobbies

Mental (Cognitive) Processes

Cognitive Processes- Cognitive processes are very important for human behavior. It reflects how people think, and impacts behavior and mood.

The term cognition in *psychology* is used in several ways. It refers to the:

- *mental processes*
- *information processing,*
- *knowledge.*

Senses

Sensation is the process by which our senses gather information that are then sent to the brain for processing. A large amount of information is being sensed at any one time (e.g., room temperature, the brightness of lights, the sounds from a conversation, or the smell of perfume). There are sensations out of awareness. We don't notice radio waves, x-rays, or the microscopic parasites crawling on our skin. We don't sense all the odors around us or taste every individual spice in a gourmet dinner. Humans have different thresholds of sensation from each other and other animals.

The first stage of processing is common to all sensory systems. The sensory receptor performs a translation of physical events into electrical signals that the brain can interpret, this is the process of sensory transduction. (P.J. Corr, 2006, Understanding biological psychological)

One of the main characteristics of sensation is the concept of threshold of sensation, a measure of stimulus that is able to raise sensation. There are absolute, differential and operative thresholds.

- The *Absolute Threshold* is the point where something becomes noticeable to our senses. It is the softest sound we can hear or the slightest touch we can feel. The absolute threshold varies among different people and within the same individual from time to time, depending upon fluctuations in mood and physiological conditions. The *Absolute Lower Threshold* of sensation is the minimal measure of stimuli provoking hardly noticed sensation.
- The *Differential Threshold* is the amount of change needed for us to recognize that a change has occurred. It is the minimal difference between stimuli or by two states of one stimulus, which provokes slight difference of sensation.
- The *Absolute Upper Threshold* of sensation is the maximal external stimulus that produces increasing intensity of awareness. The normal sensory response may change to pain with increasing intensity such as strong light, loud sound, or intense heat.

Sensory Adaptation is the process of becoming less sensitive to constant stimuli, such as adapting to the smell of perfume or the ticking of a clock.

The following are types of sensations according to the mechanisms of their origin and are categorized as:

- Exteroseptive – they are conditioned by the influence of stimulants on receptors, for example nerve endings of the skin.
- Interoseptive – they are conditioned by the influence of stimulants on receptors of interior organs.
- Proprioreceptive – they are conditioned by the influence of stimulants on receptors situated in the muscles the tendons.

The sensory organs include visual, auditory, olfactory, tactile, and gustatory.

Because the visual and auditory senses are so prevalent in daily life we tend to forget how important the other senses are. Other senses include smell, taste, kinesthetic and vestibular senses, skin senses and pain. Smell is activated by proteins produced in the nasal glands. Receptor cells in the nasal cavity send axons to the olfactory bulb, which then sends impulses to the temporal lobes where they are interpreted as smell. The sense of taste is detected by receptor cells housed within the taste buds located on the tongue. Kinesthetic and vestibular senses help our bodies to determine the speed and direction of movement and the orientation in space. Disruption to the vestibular sense results in motion sickness in some people. Sensitive nerve fibers in the skin convey information about the sensations of pressure, temperature, and pain to the brain. Pain is a complex sense not easily understood as scientists have great difficulty identifying pain receptors. Individuals vary widely in their thresholds for pain and for pain tolerance. Approaches to managing pain vary by culture and alternative treatments for pain are increasing.

The coetaneous sense allows the individual to experience warmth, cold and pain. One pays less attention to the kinesthetic sense because balancing seems so automatic. The kinesthetic sense also permits awareness of internal pressure and movements to inform one of their position in space.

In contrast to vision and hearing, the senses of smell, taste, and touch are primitive senses. Taste and smell are sometimes called the chemical senses.

There are two types of changes in sensations: quantitative and qualitative. Quantitative change is anesthesia - loss of feeling a stimulus.

Hypoesthesia refers to a reduced sense of sensation and hyperesthesia reflects an increased sensitivity to a sensory stimulus.

Perception

Sensory input is stored in the brain and available to recall as the process of memory. *Perception* is the meaning an individual attributes to the memories and sensations. How events are perceived is what makes people different.

Perception is a two-stage process. It begins with the sensation and ends with applying meaning to the sensation.

Perception may also be defined as the psychological interpretation of physical events, or making sense out of sensation. It is the mental representation of subjects or phenomenon of objective reality and is very much related to a person's previous life experience including interests, values and abilities.

Perception has the following characteristics: Subjectivity, Integrity, Constancy and Categorization. Subjectivity is person's perception of the world. It is not a different sensation, and not connected with each other, but different from one another, that has certain characteristics provoking different perceptions.

Integration is a process when one perceives parts of an object and synthesizes in its whole form. Constancy is to perceive subjects on different parameters (color, form, etc.) independently from conditions of perceived subjects. Perceptual constancy refers to our ability to see things differently without having to reinterpret the object's properties. There are typically three constancies discussed, including size, shape, brightness.

Categorization is of person's perception to summarize, to refer perceived object to certain class.

The brain doesn't perceive all parts of the reality as equally significant. It identifies a pattern which will stand out against a background. A musical note is heard against a background noise, a bird is seen against the sky. This phenomenon relates to figure-ground relationship. Sometimes figure and ground are not easy to distinguish. This is what happens when something is camouflaged.

An Illusion is a misperception of real objects and is not pathologic.

Visual illusions are one of the most interesting ways to gain insights into how our brains make sense of the world. For example, a stick will appear bent when it is placed in water. This illusion is caused by the process of refraction of light as it passes from air to water. Similarly, a mirage is caused by light passing through layers of hot air above a heated surface, creating the illusion of a pool of water on such as a desert or a highway.

Hallucination— perception which is provoked without real objects and is pathologic.

Illusions are perceptions with a synthetic or creative process. One tries to make sense out of the information coming from the environment and previous experience.

Apperception- is the perception of a new experience in relation to past experience.

Memory

Memory is the way in which the past is recorded and later referred to the present. It is inconceivable to think of humans without memory. Without memory there would be no past but only a present. There will not be an ability to utilize skills, to recall names, or recognize faces and no reference to days or hours or even seconds.

There are several ways to classify memories, based on duration, nature and retrieval of information. From an information processing perspective there are three main stages in the formation and retrieval of memory:

Encoding or registration (processing and combining of received information)

Storage (creation of a permanent record of the encoded information)

Retrieval or *recall* (calling back the stored information in response to some cue for use in a process or activity)

Classification of Memory

An acceptable classification of memory is based on the duration of memory retention, and identifies three distinct types of memory: sensory memory, short term memory and long term memory.

Sensory memory refers to the information we receive through the senses. This memory is very brief lasting a few seconds. The sensory register contains only unprocessed information which can be transferred to the next stage, short-term memory, if the person chooses to do so.

Short Term Memory (STM) occurs when the information in our sensory memory is transferred to our consciousness or our awareness Short term memory can definitely last longer than sensory memory (up to 30 seconds or so), but it still has a very limited capacity. According to research, we can remember approximately 5 to 9 (7 +/- 2) bits of information in our short term memory at any given time (Miller, 1956)

Long term memory (LTM) is similar to the permanent storage of a computer. Unlike the other two types, LTM is relatively permanent and is unlimited in terms of its storage capacity.

When we process information, we attach significance to it and information deemed important is transferred to our long term memory.

There are other reasons information is transferred. Sometimes our brains seem full of insignificant facts. Repetition plays a role in this, as we tend to remember things more the more they are rehearsed. Other times, information is transferred because it is somehow attached to some significant events. There is no doubt that those items which go into long term memory are those which we also have vivid associations. We remember both verbal terms and visual cues. Words are most useful for encoding abstract concepts, such as the meaning of words, whereas visual imagery is best for representing concrete event.

Forgetting

An important aspect of remembering is its counterpart-forgetting. Sometimes the information is not available and lost by the distractions in the environment. Another cause of forgetting is the phenomenon of repression which is facilitated by the unconscious process of avoiding unwanted thoughts and feelings. Repressed thoughts generally are not accessible to the individual except through special circumstances, such as psychoanalysis or some provocative event highly charged to the original event. Amnesia, loss of memory, can be psychological or physiological in origin.

Processes of Memory

Memory is dependent on the following stages:

Acquisition,

Retention,

Retrieval,

Recognition,

Reproduction.

During acquisition the relevant experiences presumably leave some enduring record in the nervous system. Retention, during which the information is filed for retrieval. The final stage is retrieval, the point at which one tries to remember, to recall the particular memory trace from among all others. Many failures to remember are failures of retrieval and not of storage.

Types of Memory

Memory consists of following types: emotional, motivational, pictorial (imagery) and logical.

- *Emotional memory* – Emotions reflect how our interests and needs are fulfilled. Feelings reflected in memory are signals inducing activity from actions which induces negative emotions.
- Motivational memory is acquisition, retention of different movements. Its serves basis for forming different practical and working skills.
- *Pictorial memory* is images, reflections of pictures, and tasks, smells and sounds. It can be visual, gustatory and auditory.
- *Logical* memory is thinking and requires normal syntax and semantics.

Eidetic memory is the type of memory when a person can imagine a subject without seeing its details.

Acquisition in which there is no special aim to memorize is called non-arbitrary. Acquisition in which there is a special aim to memorize is called arbitrary.

Mnemonics

'Mnemonic' is another word for memory tool. Mnemonics are techniques for remembering information that is otherwise quite difficult to recall. The idea behind using mnemonics is to encode difficult-to-remember information in a way that is much easier to remember. The key idea is that by coding information using vivid mental images, you can reliably code both information and the structure of information. And because the images are vivid, they are easy to recall when you need them.

There are many techniques that make learning easier and faster. One technique, known as the “loci memory system,” involves picturing yourself in a familiar setting and associating it with something you need to learn. Let’s assume that you needed to memorize the function and structure of a neuron. Begin by picturing yourself walking into the entry hall of your home. At the same time pretend that you are walking through a dendrite. As you walk down the hall toward the living room, imagine that you are traveling in the dendrite to the cell body. As you exit the living room and walk down the hall toward the bedrooms, think of traveling down an axon toward the terminal button that contains the neurotransmitter. In this example you are connecting new information with something very familiar. We recall information much better when we involve our imagination. An even better way to perform this exercise would be to actually walk through your home while you visualize the parts of a neuron. In this situation you would not only be using your imagination but at the same time doing something physically. It is important to realize that we have strong memories for what we do physically. Just think how long you have remembered how to ride a bike even though you may not have ridden a bike for years.

Types of Memory

Psychologists recognize three main kinds of memory storage: sensory memory, short-term memory (also termed working memory), and long-term memory.

Sensory memory describes the effects of stimulation on senses such as vision, hearing, touch, taste, and smell. Research shows that this type of memory might be available to us even when we aren’t paying attention and after the stimulation is finished. Some researchers call this kind of memory echoic because it is as if the memory remains as an echo. When you pay attention to a stimulus—that is, when you become conscious of it—it becomes part of short-term memory. Short-term memory is what we are immediately aware of at any given time. Keeping things in mind for a short period is necessary for thinking and understanding. That is why short-term memory is often known as working memory. For example, as we saw earlier, understanding this sentence requires remembering something about the beginning when you reach the end; it relies on working memory. Short-term memory is severely limited: Its effects last for seconds (usually fewer than 20), and in adults it is limited to about 7 items. “The lizard’s name is Adolphus”. If this sentence were very important to you and you desperately wanted to remember it, you might reread it and repeat it to yourself several times. This process is known as rehearsing. Alternatively, you might make a

mental link between some Adolphus you know and this lizard, a process termed elaborating. Or you might think of some other meaningful way of remembering the sentence by organizing it with other items of information you possess. Rehearsing, elaborating, and organizing are the three most important strategies we have for bringing information from short-term to long-term memory. Psychologists use the term encoding to describe how information is processed to become part of long-term memory.

Long-term memory contains our relatively permanent information about the world. It includes everything we know about ourselves, about others, and about things. It represents the relatively permanent or long-term effects of all the experiences we have had. Some of this information is explicit: It can be put into words. And some of it is implicit: It cannot be put into words. Implicit memory is also called nondeclarative memory because it consists of memories that are nonverbalizable, for example, skills such as walking or tying shoelaces. There are two types of explicit memory, and they seem to involve different parts of the brain. Semantic memory consists of abstract information like the facts you learn at school such as addition or multiplication. Episodic memory consists of the memories that make up your recollection of your personal experiences. Our long-term memories are extremely important to our sense of who we are. All of our skills, our habits, our competence, our very identity reside in long-term memory. Patients who suffer memory loss, as happens with Alzheimer's disease, for example, may eventually lose even the most basic competence required for the tasks of daily life. Studies on victims of road accidents with head damage or brain injury provide strong evidence that different parts of the brain produce different types of memory

Implicit and Explicit Memories

In everyday speech memory usually means two related things: having information in storage and being able to retrieve it. But, as psychologist Endel Tulving (born 1927) has pointed out, you cannot always find what you know you have.

	Sensory Memory	Short-Term Memory	Long-Term Memory
Alternate names	Echoic	Working	None
Duration	Less than one second	Less than 20 seconds	Permanent, indefinite
Stability	Fleeting	Easily disrupted	Not easily disrupted
Capacity	Limited	Limited (7+ 2 items)	Unlimited
General characteristics	Momentary, unconscious impression, a passing sensation or association	What we are actively paying attention to, immediate consciousness	All of our knowledge, Explicit (can be put into words) and implicit (skills)

This table shows the three main types of memory storage. Short-term memory and long-term memory are relatively easy for researchers to measure. Sensory memory is of a more subjective and transitory nature and is, therefore, more difficult to quantify. Measuring memory development in infants before they have learned to talk is another challenge psychologists face.

Infantile Amnesia

By the age of two the infant's long-term memory is nothing short of astonishing compared to what it was earlier in the first year of life. For example, by now most infants have learned a huge number of words, and they will remember most of these words for the rest of their lives. But it is also true that they will be able to tell you nothing about any of their personal experiences throughout infancy and even through most of the early preschool period. This curious phenomenon, which psychologists label infantile amnesia, is so powerful

that when researchers showed 9- and 10-year-old children photographs of their classmates from their early preschool years (up to age four), they were unable to recognize them. And these were classmates they had seen every day a mere half-dozen years earlier. Yet when adults were shown photographs of their elementary school classmates, they recognized more than 90 percent of them. It made no difference that they had not seen some of them once since elementary school. Nor did it make any difference that many of these adults had been out of school for more than half a century.

No one knows for certain why we are subject to infantile amnesia. One theory is that structures of the brain involved in long-term, autobiographical (episodic) memory are not sufficiently developed during this period. Another theory is that the child has not yet developed the kinds of memory strategies that are required. Yet another theory is that the infant does not have a sufficiently strong sense of self with which to associate autobiographical memories.

Thinking (Reasoning)

The **psychology of reasoning** is the study of how people reason, often broadly defined as the process of drawing conclusions to inform how people solve problems and make decisions.^[1] It is at the intersection of psychology, philosophy, linguistics, cognitive science, artificial intelligence, logic, and probability theory.

The process of thinking is started by senses and then goes through the perception, imagination, and fantasy.

Thinking process constitutes of the following mental mechanisms:

Comparison

Analysis

Induction

Deduction

Abstraction

Concretization.

Main basis for thinking are: assumption, calculation, presumption, proposition, speculation, supposition, and inference. The next step is Conclusion, which is comparing two or more assumptions and summarizing them in one conclusion.

Types of thinking: 1. Objective-practical 2.visual - imaginary 3.abstract

Different Sorts of Reasoning

Inductive reasoning makes broad generalizations from specific cases or observations. In this process of reasoning, general assertions are made based on past specific pieces of evidence. This kind of reasoning allows the conclusion to be false even if the original statement is true.^[24] For example, if one observes a college athlete, one makes predictions and assumptions about other college athletes based on that one observation. Scientists use inductive reasoning to create theories and hypotheses.^[25]

In opposition, deductive reasoning is a basic form of valid reasoning.^[26] In this reasoning process a person starts with a known claim or a general belief and from there asks what follows from these foundations or how will these premises influence other beliefs.^[27] In other words, deduction starts with a hypothesis and examines the possibilities to reach a conclusion.^[28] Deduction helps people understand why their predictions are wrong and indicates that their prior knowledge or beliefs are off track. An example of deduction can be seen in the scientific method when testing hypotheses and theories. Although the conclusion usually corresponds and therefore proves the hypothesis, there are some cases where the conclusion is logical, but the generalization is not. For example, the statement, “All young girls wear skirts. Julie is a young girl. Therefore, Julie wears skirts,” is valid logically but does not make sense because the generalization from the original statement is not true.

The syllogism is a form of deductive reasoning in which two statements reach a logical conclusion. With this reasoning, one statement could be “Every A is B” and another could be “This C is A”. Those two statements could then lead to the conclusion that “This C is B”. These types of syllogisms are used to test deductive reasoning to ensure there is a valid hypothesis.^[29] A Syllogistic Reasoning Task was created from a study performed by Morsanyi, Kinga, Handley, and Simon that examined the intuitive contributions to reasoning. They used this test to assess why “syllogistic reasoning performance is based on an interplay

between a conscious and effortful evaluation of logic and an intuitive appreciation of the believability of the conclusions”.

Another form of reasoning is called abductive reasoning. This type is based on creating and testing hypotheses using the best information available. Abductive reasoning produces the kind of daily decision-making that works best with the information present, which often is incomplete. This could involve making educated guesses from observed unexplainable phenomena. This type of reasoning can be seen in the world when doctors make decisions about diagnoses from a set of results or when jurors use the relevant evidence to make decisions about a case.

Pragmatics and Reasoning

How do various related factors such as linguistic pragmatics and emotion relate to the inferences people draw?

Decision making is often influenced by the emotion of regret and the element of risk. People are strongly motivated by regret and we can see this when they select options they tend to select the option that they will regret the least trying to minimize the amount of regret we will have.^[41] Many decisions also include a large element of risk, and in these cases people tend to ask themselves what the level of risk is. They ask themselves how much dread they would experience when thinking about a nuclear accident, and then use that dread as an indicator of risk.^[42] We ask “how does this make me feel?” rather than “how risky is this?”

Antonio Damasio suggests that somatic markers, certain memories that can cause a strong bodily reaction, act as a way to guide decision making as well. For example, when you are remembering a scary movie and once again become tense and your palms might begin to sweat. Damasio argues that when making a decision we rely on our “gut feelings” to assess various options, and this makes decide to go with a decision that is more positive and stay away from those that are negative.^[43] He also argues that the orbitofrontal cortex - located at the base of the frontal lobe, just above the eyes - is crucial in your use of somatic markers, because it is the part in the brain that allows you to interpret emotion.

Another note to make is that when emotion shapes decisions, the influence is usually based on predictions of the future. When people ask themselves how they would react, they are making inferences about the future. Researchers suggest affective forecasting, the ability to predict your own emotions, is poor because people tend to overestimate how much they will regret their errors.

Lanaguage

Language consists of phonemes, morphemes, and grammar. Syntax and semantics are parts of grammar and enable listeners to distinguish between the surface structure (underlying meaning) of sentences. Images play an important role by providing mental representations of sensory experiences that allow nonverbal forms of thought; in addition concepts may help us to think more efficiently by using mental categories to classify things that relate to one another. One aspect of thinking is the use of prototypes that represent the key features of a concept.

Language may also influence how we think and what we think about. This is expressed in Benjamin Whorf’s linguistic relativity hypothesis. Other researchers contend that the influences of language, thought, and culture cannot be separated.

The ability to solve problems plays a large role in cognition. The first step to problem solving is to interpret and define the problem, known as problem representation. Problem solving can include divergent thinking or convergent thinking. Additional steps to problem solving include selecting a solution strategy and evaluating progress. Solution strategies include the use of trial and error, information retrieval, algorithms, and various heuristics. Internal and external factors can help or hinder problem solving, such as a person’s mental set, the perception of a problem and the approach used, or functional fixedness. In many cases brainstorming may be recommended to generate new ideas for review and evaluation.

Decision making requires a person to identify the best solution to a problem. Truly logical decisions are often made using compensatory models in which criteria for a particular choice are weighted in terms of importance. People commonly employ heuristics for decision making, despite the fact that these often lead to poor decisions. Decisions may be influenced by the way information provided to make the decision is framed. Other aspects of decision making are the hindsight bias and the “if only” construction.

Imagination

Imagination is a necessary element of creative activity which is expressed in founding images and providing program of behavior when situation is indefinite.

The first important characteristic of imagination is that it allows to imagine result before its beginning. In some cases it can replace the activity. In this case the person goes to the sphere of fantastic ideas that are far from reality in order to hide from reality, unsolved problems, necessity to act, hard life conditions. This type of imagination we call passive imagination. One can provoke passive imagination deliberately. Such images, fantasies, deliberately provoked but not connected with what helps to embody them into real life we call dreams or visions. Passive imagination can rise unconsciously. It can rise when person's conscience is weakened. Active imagination can be creative and constitutive. While reading books or listening to the stories one reconstituted what is depicted in them.

Creative imagination supposes creating of new images which realize valuable products.

Imagination, also called the faculty of **imagining**, is the ability of forming new images and sensations when they are not perceived through sight, hearing, or other senses. Imagination helps provide meaning to experience and understanding to knowledge; it is a fundamental faculty through which people make sense of the world, and it also plays a key role in the learning process.[1][4] A basic training for imagination is listening to storytelling (narrative), in which the exactness of the chosen words is the fundamental factor to "evoke worlds". It is a whole cycle of image formation or any sensation which may be described as "hidden" as it takes place without anyone else's knowledge. A person may imagine according to his mood, it may be good or bad depending on the situation. Some people imagine in a state of tension or gloominess in order to calm themselves. It is accepted as the innate ability and process of inventing partial or complete personal realms within the mind from elements derived from sense perceptions of the shared world.^[citation needed]The term is technically used in psychology for the process of reviving in the mind, percepts of objects formerly given in sense perception. Since this use of the term conflicts with that of ordinary language, some psychologists have preferred to describe this process as "imaging" or "imagery" or to speak of it as "reproductive" as opposed to "productive" or "constructive" imagination. Imagined images are seen with the "mind's eye".

Imagination can also be expressed through stories such as fairy tales or fantasies.

Children often use narratives or pretend play in order to exercise their imagination. When children develop fantasy they play at two levels: first, they use role playing to act out what they have developed with their imagination, and at the second level they play again with their make-believe situation by acting as if what they have developed is an actual reality that already exists in narrative myth.

"Imagination is an effort of the mind to develop a discourse that had previously been known, a development of a concept of what is already there by the help of our reason, to develop a results of new thinking." The common use of the term is for the process of forming new images in the mind that have not been previously experienced with the help of what has been seen, heard, or felt before, or at least only partially or in different combinations. Some typical examples follow:

Fairy tale

Fiction

A form of verisimilitude often invoked in fantasy and science fiction invites readers to pretend such stories are true by referring to objects of the mind such as fictional books or years that do not exist apart from an imaginary world.

Imagination in this sense, not being limited to the acquisition of exact knowledge by the requirements of practical necessity, is, up to a certain point, free from objective restraints. The ability to imagine one's self in another person's place is very important to social relations and understanding. Albert Einstein said, "Imagination ... is more important than knowledge. Knowledge is limited. Imagination encircles the world."

But in reality, without knowledge, imagination can not be developed.

In various spheres, however, even imagination is in practice limited: thus a person whose imaginations do violence to the elementary laws of thought, or to the necessary principles of practical possibility, or to the reasonable probabilities of a given case is regarded as insane.

The same limitations beset imagination in the field of scientific hypothesis. Progress in scientific research is due largely to provisional explanations which are developed by imagination, but such hypotheses must be framed in relation to previously ascertained facts and in accordance with the principles of the particular science.

Imagination is an experimental partition of the mind used to develop theories and ideas based on functions. Taking objects from real perceptions, the imagination uses complex IF-functions to develop new or revised ideas. This part of the mind is vital to developing better and easier ways to accomplish old and new tasks. These experimental ideas can be safely conducted inside a virtual world and then, if the idea is probable and the function is true, the idea can be actualized in reality. Imagination is the key to new development of the mind and can be shared with others, progressing collectively.

Regarding the volunteer effort, imagination can be classified as:\

voluntary (the dream from the sleep, the daydream)

involuntary (the reproductive imagination, the creative imagination, the dream of perspective)

Imagination and Memory

Memory and imagination have been shown to be affected by one another, found through research in Priscilla Long's piece *My Brain On My Mind* "Images made by functional magnetic resonance imaging technology show that remembering and imagining sends blood to identical parts of the brain." An optimal balance of intrinsic, extraneous, and germane form of information processing can heighten the chance of the brain to retain information as long term memories, rather than short term, memories. This is significant because experiences stored as long term memories are easier to be recalled, as they are ingrained deeper in the mind. Each of these forms require information to be taught in a specific manner so as to use various regions of the brain when being processed. This information can potentially help develop programs for young students to cultivate or further enhance their creative abilities from a young age. The Neocortex and Thalamus are responsible for controlling the brain's imagination, along with many of the brain's other functions such as consciousness and abstract thought. Since imagination involves many different brain functions, such as emotions, memory, thoughts etc., portions of the brain where multiple functions occur-- such as the Thalamus and Neocortex-- are the main regions where imaginative processing has been documented. The understanding of *how* memory and imagination are linked in the brain, paves the way to better understand one's ability to link significant past experiences with their imagination.

Imagination and perception

From the work of Piaget it is known that perceptions depend on the world view of a person. The world view is the result of arranging perceptions into existing imagery by imagination. Piaget cites the example of a child saying that the moon is following her when she walks around the village at night. Like this, perceptions are integrated into the world view to make sense. Imagination is needed to make sense of perceptions.

Attention

Attention is the cognitive process of selectively concentrating on one thing while ignoring other things. Examples include listening carefully to what someone is saying while ignoring other conversations in the room (e.g. the cocktail party problem, Cherry, 1953). Attention can also be split, as when a person drives a car and talks on a cell phone at the same time.

One of the most used models for the evaluation of attention in patients with very different neurologic pathologies is the model of Sohlberg and Mateer:

Focused attention: This is the ability to respond discretely to specific visual, auditory or tactile stimuli.

Sustained attention: This refers to the ability to maintain a consistent behavioral response during continuous and repetitive activity.

Selective attention: This level of attention refers to the capacity to maintain a behavioral or cognitive set in the face of distracting or competing stimuli. Therefore it incorporates the notion of "freedom from distractibility"

Alternating attention: it refers to the capacity for mental flexibility that allows individuals to shift their focus of attention and move between tasks having different cognitive requirements.

Divided attention: This is the highest level of attention and it refers to the ability to respond simultaneously to multiple tasks or multiple task demands.

Attention-deficit/hyperactivity disorder is a neurobehavioral disorder characterized by a combination of inattentiveness, distractibility, hyperactivity, and impulsive behavior.

ADHD appears early in life. It is estimated that 3 percent to 7 percent of school-age children are diagnosed with ADHD; boys are diagnosed more often than girls. Untreated ADHD has been shown to have long-term adverse affects on academic performance, vocational success, and social-emotional development. ADHD children have difficulty sitting still and paying attention in class and do not do well at school, even when they have normal or above-normal intelligence. They engage in a broad array of disruptive behaviors and experience peer rejection.

Consciousness

The many varieties of human consciousness are introduced in this chapter with special attention to sleep, dreams, drug altered states, meditation, and hypnosis. Conscious experience involves selecting the most important information to attend to and fitting out competing stimuli. Daydreaming and fantasy are normal experience within consciousness and may be beneficial as long as they do not occur so often as to interfere with human interactions and other behaviors.

Sleep or similar rest states are experienced by most animals although sleep duration varies across species. Sleep may be viewed as an adaptive mechanism with a restorative function. Sleep and waking follow circadian cycles that are regulated by the suprachiasmatic nucleus of the hypothalamus (SCN) in the brain. Sleep is rhythmic and marked by distinct physical changes. A waking state is followed by an initial twilight phase marked by the presence of alpha waves. A brief Stage 1 sleep follows. Stages 2 and 3 are the deeper stages of sleep spindles (Stage 2) and the emergence of slow, high peaked delta waves (Stage 3). Delta waves pervade Stage 4 sleep. Once a sleeper progresses through the first 4 stages, the cycle ascends back to Stage 1 then REM sleep begins. During REM, measures of brain activity and internal states resemble that of a waking person, but the body is incapable of voluntary movement; vivid dreams occur during this stage.

Inadequate sleep is a national epidemic. Sleep loss negatively impacts attention, memory, reaction times, and behavior while increasing the risks of accidents and errors. Awareness of sleep deprivation is essential for people in certain high-risk occupational roles. New studies have linked sleep deprivation to depression in students. Taking short naps have been suggested as an effective way to reduce sleep debt.

Sleep disorders include sleeptalking, sleepwalking, night terrors, insomnia, apnea, and narcolepsy. Sleeptalking, sleepwalking and night terrors are experienced during NREM sleep, while nightmares occur during REM sleep. These disorders are more prevalent in children than in adults. Apnea is associated with breathing difficulties at night. Narcolepsy is a hereditary disorder where victims enter spontaneous REM sleep without warning.

Dreams occur in every culture. Several explanations for why dreams occur have been proposed. These include: dreams are manifestations of unconscious wishes; dreams process information gathered during the day; dreams are extensions of the concerns of daily life; dreams are activations of brain regions.

Some altered states of consciousness are inducted by the use of psychoactive drugs. Drug use today is primarily for recreational rather than religious purposes and the drugs are newer and more potent. Substance abuse is a leading American health problem and is commonly accompanied by substance dependence. The effects of drugs are often studied using double-blind procedures: neither researchers nor participants are aware who received the drug or a placebo.

Psychoactive drugs can be grouped into depressants, stimulants, and hallucinogens. Depressants retard behavior and include alcohol, barbiturates, and the opiates. Alcohol is America's number one drug problem and can harm almost every organ in the body. Alcohol affects the frontal lobes of the brain impairing reasoning, inhibitions, and judgment. It interferes with memory, and is correlated with increased tendencies toward violence.

Barbiturates were first used as sedatives and anticonvulsants but their use has declined. Today they may be prescribed for insomnia, but may cause dependence, anxiety, and birth defects if taken chronically. Opiates are derived from the poppy plant common in eastern regions of the world. Opiates resemble endorphines, chemicals that act as natural painkillers.

Stimulants include caffeine, nicotine, amphetamines, and cocaine. Caffeine occurs naturally in coffee, tea, and cocoa and is widely touted as maintaining wake and alert states. Large doses may cause caffeinism and can interfere with the effectiveness of prescribed medications. Nicotine found in tobacco may be considered the most dangerous and addictive stimulant. Nicotine reaches the brain rapidly affecting many neurotransmitters. Nicotine use is especially high amongst teenagers.

Amphetamines increase feelings of alertness and cause personality changes. The methamphetamine Ecstasy affects emotions and has determined effects on particular neurons, impairs visual memory, and is associated with birth defects. Cocaine derives from cocoa leaves and was once a popular anesthetic for surgery. Powdered cocaine and crystallized crack reach the brain rapidly and act on the neurotransmitter dopamine.

Hallucinogens cause changes in perceptions and experience. A relatively short history of hallucinogen use exists. Effects of LSD vary widely—from mental clarity and intense sensation to confusion and nightmares. Marijuana derives from the hemp plant, is estimated to have a 5,000 years history, and is currently the most widely used illegal drug in the U.S. The active ingredient in marijuana is THC. Marijuana has direct psychological and physiological effects. Debate is controversial over the classification of marijuana as a dangerous drug.

A combination of biological, psychological, social, and cultural factors contribute to the likelihood of drug abuse and addiction. Causes of substance abuse are complex and vary across individuals. Heredity appears to play a prominent role in abuse of certain drugs, such as alcohol. But the person's expectations, environment, as well as cultural beliefs and values must also be taken into consideration.

Finally, both meditation and hypnosis can alter consciousness. Different forms of meditation exist and each work to suppress activity of the sympathetic nervous system. Reported benefits of meditation include treatment of medical problems, reduced stress, pain relief, and emotional or spiritual gains. Hypnosis has been difficult to define and people vary markedly in their hypnotic experiences and susceptibility to hypnosis. Hypnosis has become popular among athletes, in combined use with psychotherapy, and to treat some medical conditions.

Intellect

Intelligence refers to the abilities involved in learning and adapting behavior. There are several prominent theories of intelligence. Early intelligence theorists believed intelligence was quite general and followed through every action. However, L.L. Thurstone believed in seven different kinds of mental abilities: spatial ability, memory, perceptual speed, word fluency, numerical ability, reasoning and verbal meaning. In contrast, R.B. Cattell identified crystallized and fluid intelligence as two clusters of mental abilities.

Contemporary theorists propose alternative theories of intelligence. Robert Sternberg's triarchic theory of intelligence stated that analytical intelligence, creative intelligence, and practical

intelligence are the three basic kinds of intelligence. In contrast, Howard Gardner's theory of multiple intelligences proposes eight different kinds of intelligence: logical-mathematical, linguistic, spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal, and naturalistic. Daniel Goleman has proposed emotional intelligence theory. The five traits of emotional intelligence include: knowing one's own emotions; managing one's own emotions; using emotions; to motivate oneself; recognizing the emotions of other people; and managing relationships. It is important to be able to distinguish among these different theories and to draw distinctions among the various intelligence types.

The Stanford-Binet Intelligence Scale was the first individual test to establish a numerical value of intelligence, now known as intelligence quotient (IQ). Four kinds of mental abilities are measured by this test: verbal intelligence, abstract/visual reasoning, quantitative reasoning, and short term memory. The Wechsler Intelligence scales are another type of intelligence test. The Wechsler Adult Intelligence Scale (WAIS-III) and the Wechsler Intelligence Scale for Children (WISC-III) are used to test intelligence in individual adults and children. Group tests for intelligence have also been written and are widely used in schools. Performance tests and culture fair tests have been designed to help assess intelligence in people who are not fluent in English or who come from outside the culture in which the test was devised.

A good intelligence test must yield reliability and validity. Split-half reliability is a way to determine reliability by dividing the test into two parts and checking scores on both parts. Measures of validity include content validity and criterion-related validity. IQ tests have been highly criticized for a number of reasons including narrowness of question content, discrimination against minorities, or against people of different social classes and cultures. In addition, critics claim that IQ and intelligence are not the same, and IQ scores are a simplified way of summing up complex abilities. Despite the criticisms, studies have shown that IQ tests do tend to accurately predict school success, occupational success and job performance.

Individual differences in intelligence may be influenced by both heredity and the environment. Twin studies have revealed that twins reared apart have similar intelligence test scores. In addition, adoption studies revealed a child's IQ score is more similar to the biological mother. Together these types of studies have made a case for the heritability of intelligence. Intellectually stimulating surroundings and good nutrition can increase IQ. Other studies show adoptive children raised by parents of high socioeconomic status may have higher IQs than adoptive children raised by parents of low socioeconomic status. In recognition of the impact of environment on IQ, early intervention programs like Head Start have been created. The Flynn Effect refers to the noted increase in IQ scores that has occurred in recent decades.

Underlying gender differences in mental ability have not been found. Cognitive differences appear to be restricted to specific cognitive skills. The tendency is for girls to display greater verbal ability, and for boys' strengths to lie in spatial and mathematic abilities. Males tend to fall more regularly at the extremes of the intelligence range, having many more extremely high IQ scores, and also scores within the range of mental retardation. Research suggests that environmental factors such as upbringing play a large factor in the gender discrepancies noted in career choice.

Cultural differences in academic achievement are the result of the varied approaches to study and school success found across cultures. An innate superiority in intelligence was not found in a particular culture. The cultures with the strongest ethic for study and most challenging curricula had the highest achievement rates.

The two extremes of intelligence are mental retardation and intellectually gifted. Evaluations of mental retardation involve tests of motor skills, social adaptation, and behavior. People diagnosed with mental retardation may display savant performance. The cause of most mental retardation is unknown, however identifiable contributions stem from environmental, social, nutritional, and other risk factors. The rarer and most severe cases of mental retardation may involve genetic or biological disorders. Genetic diseases include PKU and Down syndrome. Biologically caused mental retardation may be dramatically moderated through interventions and appropriate socialization.

Giftedness appears at the other extreme of the intelligence scale. Most gifted individuals display special talents in only a few areas, and much giftedness is not recognized for this reason. Recent studies suggest that giftedness is an asset for socialization, and does not lead to problems with peer interaction.

Finally, creativity is the ability to produce novel and socially valued ideas or objects. There is no definite link between intelligence and creativity beyond a certain IQ threshold level. The most creative people seek problems to solve and tend to be dedicated, ambitious and curious. The Torrance Test of Creative Thinking asks questions relating to pictures, and the Christensen-Guilford Test involves listing and responding to open-ended word questions. Test scores interpret the potential for imagination and association. This leads to problems of validity and caution is recommended in this area of assessment.

Emotional Intelligence

Components of emotional intelligence: One commonly used version of Peter Salovey and John Mayer's 1990 definition of emotional intelligence includes abilities in 5 main areas:

Self-awareness: Recognizing one's feelings as they occur is the linchpin of emotional intelligence. The ability to monitor feelings from moment to moment is key to psychological insight and self-understanding. Being aware of one's emotions makes one more confident when making important personal decisions such as whom to marry or what career path to follow.

Managing emotions: Having appropriate emotional reactions is a capacity that builds on self-awareness. The ability to modulate negative affects such as anxiety, anger, and depression is a crucial emotional skill. Emotional resilience helps one to prevail over life's inevitable setbacks and upsets: those who lack emotional self-regulation are continually besieged by feelings of distress.

Motivating oneself: Being able to focus on a goal is essential for a range of accomplishments. Emotional self-control such as delaying gratification or controlling impulsivity- is crucial in working towards such life goals. Individuals who can harness their emotions, and maintain hope and optimism despite frustrations, are generally more productive and effective in their undertakings.

Recognizing emotions in others: Empathy, another skill based in emotional self-awareness, is fundamental to interpersonal effectiveness. Those who are well attuned to subtle social cues and professional relations.

Handling relationships: The art of relating to others requires skill in managing other's emotions. Social competence underlines popularity, leadership, and interpersonal effectiveness

Emotions

Emotions are also a unique aspect of personality. When faced with the same situation, 2 people may experience different emotions. Or they may each experience the same emotion but in different degrees.

Emotion refers to a feeling and its attendant thoughts, psychological and biological states, and range of impulses to act. The Oxford English Dictionary defines emotion as "any agitation or disturbance of mind, feeling, passion, any vehement or excited mental state".

There is a long-standing debate about which emotions should be considered primary, or if there are primary emotions at all. The argument for set of core emotions is based to some extent on studies that suggest there are universally recognized facial expressions for four emotions: fear, anger, sadness, and enjoyment. According to some theorists the following clusters or groups of emotion are universal:

Plutchik proposed that eight basic emotions exist: fear, surprise, disgust, anger, anticipation, joy, and acceptance (see Figure 8-4 text). Plutchik's views on emotions have been challenged by anthropologists and other scientists who contend that emotions are defined differently according to language and culture. Distinctions are now drawn between primary and secondary emotions. Primary emotions are universal emotions, whereas secondary emotions are not found in all cultures. It is important to be able to identify and describe each of the different theories of emotion and the challenges to each. These include the James-Lange theory, Cannon-Brad theory, and cognitive theories of emotions.

Emotions may be communicated verbally or nonverbally through voice quality, facial expression, body language, personal space, and gestures. Most facial expressions are innate and may serve an adaptive function. The amount of acceptable personal space varies depending on activities, emotions felt, and on the customs of a particular culture. Explicit acts and gestures are

often effective nonverbal ways to communicate emotions. However, care should be taken when interpreting verbal and nonverbal cues as people often overestimate their ability to accurately interpret messages conveyed by others.

Finally, expression of emotions differs between the sexes and among cultures. Men are more likely to inhibit expression of their emotions. Also men and women tend to have different emotional reactions to the same stimuli and differ in their ability to interpret nonverbal cues. Culture shapes emotional experiences. Researchers who take the universalist position believe that facial expressions look similar across cultures when certain emotions are expressed. In contrast, researchers who take the culture-learning position believe that people learn appropriate facial expressions for emotions within their culture. Although research shows more support for the universalist position, display rules that vary across cultures often make it difficult to interpret emotions expressed by people from other cultures.

3.8.1 James-Lange Theory

For many years in psychology it was thought that a subjective state of fear, anger, or happiness produced behavior changes, but at the turn of this century William James, in the United States, and Carl Lange, a Danish scientist, claimed that just the reverse was true. The behavioral and physiological reactions occur first, according to the James-Lange theory, and they arouse the feelings, “We feel sorry because we cry, angry because we strike, afraid because we tremble...” and not the other way around. Feelings are a consequence of the other reactions (James, 1980).

James argued for this view largely on the basis of everyday situations. Standing in the path of an oncoming train, he claimed, you quickly step off the track. The feeling of fear is not truly experienced until you have retreated to the side and after the onset of such physiological responses as rapid heartbeat, trembling, and increased rate of breathing. When the results of this behavior and physiology reach the cerebral cortex, then you are truly afraid.

Several objections have been raised to this viewpoint, one of which concerns the timing. Some physiological changes do not take place immediately, even though our feelings appear rapidly. Furthermore, our feelings sometime continue even after the bodily response has disappeared. Still another problem, as we have seen, is that psychologists have been unsuccessful in identifying various feelings on the basis of physiological changes. If the feeling is a function of the bodily processes, there must be different physiological changes. If the feeling is a function of bodily processes, there must be different physiological conditions associated with the different emotional responses.

Cannon-Bard Theory

One of those who took issue with the James-Lange theory was Walter Cannon, whose viewpoint was later extended by Philip Bard, producing the **Cannon-Bard theory**. It emphasized the roles of the thalamus in emotional activity and is sometimes called the thalamic theory. According to this view, the thalamus plays a key role in activating the muscles and glands and in stimulating other parts of the brain, all of which are involved in the emotional experience (Cannon, 1929).

This theory was helpful in showing the importance of the lower brain centers, not considered in James’s approach, but the neural anatomy of emotion is far more complicated. In the first place, the thalamus is not directly involved in activating the muscles and glands. Second, the theory assumes that the thalamus, as a switchboard mechanism, relays impulses to the sympathetic nervous system and to the brain simultaneously, prompting a joint arousal of the emotional experience. But many other physiological structures are involved, especially the cerebral cortex.

Cognitive-Physiological Theory

According to this evidence, our interpretation of the situation determines what kind of feelings we experience, whereas the physiological changes determine how strong they seem to be. In the **cognitive-physiological theory**, emotion is said to be the joint product of the individual’s understanding, or cognition, and the physiological arousal.

Feelings

Sadness: grief, sorrow, cheerlessness, gloom, melancholy, self-pity, loneliness, dejection, despair, and when pathological, depression

Fear: anxiety, apprehension, nervousness, concern, consternation, misgiving, wariness, qualm, edginess, dread, fright, terror, and when pathological - phobia and panic

Enjoyment: happiness, joy, relief, contentment, bliss, delight, amusement, pride, sensual pleasure, thrill, rapture, gratification, satisfaction, euphoria, whimsy, ecstasy, and when pathological, mania

a. Love: acceptance, friendliness, trust, kindness, affinity, devotion, adoration, infatuation, agape

b. Surprise: shock, astonishment, amazement, wonder

c. Disgust: contempt, disdain, scorn, abhorrence, aversion, distaste

d. Shame: guilt, embarrassment, chagrin, remorse, humiliation, regret, mortification, and contrition

Each of these categories has a basic emotional nucleus at its core, with its variants and mutations. In the outer level are moods, which, technically speaking, are more muted and last far longer than an emotion. Beyond moods are dispositions, the temperamental tendency to evoke a given emotion or moods such as melancholy, anxiety, or cheer. Further beyond such inclinations are the disorders of emotion such as clinical depressive disorders or generalized anxiety disorder, in which an individual feels chronically trapped in a pathological state.

Emotions themselves are neither good nor bad. It is how they affect a person e.g. anger can be a positive force when it is a reaction to social injustice. Then anger can be the spark that motivates people to work for needed social change. Anger can be a negative force if expressed in ways that hurt others.

People in all sorts of societies demonstrate an ability to recognize some facial expressions as indicative of certain feelings. Even voluntary efforts to adopt certain facial expressions, turning the mouth intentionally down or up in the corners, for example, prompt the corresponding feelings of sadness or happiness, respectively. These findings have increased speculation on the possibilities of a genetic basis of emotional expression (Ekman, 1980).

Will

Will, in Western philosophical discussions, consonant with a common English usage, refers to a property of the mind, and an attribute of acts intentionally performed. Actions made according to a person's will are called "willing" or "voluntary" and sometimes pejoratively "willful" or "at will". In general, "Will" does not refer to one particular or most preferred desire but rather to the general capacity to have such desires and act decisively to achieve them, according to whatever criteria the willing agent applies. The will is in turn important within philosophy because a person's will is one of the most distinct parts of their mind, along with reason and understanding. It is one of the things which makes a person who they are, and it is especially important in ethics, because it is the part which determines whether people act, at least when they act deliberately. Psychologists also deal with issues of will and "willpower" the ability to effect will in behavior; some people are highly intrinsically motivated and do whatever seems best to them, while others are "weak-willed" and easily suggestible (extrinsically motivated) by society or outward inducement. Apparent failures of the will and volition have also been reported associated with a number of mental and neurological disorders. They also study the phenomenon of Akrasia, wherein people seemingly act against their best interests and know that they are doing so (for instance, restarting cigarette smoking after having intellectually decided to quit). Advocates of Sigmund Freud's psychology stress the importance of the influence of the unconscious mind upon the apparent conscious exercise of will. Abraham Low, a critic of psychoanalysis, stressed the importance of will, the ability to control thoughts and impulses, as fundamental for achieving mental health.

The sociologist Ferdinand Tönnies, in analysing group psychology, distinguishes between will directed at furthering the interests of the group (*Wesenswille* or "essential will"), and will directed at furthering individual goals (*Kürwille* or "arbitrary will").

Mental States

Mood

Moods tend to have a relatively long-term character. One can be sad or cheerful for several hours or even for several days. Nevertheless moods, like emotions, are acute states that are limited in time. The main difference between moods and emotions is that moods are essentially non-intentional (e.g. one is not sad or cheerful at something). Moods are not directed at a particular subject but rather at the surroundings in general or, in the words of Frijda (2), at “the world as a whole.” Whereas emotions are usually elicited by an explicit cause (e.g. some event), moods have combined causes (e.g. “It is raining”, “I didn’t sleep well”, “Someone has finished the coffee!”). Consequently, we are generally unable to specify the cause of a particular mood. (4) A person is sometimes not even aware of being in a certain mood (e.g. if we are grumpy in the morning we usually only realize it when someone else tells us).

Frustration

Most persons experience feelings of frustration when someone or something obstructs them in some way. And most persons respond to the feeling of frustration by wanting to force the “other” to provide satisfaction. The healthy response to frustration, however, requires a different psychological attitude than *satisfaction*.

Frustration/Anxiety

For other investigators more compelling evidence on the origins of aggression is found in the environment, and one early hypothesis pointed to the role of frustrating circumstances. In this view, called the **frustration-aggression hypothesis**, “aggressive behavior always presupposes the existence of frustration,” and frustration inevitable leads to some form of aggression. When the boss is unusually nasty, we speculate the he just failed to negotiate a business deal or that someone rejected him. Similarly, a child denied a cookie may have a temper tantrum (Dollard, Miller, Doob, Mowrer, & Sears, 1939).

The role of frustration in aggression has been demonstrated in numerous studies. When children were prevented from using attractive toys, visible through a screen, they were more destructive in play than were comparable children allowed access to these toys (Barker, Dembo, & Lewin, 1941). When other children were forced to work harder and harder to obtain toys, they became more and more aggressive toward an inanimate object (Olds, 1953). In daily life, attacks on minority groups have increased with economic depression (Hovland & Sears, 1940). All of these studies, not without limitations, also show that aggression can be displaced. In **displaced aggression** a counterattack against the frustrating event is impossible or dangerous, and so it is directed instead toward some less threatening circumstance.

The chief problem with the frustration-aggression hypotheses is that it has been stated too broadly. The idea is too sweeping. Aggression can occur without frustration, as we shall see. This hypothesis is perhaps most relevant in the animal kingdom, where motivation is more obviously tied to biological drives.

Passion

Passion (from the Ancient Greek verb *πάσχω* (paskho) meaning to suffer) is a term applied to a very strong feeling about a person or thing. Passion is an intense emotion compelling feeling, enthusiasm, or desire for something.

The term is also often applied to a lively or eager interest in or admiration for a proposal, cause, or activity or love – to a feeling of unusual excitement, enthusiasm or compelling emotion, a positive affinity or love, towards a subject. It is particularly used in the context of romance or sexual desire though it generally implies a deeper or more encompassing emotion than that implied by the term lust.

Temptation

A temptation is an act that looks appealing to an individual. It is usually used to describe acts with negative connotations and as such, tends to lead a person to regret such actions, for various reasons: legal, social, psychological (including feeling guilt), health, economic, etc. Temptation also describes the coaxing or inducing a person into committing such an act, by manipulation or otherwise of curiosity, desire or fear of loss. | "Temptation" is usually used in a loose sense to describe actions which indicate a lack of self control,

such as procrastination or eating junk food. Temptation is a common recurring theme in world literature. Temptation has repercussions for even the strongest.

"Temptation" is something that allures, excites, and seduces someone. Infatuation can also lead to temptation as someone might do something for `love` in spite of his better judgment.

In advertising, temptation is a theme common to many of the marketing and advertising techniques used to make products more attractive for purchase by consumers.

Stress

Stress is the body's adaptation to the physical and mental demands of daily life. The stress response prepares the body for action. The heart beats faster. Blood flow increases. Breathing becomes faster.

Stress is a normal and unavoidable part of life. Without some stress, life would be dull. Stress provides the challenge we need to improve physically, mentally and emotionally.

Factors in life that produce stress are called stressors. Almost any event can act as a stressor depending upon its effect on you. Both negative and positive stressors can lead to stress. Some common categories and examples of stressors include:

Sensory: pain, bright light

Life events: birth and deaths, marriage, and divorce

Responsibilities: lack of money, unemployment

Work/study: exams, project deadlines, and group projects

Personal relationships: conflict, deception

Lifestyle: heavy drinking, insufficient sleep, Caring too much

Early life exposure (e.g. child abuse) can permanently alter an individual's stress response^[citation needed]

Environmental: Lack of control over environmental circumstances, such as food, housing, health, freedom, or mobility

It was Hans Selye who first conceived the theory of non-specific reactions as stress and named his theory general Adaptation Syndromes (GAS). Selye theorized that adaptation to stress occurs in four stages:

- Alarm- When the threat or stressor is identified or realized, the body's stress response is a state of alarm. During this stage adrenaline will be produced in order to bring about the fight-or-flight response.
- Resistance- If the stressor persists, it becomes necessary to attempt some means of coping with the stress. Although the body begins to try to adapt to the strains or demands of the environment, the body cannot keep this up indefinitely, so its resources are gradually depleted
- Exhaustion- In the final stage in the GAS model, all the body's resources are eventually depleted and the body is unable to maintain normal function. At this point the initial autonomic nervous system symptoms may reappear (sweating, raised heart rate etc.). If stage three is extended, long term damage may result as the capacity of glands, especially the adrenal gland, and the immune system is exhausted and function is impaired resulting in decompensation. The result can manifest itself in obvious illnesses such as ulcers, depression or even cardiovascular problems, along with other mental illnesses.

Gender differences have been found in stress-related studies. Women report grater experiences of stress than men under similar circumstances. Coping strategies for men and women have been found to be similar in many aspects, but men may be more likely to turn to alcohol when depressed, while women tend to revisit the negative emotions surrounding an event or mood. Gender differences in response to stress may be evolutionary adaptations from hunter/gatherer ancestors.

Stress can negatively impact health. Walter Cannon first described the fight-or-flight response, a psychological response to stress. Hans Selye proposed a 3-stage response to stress known as the General Adaptation Syndrome (GAS). Stage 1 is alarm reaction, stage 2 is resistance and stage 3 is exhaustion. Each stage has distinct physical and psychological components. Prolonged stress may lead to physical illness. Coronary heart disease (CHD) may be contributed to by stress. Frequent or chronic stress can damage heart and blood vessels, causing arrhythmias and arteriosclerosis. Mental

stress at work is linked with CHD, as are negative emotions; especially those exhibited by people with Type A behavior patterns. Such personalities have much higher heart rate and blood pressure levels when under stress, and both contribute to CHD. Depression may also increase the risk of heart disease and premature death. Low-fat diets and stress-management techniques have proven effective treatments.

Psychoneuroimmunology (PNI) studies the effects of chronic stress on the body's immune system. PNI has established a link between stress and cancer in animals. Stress impairs the immune system so that cancerous cells may become established and then spread more quickly around the body. There has been no definite link found between stress and cancer in humans. Stress management and therapy play a vital role in improving the life of cancer patients, who experience high level of depression, hostility, insomnia, and mental stress.

Stress can be reduced by regular aerobic exercise and relaxation training. A strong social support network is another factor in maintaining good health. Religious commitment has been shown to reduce high blood pressure and depression in the elderly. Altruism may also channel negative emotions into constructive actions. Proactive coping is the anticipation of stressful events and planning so that their impact is minimized. Positive reappraisal involves seeking an insight or "bright side" to otherwise stressful and negative situations. Humor is a healthy effective form to positive rehearsal.

Health psychologists are exploring ways to reduce stress, improve coping, and to promote a healthier lifestyle. To maintain good health it is suggested that a person eat a well-balanced diet, exercise regularly, avoid smoking, and avoid high risk behaviors.

A person may never fully recover from extreme stress. Major sources of extreme stress include unemployment, divorce and separation, bereavement: people should be distressed when a loved one dies; people need to work through their grief; people who find meaning in death cope better than those who do not; and people should recover from a loss within a year or so. Reactions to catastrophes follow a common pattern. First the victim enters a shock stage, followed by a suggestible stage, and finally a recovery stage. Extreme stress can cause posttraumatic stress disorder (PTSD). Although rare, PTSD is of a special concern in war veterans and witnesses to terrorism. Individual characteristics may predispose certain people to PTSD more than others.

Finally, what does it mean to be a well adjusted person? Unfortunately, there is no clear view on what constitutes good adjustment. Some psychologists contend it is the ability to live by social norms, others contend it is the ability to enjoy the difficulties and ambiguities of life. Yet other psychologists propose adjustment can be measured by how a person responds to certain criteria. Abraham Maslow believes that well-adjusted person attempts to self – actualize.

Stress and the immune response

Interest in the effects of stress on the immune system grew out of a series of animal and human studies that suggested that stressful stimuli can influence the development of immune-related disorders including infections, cancer, and autoimmune diseases. Experiments conducted on laboratory animals in the 1950s and the early 1960s, for example indicated that a wide variety of stressors-including isolation rotation, crowding, exposure, exposure to a predator, and electric shock- increased morbidity and mortality in response to several types of tumors and infectious diseases caused by viruses and parasites.

Fewer studies have been carried out on the relation between stress and immune-related illnesses in humans, and in general they are difficult to interpret because of the many factors that can influence illness and illness behavior. Nevertheless, from prospective studies on upper respiratory infections verified either by physician diagnosis or by biological methods, evidence indicates that stressful life events can increase the susceptibility to infectious diseases in humans.

Human studies. The effect of stress on measures of the immune system in humans has attracted considerable attention. In studies on academic stress among medical students, a decrease in natural killer cell activity was found during the final examination period as compared with a preexamination baseline. Examination stress has also been associated with decreased number of T cells, mitogen responses, interferon production, and antibody responses to recombinant hepatitis B vaccine. In addition, increases in antibody titers to latent herpes viruses, presumably secondary to impaired cellular immunity have been observed. Investigators have also reported decreased

measures of immune function in persons exposed to chronic life stressors, such as divorce and the taking care of patients with Alzheimer's disease.

Psychological Factors Affecting Medical Conditions and Stress Responses – human behavior

This research has elucidated several important concepts:

- 1) Stressful life events are correlated with increased risk of becoming medically ill.
- 2) Some stressors can be perceived *positively* and others *negatively*, and this perception is mediated by cognitive “coping” mechanisms.
- 3) Maladaptive ways of coping with stress such as smoking, alcohol, and substance abuse may alter susceptibility to illness.
- 4) A strong network of social support seems to buffer a patient from the effects of stress.
- 5) The central nervous, endocrine, and immune systems appear to have numerous interconnections.
- 6) An individual's response to physical and psychological illness depends on both genetic and acquired (developmental and learning) factors.

What is Stress and how does it Influence Disease?

The concept of “stress” was originally imported from physics by Hans Selye to describe the actions of forces against an object in equilibrium. With reference to behavior it has been used to refer to: (1) an aversive stimulus event, (2) a specific physiological or psychological response, or (3) a special type of transaction between the person and the environment (Cohen, 1981). Confusion is avoided if each of these is considered separately. We will distinguish *stressors* (or stressful life events) from the *psychological state of stress* (feelings of threat, harm, or loss) and from *stress responses* (or physiological, psychological, or social levels).

Cognitive Appraisal of Life-Change Events

Events that are stressful to one person may not be for another. Thus, if a person has adequate resources to meet a challenge or does not believe danger exists, a stress reaction may not occur.

Coping and Defense Mechanisms

Coping is defined by the dictionary as struggling or contending. It describes behavior involving special physical and emotional energy and attention that is required to deal with some difficult circumstances. Lazarus (1977) defined two types of coping or self-regulation of a perceived stress. One that he calls *direct-action* occurs when the person tries to alter or master the troubled interaction with the environment as when he attempts to demolish, avoid, or flee the harmful agent, or to prepare somehow to meet the danger. Thus if a student faced with an important and potentially threatening examinations spends the anticipatory interval immersed in preparation, he is engaged in a direct-action form of coping. This sense of mastery and readiness, regardless of whether or not it is realistic, mitigates the stress reaction prior to the time when the threat must be faced.

A second coping mechanism called *palliation* occurs when direct action is too costly to undertake or when the person is unable to manage successfully the environmental transaction. Such modes of control include ego defenses (i.e., denial, rationalization), taking tranquilizers, alcohol, sleeping pills, or engaging in a variety of techniques like muscle relaxation, jogging, yoga, etc. These palliative forms of coping are focused on possible ways of reducing the affective, visceral, or motor disturbances that are distressing the person as opposed to attempts to master the environmental transaction on which the stress reaction depends. This decrease in distressing symptoms may enable individuals to think more clearly and problem-solve or even confront situations they would normally avoid.

Social Support

Recent research evidence suggests that those who have social supports are protected in crisis from a variety of pathological states (Bebbington, 1987). It is thought that supports buffer the individual from the potentially negative effects of crisis and can facilitate coping and adaptation. Patients with social supports and assets may live longer and have a lower incidence of somatic illness as well as more positive mental health. Studies of marital and health status consistently reveal that those who are married have lower mortality rates than those who are single, widowed, or divorced (Ortmeyer, 1974). These risks are consistently higher for men than women and seem to decline with age (see also Chapter 2).

Biological Predisposition to Stress-Induced Illness

That is, once end-organ damage has occurred the patient is more likely to respond to stressful events with an exacerbation of chronic illness symptoms, despite a prior history of adequate coping with an identical stressor. On the other hand, some patients exhibit a biological “hardiness,” sometimes called *resilience*, that appears to protect them from stress-induced physical pathology.

Culture Provides Explanatory Models of Illness

Medical anthropologists sometimes distinguish between *disease* and *illness*. Disease refers to the objective clinical signs and pathophysiologic process that can result in a recognized diagnostic label from the *International Classification of Disease (ICD)* or from the *Diagnostic and Statistical Manual (DSM)*. Illness refers to individuals’ perceptions of being “not well” so that they act upon those perceptions. Although illness refers to a subjective experience, physicians should recognize that it is no less “real” than disease. Of course there can be disease without “illness,” as in hypertension, and illness without “disease,” as in the common case of a patient who complains of not feeling well but for whom no physical abnormality can be identified.

Culture Provides Explanatory Models of Illness

In the context of modern medical care, it is more important for a clinician to be able to elicit patient’s “explanatory model” of illness (Kleinman 1988) rather than to memorize details of an ethnomedical belief system. *An explanatory model (EM) for disease is an individual’s personal interpretation of disease.*

Culture Defines Normality

Members of all societies are *ethnocentric* in that they use their own arbitrary beliefs and values to judge people from another culture. What is considered “normal” and “abnormal,” acceptable and unacceptable, moral and immoral interpersonal behavior varies from culture and even within subcultures of society. Anthropologists have long observed that cultural patterns – including definitions of normal behavior – are generally “in fit” with local environmental conditions. In other words, culture has adaptive value.

Understanding a patient’s cultural norms is particularly important in the context of mental illness because what is considered a mental disorder should represent a significant deviation from local standards of expected behavior (Cockerman, 1986). Hence, societies vary as to what falls out of the realm of “normal” behavior and becomes “abnormal” – the latter often being labeled as psychiatric or mental illness.

The Family in Human Development and Medical Practice

There are no psychosocial problems without biological elements, and no biological problems without psychosocial ramifications. Every patient’s problems include the interaction of psychological, interpersonal, biological, and societal factors. The question for the physician is how to intervene in the most efficient and humane way. When considering the interpersonal aspect of this biopsychosocial system, the most influential and relevant one is often that of the family.

The Family as Source of Health Beliefs

There are a number of ways in which the family may influence the course and outcome of medical conditions. *The first is that the family is unquestionably the primary source of many health beliefs and behaviors.* Any discussion about health-related behaviors requires discussion about the family, since it is in the family that health habits are learned (Doherty and Baird, 1983; McDaniel et al, 1990).

In other words, *a second way in which families are an important element in medical care is that the family can be either a valuable resource and source of support or an obstruction to treatment.* Physicians can only

recommend treatment. The recommended treatment may not be carried out if key family members do not support it.

Stress may also be an important factor in a person's health, and families can be a source of stress as well as a buffer to stress.

Mental Attributes

Temperament

Hypocrites classified temperaments as: sanguine, melancholic, and phlegmatic choleric.

Pavlov temperaments are: mental ability balance and motor activities.

Krechmer classifies: picnic, asthenic and athletic personalities.

Jung: introvert and extrovert.

Aizenk: stable introvert and extrovert, unstable introvert and extrovert.

Temperament and personality

Temperament is one of the significant factors in development, but is not identical with personality. It is true that, in the very young infant, temperament characteristics do seem to be the whole personality, but as the child grows older, a host of other factors enter, which all contribute to personality development. Judd Marmor (1983), a leading student of personality theory, has enumerated the types of variables that must be considered: faulty parenting; temperament; the diversity of personality patterns and culturally acquired value systems and expectations of the parents; economic, racial, and ethnic realities; dietary adequacy or inadequacy; and the nature of relationships with siblings, extended family members, peers, teachers, and other individuals. He concludes, "We begin to get a glimpse of how difficult it is to accurately trace the origins of specific personality patterns at all, let alone to try to derive them from just one or two variables".

Definitions and conceptualization of temperament

A scholarly historical review of the meaning of the term *temperament*, starting from Hippocrates and Galen, has been presented by Kagan. He dates contemporary theorists from the 1950s. Our own formulation, starting in the late 1950s, is detailed above.

The British psychologist Eysenck (1953) has posited four temperament types formed from the conjunction of two orthogonal dimensions: extraversion- introversion and emotional lability-stability. Eysenck's conceptions have been influential, especially in European centers, in contrast to their influence in the United States. They can be criticized on several grounds; (a) His categories are abstract, comprise global judgments, and are unsupported by empirical evidence, and (b) he also combines several of his temperament categories, which then become broad pathological or normal personality types.

The studies of temperament in East European centers have been traditionally shaped by the Pavlovian biological concept of strength versus weakness of the central nervous system. Temperament was then determined by the intensity of excitation and stimulation required to evoke behavioral reaction. The strong nervous system required only a mild degree of stimulation to produce a response, while the weak nervous system responded only to a high degree of stimulation. A most significant modification of the previously dominant Russian Pavlovian schools has been formulated by the leading Polish psychologist Jan Strelau. Strelau and his coworkers, such as Eliaz, now present a neo-Pavlovian model that focuses on the interaction of biological and environmental factors. Strelau and Eliaz now formulate a biological-temperamental personality-interactional process, which breaks with the traditional Pavlovian typologies and turns instead to a dynamic psychological developmental model. There are a number of similarities between their formulations and the concepts of various Western temperament workers, especially with our own work.

Self Concept

Especially as we grow older, many acquired motives are influenced by our most significant endowment over other species – the capacity to think. We can imagine and interpret the world in a way apparently impossible for other organisms, and a critical factor here is the **self-concept**, which is the way a person

thinks about himself or herself in a global sense. It includes a person's most important self-feelings and self-attitudes. In our culture, especially for males, the self-concept is enhanced through achievement, but people also strive to think well of themselves by being charitable, social, creative, beautiful, or just different from others.

Whether it is true or not, the belief that one is master of one's fate is motivating, and thereby it has an important influence on the individual's conduct.

General observations and laboratory studies show that person's level of aspiration is modified by past successes and failures – that is, by the self-concept. Usually a person's level of aspiration remains close to actual performance, but there is a tendency for it to be above, rather than below, the performance level. Also, there is a greater tendency for individuals to raise their goals after success than to lower them after failure. Social factors are also important, for individuals tend to raise their level of aspiration when told that the average performance of a group regarded as inferior is above their own level (Lewin, Dembo, Festinger, & Sears, 1944).

Character- Trait of personality

Personality is a stable, organized collection of psychological traits and mechanisms in the human being that influences his or her interactions with and modifications to the psychological, social and physical environment surrounding them.

In order to understand this concept, you first need to understand the difference between a trait and a state. A trait is a relatively permanent individual characteristic. For example, most of know people who are outgoing, friendly, confident, or shy. When we describe these people, we use these traits to better understand their personality; to better understand who they are. Moreover the trait approach to personality is one of the major theoretical areas in the study of personality. A state, on the other hand, is a temporary change in one's personality. Examples of states might be angry, depressed, fearful, or anxious. We typically use states to describe a person's reaction to something.

Big five personality theory

In the past, researchers have debated fiercely on exactly how many personality traits truly exist. Early researchers such as Allport suggested as many as 4,000 different and distinct personality traits. He categorized these traits into three levels: Cardinal Traits: Traits that dominate an individual's whole life, often to the point that the person becomes known specifically for these traits. Central Traits: These are the general characteristics that form the basic foundations of personality. Secondary Traits: These are the traits that are sometimes related to attitudes or preferences and often appear only in certain situations or under specific circumstances. Today, the majority of personality researchers support the Five Factor theory of personality, which describes five broad personality dimensions that compose human personality - These are: Extraversion: Extraverts get their energy from interacting with others, while introverts get their energy from within themselves. Extraversion includes the traits of energetic, talkative, and assertive.

Agreeableness: These individuals are friendly, cooperative, and compassionate. People with low agreeableness may be more distant. Traits include being kind, affectionate, and sympathetic.

Conscientiousness : People that have a high degree of conscientiousness are reliable and prompt. Traits include being organized, methodic, and thorough.

Neuroticism: Neuroticism is also sometimes called Emotional Stability. This dimension relates to one's emotional stability and degree of negative emotions. People that score high on neuroticism often experience emotional instability and negative emotions. Traits include being moody and tense.

Openness: People who like to learn new things and enjoy new experiences usually score high in openness. Openness includes traits like being insightful and imaginative and having a wide variety of interests.

Mental Formations

Social Motivation and Emotion

The term **motivation** refers to an internal stage; it involves a need or desire within the organism that the individual tries to satisfy. In the previous chapter, we examined this internal state from the perspective of **basic** or **primary motives**, which are related to the organism's survival. Biological factors prompt us to seek food, water, rest, and so forth. Apart from these inborn needs, common to everyone, we live in

different societies, possess different endowments, and encounter different opportunities in life. These conditions give rise to diverse learned motives, acquired in the course of our lifetimes, called **acquired** or **secondary motives**. These motives may have their origins in our efforts to satisfy basic needs, but they develop or are augmented through personal and social contacts. Hence they are referred to as personal or social motives, as well.

Maslow's Hierarchy of Needs

Maslow's Hierarchy of Needs is a theory in psychology that Abraham Maslow proposed in his 1943 paper A Theory of Human Motivation. This diagram shows Maslow's hierarchy of needs, represented as a pyramid with the more primitive needs at the bottom.

Maslow's hierarchy of needs is often depicted as a pyramid consisting of five levels: the four lower levels are grouped together as being associated with Physiological needs, while the top level is termed growth needs associated with psychological needs. Deficiency needs must be met first. Once these are met, seeking to satisfy growth needs drives personal growth. The higher needs in this hierarchy only come into focus when the lower needs in the pyramid are satisfied. Once an individual has moved upwards to the next level, needs in the lower level will no longer be prioritized. If a lower set of needs is no longer being met, the individual will temporarily re-prioritize those needs by focusing attention on the unfulfilled needs, but will not permanently regress to the lower level. For instance, a businessman (at the esteem level) who is diagnosed with cancer will spend a great deal of time concentrating on his health (physiological needs), but will continue to value his work performance (esteem needs) and will likely return to work during periods of remission.

Maslow's hierarchy of needs

1. Self- actualization needs

(Need to live up to one's fullest and unique potential)

2. Esteem needs

a. Need for self-esteem, achievement, competence and independence;

b. Need for recognition and respect from others

3. Belongingness and love needs

a. Need to love and to be loved, to belong and be accepted;

b. To avoid loneliness and alienation

4. Safety needs

a. Need to feel that world is organized and predictable;

b. Need to feel safe, secure, and stable

5. Physiological needs

Need to satisfy hunger and thirst

Chapter 4

Overview of Personality Theories

Important concepts when dealing the personality include but are not limited to: the individual, individuality, attributes and levels of personality, psychological structure of personality, abilities, temperament, personality types and classifications, character, accentuated character, and borderline personalities. This chapter contains a description of each of the named concepts.

Individual is sum total of physiological peculiarities and parameters.

Every one is individual, even if he has some abnormal physiological parameters.

Personality's main **attributes** are:

1) Creativity,

2) Trust,

3) Freedom,

4) Love,

5) Responsibility.

Psychological structure of personality includes: character, temperament and abilities.

Individuality is sum total of physiological and psychological attributes.

Individual, individuality, personality

Five Major Theories on Personality

Throughout this chapter, different theoretical paradigms of personality are described. Among these are: psychodynamic theories, humanistic personality theories, trait theories, and cognitive-social learning theories. It is important to be able to distinguish between each theory and to know the key people behind each theory and their major contributions.

Psychodynamic theories contend that psychological forces influence personality. Sigmund Freud stressed the influences of the unconscious and advanced his ideas through psychoanalytic theory and therapy. Freud theorized that personality is formed around the id, ego, and the superego. The id operates through the pleasure principle. The superego oversees moral reasoning and sets standards for the ego ideal.

Freud believed personality developed by experiencing and responding to the energy created by sexual instincts, the libido. If libido remains in one part of the body then psychosexual development can stop, a condition known as fixation. Freud identified five psychosexual stages related to personality development: the oral stage (0-18 months), anal stage (18 months to 3 ½ yrs), phallic stage (after age 3), latency period (5-13), and the genital stage (puberty). During the phallic stage children may experience parental conflicts, known as the Oedipus complex in boys and the Electra complex in girls.

Carl Jung expanded Freud's limited view of libido to represent the psychic energy of all life forces. Jung believed the unconscious and the collective unconscious that houses special memories shared by all human. He called these collective experiences archetypes and believed persona was a special archetype that shaped personality. Jung categorized attitudes as extroverted or introverted and people were viewed as either rational or irrational individuals.

Alfred Adler believed personality is shaped by compensation, the efforts put forth to overcome weaknesses or feelings of inferiority. Those unable to overcome these obstacles were at risk of developing inferiority complexes. Another psychodynamic theorist, Karen Horney, contended that environmental and social experiences during childhood are the major factors that shape personality. According to Horney, anxiety originates from both sexual and nonsexual conflicts in childhood. Anxious adults employ one of three neurotic trends to handle problems: submission, aggression, or detachment.

Erik Eriksson adopted a psychodynamic view that was more socially oriented and proposed that people experience eight stages of personality development. Erickson's stages are trust vs. mistrust, autonomy vs. shame and doubt, initiative vs. guilt, industry vs. inferiority, identity vs. role confusion, intimacy vs. isolation, generativity vs. stagnation, ego integrity vs. despair. Success in each stage is dependent upon adjustment during the previous stage.

Psychoanalytic theorists would differ in their analysis and interpretation of the case of Jaylene Smith that was introduced at the beginning of the chapter. Modern psychologists view psychodynamic theories as having limited scientific support but nonetheless attractive for their attempt to explain the origins of human behavior.

Humanistic personality theories differ from psychodynamic theories in that goodness in people and realizing one's potential are seen as the motivating forces toward higher levels of functioning. Carl Rogers believed people develop personalities as they strive toward positive goals. According to Rogers, organisms are driven by actualizing tendencies to fulfill their biological potentials. Humans are also driven by self-actualizing tendencies to fulfill their self-concepts and become a fully functioning person. Unconditional positive regard is more likely to promote full functioning than conditional positive regard. Humanists like Rogers would view Jaylene's case as stemming from a discrepancy between her self-concept and her inborn capacities. Humanistic theories have been criticized for their inability to be scientifically verified.

Trait theorists assert that people differ to the degree to which they possess certain personality traits. Using factor analysis, Raymond Cattell, demonstrated that traits tend to cluster in groups, with individuals having about 16 basic traits. Eysenck reduced personality to three basic dimensions: emotional stability, introversion-extraversion, and psychoticism. Contemporary trait theorists contend personality is comprised of five basic dimensions that may represent universal dimensions across cultures. Known as the Big Five, or five-factor model, these are: extroversion, emotional stability, agreeableness, conscientiousness, and openness to experience. Trait theorists would view Jaylene as having certain traits above others. Although

trait theorists are easier to scientifically examine; they are primarily descriptive and may oversimplify personality.

Cognitive-social learning theories contend that personal and situational factors combine to shape behavior. Albert Bandura stressed that what a person anticipates in a situation, or expectancies, affect behavior and that people conduct themselves according to performance standards. Self-efficacy arises when people meet their internal performance standards. People approach and evaluate situations through expectancies, such as a locus of control; individuals either have an internal or external locus of control. Expectancies become part of a person's explanatory style that significantly affects behavior. Cognitive-social theorists believe personalities are fairly stable but behaviors may be less consistent. Jaylene's case would be viewed as a result of learning by observation, reinforcement, and punishment. Although they cannot explain all aspects of personality, cognitive-social learning theories can be scientifically studied, help to explain inconsistent behavior, and have led to useful therapies.

Finally, personality is assessed through tests that are both reliable and valid. Psychologists employ four basic tools: the personal interview, direct observation of behavior; objective tests, and projective tests. Personal interviews may be structured or unstructured. Objective tests include the 16 Personality Factor Questionnaire, the NEO-PI-R and the Minnesota Multiphasic Personality Inventory (MMPI). Projective tests include the Rorschach test and the Thematic Apperception Test.

Psychoanalytic View

Another prominent view of human aggression as innate comes from psychoanalysis and the work of Sigmund Freud, widely recognized for postulating two human instincts. One of these, the **life instinct**, motivates us to self-preservation, love, and sexual urges that result in the preservation of the species. The **death instinct**, in contrast, impels us toward the cessation of the tensions of life. The ultimate aim of life, in this sense, is death, which is brought about by our destructive tendencies toward ourselves and others. Freud arrived at this conclusion through studies in evolutionary biology, but he was also much influenced by World War I. For him, the life and death instinct were constantly at odds, but the eventual winner was always the death instinct (Freud, 1964)

The chief objections to Freud's view come from two diverse sources. First, this view of instinct reflects translational problems, and it is not in accordance with our modern definition. Freud is not speaking of a complex, unlearned behavior pattern but rather a broad urge, a tendency, a motivational disposition. Second and more critical, there is no solid evidence in biology that the fundamental goal of life is to abolish all tension (Brun, 1953). The death instinct contradicts all biological principles (Jones, 1957).

Sigmund Freud's theory of psychoanalysis is based on the premise that behavior can be influenced by past events, which seemingly have been forgotten. This was the study of the unconscious realm, which can be tapped through careful examination of childhood experiences and/or dreams. This revolutionary doctrine soon developed into a whole system of psychological thought, including many distinct psychological concepts. The most fundamental principle is unconscious motivation, which states that behavior is significantly influenced by past events of which the individual is no longer aware. In speculating on the origin of behavioral disorders, the psychoanalyst is concerned with thoughts and feelings, which are internal events, inside the individual. The adult personality, according to psychoanalysis, is significantly influenced by childhood conflict. The theory of psychoanalysis has been influential not only in psychology and psychiatry but also in all modern social sciences, art, and literature. The theory has also been a controversial one.

Sigmund Freud developed the theory of psychoanalysis near the beginning of this century, using several cases in his private practice and an intensive self-analysis. Emphasizing motivation, the theory of psychoanalysis regards human personality as significantly influenced by two basic forces, sex and aggression, constantly seeking expression in the individual. These impulses, according to the theory, are part of our inborn nature, and denial of their expression, as often required by society, does not result in their disappearance. Instead, they find release in a disguised form. This process of denial and disguised expression is called unconscious motivation. It is the central idea in psychoanalytic theory, and it is most relevant to childhood, when the personality is being formed. Conflicts and frustration at this age, especially concerning sex and aggression, can have a significant and unexpected influence later, in the adult personality.

Psychic Forces

The building blocks of personality in psychoanalytic theory consist of three systems or forces: the id, ego, and superego. Sometimes these systems are said to represent, in a loose way, the biological, psychological, and social forces of personality, respectively. The inborn biological urges, found in all human beings, are collectively referred to as the id. The id includes various reflexes and the two forces mentioned earlier. One, the sex impulse or, more commonly, the life instinct, concerns survival. The needs for food, drink, protection, and sleep are paramount, as well as the desire for sex in its broadest sense. The other, the death instinct, was a late addition to psychoanalytic theory and not as fully discussed. Operating in a more subtle fashion, it involves the impulse to aggression and is manifest in aggressive behavior toward the self as well as others. It should be noted that Freud, in speaking of instincts, was referring to motivational and emotional impulses. He did not use this term in its conventional sense today. The id thus follows the pleasure principle, which requires the immediate satisfaction of needs, regardless of the circumstances.

As the growing infant learns to react to the outer environment, the expression of the id becomes modified. Partly out of the energy provided by the id and partly from the environment, there emerges a new dimension called the ego. The ego, which in Latin means "I" or "self," becomes the executive or problem-solving dimension of the personality, operating in the service of the id. The ego assists the id in achieving its ends, taking into account the conditions of the external environment. The ego follows the reality principle, meaning that it often requires a suspension of the pleasure principle according to the circumstances in the environment. The ego emerges, especially through such psychological processes as perceiving, learning, remembering, and reasoning, all aspects of the ego. Under these influences, the child gradually refrains from acting solely according to biological impulses.

Throughout life, the ego is usually confronted with another force in the personality, one that develops through contact with other people. Especially through the parents and teachers, the child acquires certain values and standards of behavior, known as the superego, which has two divisions. One part of the superego, the conscience, discourages the expression of behavior deemed undesirable by parents and elders, and it develops primarily under the influence of scorn and threats of punishment. The parents say to a dishonest girl, "You are bad." If the child internalizes the parents' standards, the next time she lies or thinks about lying she says to herself, "I am bad," or "I am ashamed of myself." In this the child controls her behavior much as the parents would control it.

The ego ideal, in contrast, arises largely through encouragement, praise, and other rewards given to the child whenever she behaves in a certain manner, striving to achieve certain goals that the parents desire. Also, the ego ideal develops as the child tries to imitate some older person. Together, the conscience and ego ideal, which are formed early in life, constitute the third basic dimension of the personality.

Psychosexual Stages of Development

Psychoanalytic theory emphasizes childhood influences. The earliest years are the formative ones, setting the stage for adult personality. Early conflicts, unless they are resolved, may exert enduring influences on the personality. As the child matures, it experiences its first satisfactions and also its chief problems in the context of its own body. Especially important, according to psychoanalysis, is the sexual energy directed to different areas of the body: the mouth, anus, and genitals. These body areas become foci of interest at different growth stages, and hence these early periods are called psychosexual stages, meaning that psychological development is related to successive sexual interests.

The child's first concern is to obtain food, and thus the initial period is called **the oral stage**. If the food requirements are regularly satisfied during this period, all with sucking and other oral needs, a benign view of life emerges. The breast or bottle is readily available, and the child develops a trusting and optimistic outlook. If the needs are not met, feelings of uncertainty and pessimism are likely outcomes, and they may persist in the adult personality.

The second year is **the anal stage**, during which the child is confronted with a task for which little assistance can be given: toilet training. If the demands here are too harsh or too lenient, the results again are likely to have later consequences. Still coping with this problem in symbolic fashion, the adult may be excessively prompt, neat, and clean or, in contrast, unusually messy, depending upon the early training.

The period from three to six years is **the phallic stage**, a term that Freud used for both boys and girls, despite its reference to the penis. In this stage the child discovers pleasures associated with the genitalia, including various forms of stroking and masturbation. Far more important for personality development, however, is an increasing awareness of sex roles and an emerging interest in the

parent of the opposite sex. Freud called this reaction the Oedipus complex in boys and the Electra complex in girls. Both names are derived from early Greek drama in which an offspring sought relations with the parent of the opposite sex, regarding the like-sexed parent as a rival. The normally developing child handles the Oedipus-Electra problem by shifting his or her outlook. In this process, called identification, the child adopts the manner, attitudes, and interests of the like-sexed parent, thus attempting to win the love and respect of the other parent. The identification process, which recurs in adolescence, is assumed to be particularly important for developing an appropriate sex role in later life. But if these early sexual concerns become significant problems, the symptoms may be reflected later.

The next stage is characterized by the apparent absence of sexual interests. They are still present, claimed Freud, but he called this period **the latency stage** because these interests are submerged. This stage, from age six to the onset of adolescence, may be a cultural artifact, however. In certain societies, there is no decrease in sexual interests in late childhood.

With the beginning of adolescence, **the genital stage** appears, which involves the reawakening of sexual interests and the search for other people to provide sexual satisfaction. The individual becomes other-oriented, as well as self-oriented, seeking to combine self-concerns with those of other people. Insofar as the earlier conflicts have been adequately resolved, the individual settles into the task of establishing mature relationships with other people, a stage that lasts throughout the adult years.

Carl Jung's Theory of Personality

Carl Jung was the student of Z. Freud and followed his theory but after in 1928 he argued some points of it. He felt that the libido was a force resulting from the desire to be creative; it resulted from spiritual needs rather than biological needs. From this foundation Jung went on to develop a complex almost mythical theory of personality referred to as analytical psychology. Jung suggested that personality has 3 components,

The Ego includes everything that we are conscious of. Its main function is to see that our everyday activities are carried out. In this sense, it is similar to Freud's concept of the ego.

The 2nd component is the personal unconscious contains experiences that were once conscious but have been repressed or forgotten.

The 3rd component is the collective unconscious that holds memory traces of experiences from our ancestral past. It includes material not only from human history, but from our prehuman and animal ancestors as well. The contents of the collective unconscious are similar for all people, since they share roughly the same common history. Archetypes include such common concepts as God, heroes, sun, moon, fire, and water.

Jung saw the inner struggle resulting from opposing tendencies struggling for expression. For instance, he believed that every person has both masculine and feminine tendencies within their personality called *animus* and *anima*, respectively. As men associate with women, they become feminized in outlook and values, and as females share life with and work with men, they become more masculine.

Other opposites struggling for expression cited by Jung include the conscious and unconscious rational and irrational impulses; and the archetypes involving one's public self and private self.

We achieve a healthy personality to the extent that we realize these opposite tendencies within ourselves and can express each.

a) Archetypes. Complexes are groups of unconscious ideas associated with particular emotionally toned events or experiences. Jung inferred them from his early word-association studies, when he noted that certain words provoked intense reactions or produced less reaction than would be expected. Complexes are built around genetically determined intrinsic psychic structures known as archetypes. The more superficial aspect of the complex-archetype continuum, are related to events, feelings and memories from individual lives. They are the means by which archetypes express themselves in the personal psyche. Archetypes are the inherited capacity to initiate and carry out behaviors typical of all human beings, regardless of race or culture, such as nurturing and accepting nurturance; being aggressive or dealing with aggression by others. These predispositions are analogous to the organization of the cerebral cortex into the Anlage for perception of visual or auditory stimuli that become the capacity to see and hear, but that require stimulation for their development. Just as vision cannot develop without visual input during physiologically critical stages, so archetypes require interactional stimulation for their elaboration into complexes. Thus, the human infant's psyche is not amorphous energy awaiting organization by the environment; it is

instead a complex and organized set of potentials whose fulfillment and expression depend on the appropriate environmental stimuli. There are as many archetypes as there are prototypic human situations.

b) Symbols. Although Jung accepted that certain symbols are universal, he suggested that in dealing with patients it is wise to view symbols as expressions of content not yet consciously recognized or conceptually formulated. A tall, cylindrical object might symbolize a penis, but it could also stand for creativity or healing. Symbols are often attempts to unite and strike a balance between images from the collective unconscious with the personal unconscious. A tall, cylindrical object that symbolizes a penis in the personal unconscious might symbolize the phallic principle of creativity or fertility in the collective unconscious.

c) Personality Structure. At the center of conscious personality called ego, several universal complexes attend the ego. The persona (named after the mask worn by ancient Greek actors), or public personality, mediates between the ego and the real world. The shadow, a reverse image of the persona, contains traits that are unacceptable to the persona, whether they are positive or negative. A brave persona, for example, has its fearful intruder. The anima is a residue of all the experiences of women in a man's psychic heritage; The animus, the residue of all the experiences of man in a woman's psychic heritage, The anima or animus connects the ego to the inner world of the psyche and is projected onto others in day-to-day or intimate relationships. When connected with the shadow, a man, for example, might see attributes of women as undesirable, and might experience guilt encountering such qualities in himself.

d) Self. The self is the archetype of the ego; it is the innate potential for wholeness, an unconscious ordering principle directing overall psychic life that gives rise to the ego, which compromises with and is partly shaped by external reality.

e) Psychological types. Jung's theory of psychological types has three axes. The *extroversion-introversion* polarity refers to the two basic types of object relatedness. Extroverts are oriented to others and to the world of consciousness. Their energy flows outward first, then inward. Introverts are oriented to their inner world, their energy flowing first inward and then to outer reality. Introverts might therefore be seen as selfish and inadaptable because they attend first to their inner world and then determine how the outer world can fit them.

The sensation-intuition polarity concerns perception. The perceptive type that Jung called sensation-oriented is stimulus-bound and attuned to the specifics of here- and -now reality. The intuitive type blurs the details but apprehends the overall picture. The sensation type comes to understand a situation by assembling the details; the intuitive type grasps the overall situation before attempting to assimilate its parts. The sensation type sees the trees first; the intuitive type sees the forest first.

The polarity of *thinking* and *feeling* deals with information processing and judgment. In the thinking mode, data is evaluated according to logical principle. Feeling, at the opposite pole, is making judgments through nonlogical processes having to do with values and understanding relationships. In social relationships, the thinking type would deal with people according to their social rank or according to the tradition of etiquette; a feeling type would deal with others in terms of their present social relationship or perceived emotional state.

Collective Unconscious

An even more speculative view of the unconscious, and therefore appropriate only for passing mention, is the view of Carl Gustav Jung. Whereas Freud postulated an individual unconscious, containing the unknown desires and conflicts of one person, Jung hypothesized a collective unconscious, which is in everyone the "deposit of ancestral experiences from untold millions of years." In this realm are all of humanity's past experiences, not only in human history but also in the earlier evolutionary stages of animal life. This collective unconscious is potentially inherited by all human beings, and the underlying similarities among different cultures are regarded as support for this idea.

The collective unconscious includes a feminine side of the male, called the anima, and a masculine side of the female, called the animus. These conditions are due partly to hormones and other aspects of human

physiology, but they are also shaped by the experiences of men and women living together through countless centuries. As men associate with women, they become feminized in outlook and values, and as females share life and work with men, they become masculinized.

Chapter 5

Developmental Psychology²

Freud's Psychosexual Model of Development

Sigmund Freud outlined the psychosexual development of the child from a psychoanalytic perspective. According to Freud, the sexual goal of each stage is to derive pleasure and relieve pain. Accordingly, the infant is first soothed by the mother's breast and derives satisfaction orally; hence the first stage is the oral stage. Freud's psychosexual stages are based on the child's development of sexual drives, body maturation, of the development of nervous system.

A Oral phase (birth to 1 year). The infant's urges are focused on feeding and sucking at the breast. This is the source of all the infant's satisfaction and frustration.

B Anal phase (3-5 years). The child's urges are centered on bowel functioning. His/her ability to have control over his/her bodily functions becomes the main issue in the relationship between the child and the caregiver.

C Phallic (genital) phase (3-5 years). The genitals become the child's focus for pleasure and satisfaction. Masturbation is used as a way of releasing tension and leads to anxiety and guilt.

D Oedipal complex. The child falls in love with the parent of the opposite sex. The child wants to have exclusive possession of the parent.

E Castration anxiety. The boy fears that his father will cut off his penis in retaliation for the boy's coveting his mother. This anxiety leads to repression of the sexual desire for the mother.

F Penis envy. A girl's curiosity and desire to have a penis.

G Resolution of the Oedipal complex. The child identifies with the same sex parent and begins to form relationships with same sex peers.

H Latency (6-11 years). Sexual development during this phase is relatively stagnant.

I Adolescence (12-18 years). Genital sexuality develops and proceeds into adulthood.

Piaget's Model of Cognitive Development

Human development consists of three major domains – physical, social, and cognitive. Cognitive development refers to mental development, including not only intelligence but also such processes as perceiving, recognizing, recalling, and interpreting information, as well as all forms of reasoning. Jean Piaget is considered the foremost figure of cognitive psychology. Through conversations and observations with his children, Piaget came to the view that normal children's thinking is based on a different understanding of reality, one that slowly changes according to maturation and experience. The sequence of these changes can be divided into four stages, approximately according to chronological age. These are the sensorimotor, preoperational, concrete operational, and formal operational stages.

b) Preoperational Stage

Gradually the child's representational abilities become more sophisticated and, most important, children learn to use language to communicate ideas to others. With normal environmental stimulation they become social beings, although by adult standards children still have serious deficiencies in thinking. During this stage, called the preoperational period, the child still does not understand the use of symbols and basic operations. The child is preoperational throughout most of the preschool years, from age 18 or 24 months to age six or seven years. The period is called preoperational because of the lack of operational thinking, which appear in the next stage, as concrete operational.

Preoperational thought is characterized as egocentric thought because the child is unaware of other perspectives. For example, in perceptual egocentrism preschoolers do not realize that other people see things from a viewpoint different from theirs. A young girl, playing hide-and-seek, shuts her eyes and says "Ha-ha! Can't see me!" By school age or earlier, most children have overcome this perceptual egocentrism. Preoperational thought also focuses on a single, striking feature of an object or event, a tendency called concentration. The child is impressed with how things appear, rather than how they were made, as illustrated in Piaget's conservation experiment. The aim in the conservation experiment is to discover whether a child recognizes that an amount of something is not increased or decreased when only its appearance is changed. The amount remains the same, but its shape is different. This thinking is called preoperational because the child reasons in terms of the dominant perceptual experience, and not the operation itself.

c) Concrete Operations

The child begins to master the conservation problem around age six. During the stage of concrete operations, which lasts until age 11 or perhaps longer, the child becomes capable of reversing transformations in his or her head. They are able to visualize pouring a liquid back from a tall glass to a wide one to prove they are of equal amounts. At the close of this stage, the child can solve problems that

require classification, ordering, and sequencing. The child can arrange a series of sticks from tallest to shortest without making errors. Children at this stage have mastered the operations required in solving such problems, providing the materials are concrete, that's why this stage is referred to as concrete operational stage.

d) Formal Operations

Formal operations are the capacity for reasoning apart from concrete situations. It is abstract reasoning. Usually the child age 11 or older begins to engage in this type of thinking, although at less sophisticated level than that of most adults. Probably the most important feature of formal operations is that reality is seen as just one aspect of what might be. The adolescent generates hypotheses and tests them to find which one seems most valid, reasoning entirely in abstract terms. As formal operations develop, the adolescent moves beyond conventional standards of morality toward the construction of her own moral principles.

Jean Piaget focused on the cognitive development of the child. In this model the child follows a continuous pattern of behavior of adapting and responding to the various stimuli in the environment. Piaget describes this behavior as a schema, a pattern or loop of behavior; stimulus-response-awareness. The development of the child's cognitive abilities is categorized in four stages:

a) Sensorimotor Stage

From birth to 18 and 24 months of age, according to Piaget, young children are concerned not with thinking about things but rather with experiencing them. Piaget called this intelligence "practical intelligence." Specifically, he called this stage of cognitive development the sensorimotor period because the child merely senses things and acts upon them. Apparently at this age, an object ceases to exist when one is not looking at it, handling it, or otherwise acting upon it, thus there is no representational ability or object permanence. Once an infant begins to show understanding of the object as a permanent, independent entity the end of the sensorimotor period is marked. This step is enormously important because it permits children to represent to themselves objects not immediately present. They need not act on something in order for it to exist in their minds. Children can carry images of rattles, balls, and other things in their heads, which is perhaps the beginning of thinking.

Sensorimotor stage (birth through 18-24 months)

The senses receive a stimulus and the body reacts to it in a stereotyped way.

Object permanency develops during the second year. The child is able to maintain a mental image of the object. The child will look for a toy where it disappeared.

b. Preoperational thought- prelogical (2-6 years)

Symbolic functions develop

Language development changes the child's ability to interact.

Egocentric thinking (i.e., the perception that everything revolves around them) occurs. Minimal objectivity is involved

Magical thinking, in which reality and fantasy are interwoven to explain the world around them, arises. Unable to use a logical process to explain how and why they know.

Moral thought occurs, which is based in something being good or bad.

Concrete operations (7-11 years)

Here, a rational and logical thought process is used.

A more conceptual framework is applied to the world.

An ability to understand someone else's point of view develops

The concept of conservation. The child is able to understand the combination of two variables (e.g., height and width). An example of a beaker experiment is often used: water is placed in two identical beakers (A and B), then water from beaker B is transferred into a taller, narrower beaker C. The child is asked if the amount of water in beakers A and C is the same even though the level in the beakers is different.

d. Formal operations (12 + years)

During this stage, abstract thinking, deductive reasoning, and conceptual thinking develop.

Abstract thinking is the ability to manipulate ideas and theoretical constructs.

Deductive reasoning is the ability to go from the general to the particular.

Conceptual thinking is the ability to define concepts or ideas

Erik Ericson

Human development, according to Erikson, occurs in eight stages. These are called psychosocial stages because many aspects of psychological and social functioning are interrelated and show consistent changes at certain times in the life cycle. At each stage the focus is on a specific crisis in our relationships with other people.

Ages	Stages	Conflicts to be Resolved / Met
Infancy	Basic Trust vs. Mistrust	Infants express basic needs and the degree to which the caretaker is sensitive to these signals is most important in establishing the child's trust in others.
Early childhood	Autonomy vs. Doubt	The child needs guidance, and the caretaker's decisions about how much freedom to allow are very important. The appropriate middle position, respecting the child's needs and environmental factors, requires the caretaker's careful and constant attention.
Play age	Initiative vs. Guilt	A time when the child's willingness to try new things is facilitated or inhibited.
Latency	Industry vs. Inferiority	The aim is to develop a feeling of competence, rather than inability, and this outcome is shaped by the interplay of inherited and environmental factors.
Adolescence	Identity vs. Role Confusion	The adolescent develops a sense of self or becomes unable to gain a personal focus. Particularly in a highly specialized society, where the choices are complex and the opportunities sometimes infrequent, this crisis/conflict can be difficult.
Young Adulthood	Intimacy vs. Isolation	If this conflict is adequately resolved, then the adult feels the support of someone else, rather than feeling isolated. But a commitment to someone else requires abandoning one's own goals to some degree, something that is not readily undertaken.
Adulthood	Generativity vs. Stagnation	This crisis requires expanding one's interests beyond oneself to include the next generation. The positive solution is manifested in working, teaching, and caring for the young, in the products and ideas of the culture, and in a more general "belief in the species."
Maturity	Ego Integrity vs. Despair	The crisis in which a person finds meaning in memories or instead looks back on life with dissatisfaction. Emotional integration is the acceptance of one's life as own's own responsibility. It is based not so much on what has happened as on how one feels about it.

Chapter 6

Psychological Defense Mechanisms

Frustration and Conflict as a Reason for Psychological Defense

When someone is prevented from satisfying a desire or achieving a goal, we say that frustration has occurred, a typical experience for all of us. In frustration some barrier is present, and it restricts the individual's action.

Weakness, lack of skill, and low intelligence are internal barriers, for they exist within the individual and can block goals. All external barriers lie outside the individual, and some are nonsocial, such as the weather, terrain, and time of day. Others are social, such as parents who force a child to remain in a certain place or to forego dessert. In all cases the barrier leads to a state of unsatisfied motives. The process of dealing with the barrier and seeking readjustment has been described as a coping sequence. The motivated individual (1) pursues a course of action and (2) encounters a barrier that prevents further progress. In all likelihood, the person (3) engages in exploratory behavior and perhaps (4) discovers that a particular response is sufficient to overcome the obstacle. In this case, the person (5) reaches the goal and is temporarily adjusted again. If the barrier cannot be overcome, the person (6) makes some other, less effective adjustment reaction, such as withdrawing from the situation, pursuing a substitute goal, or retreating into a world of his or her own creation, in which no barriers are encountered.

Types of Conflict

Often, the situation is more complex. There may be two or more goals to be considered. There can be a conflict, which occurs when one motive is opposed by another rather than by a barrier.

In one sense all conflict involves frustration, since one motive serves as a barrier to another.

There are several kinds of conflict, and in one form, called the approach-approach conflict, two equally attractive alternatives are incompatible. If one alternative is selected, the other must be relinquished, as in choosing between two hospitals, two or more colleges, and so forth. When two or more alternatives are equally repellent, there is an avoidance-avoidance conflict. A student must sell her car or leave college; a man must have preventive surgery or run the risk of later illness. The approach-avoidance conflict exists when there is a single possibility having a positive and a negative aspect. A child starts to pat a dog but is afraid and pulls back his hand. A person picks up the telephone and dials a number, but fearing the other person's response, she puts the receiver back on the hook. Here we speak of ambivalence, meaning that the individual has positive and negative feelings about the same event.

Overview of Psychological Defense Mechanisms

Immature Defense Mechanisms	Mature Defense Mechanisms
Repression, Denial, Regression, Acting out, Projection, Splitting, Reaction formation, Conversion, Displacement, Intellectualization, Dissociation, Isolation of Affects, Introjections, Undoing, Compensation, Identification, Identification with aggressor	Altruism, Humor, Suppression, Anticipation, Sublimation, Rationalization

Mechanisms of Defensive Behavior – Levels of the Mind

When you are aware of your thoughts, activities, and the world around you, your mind is operating on the **conscious** level. But beneath this conscious level, other states of awareness exist.

What did you do on your last birthday? With just a little thought, you can probably recall how you celebrated. Memories, which you are not consciously aware of but which can be tapped when necessary, are stored in the **preconscious** level of the mind. Now try to remember how you celebrated each birthday for the last ten years. This is impossible for most people to remember.

Yet if you were hypnotized, you could relate EVERY detail of EVERY birthday you ever had. Events and feelings in life are never really forgotten. They are stored deep within the **unconscious** mind. Like a tape recorder, your mind records every event in the slightest detail. It also records the emotions you felt during each event. These records form impressions, which are fixed in your unconscious mind. At a later time, certain events can unlock the unconscious mind and replay these impressions. Often a certain smell of food or sound by brings back hidden memories.

A more dramatic example of this is when people have a sudden, close brush with death. They often report seeing their entire lives flash before them in seconds like a high speed film. Your unconscious mind also serves as the center for your values and conscience. Whenever you want to do something that conflict with your conscience or values, you may feel anxious or guilty.

The Nature of Defense Mechanisms

Immature mechanisms	Description	Immature mechanisms	Description
Repression	Banishes anxiety-rousing thoughts and feelings from consciousness by repressing them into unconscious which may seep	9. Splitting	A tendency to view all events, people or objects in two incompatible extremities. Bad or good,

	our in dreams and slips of tongue		black or white. Helps to release anxiety from accepting or denying something, by inventing reasonable explanation.
Regression	Retreating to an earlier more infantile stage of development. Thumb sucking when stressed.	10. Conversion	Somatic expression of repressed unacceptable thoughts which cause illnesses (conversion blindness, or paralysis)
Reaction formation	Ego unconsciously switches unacceptable impulses into their opposites. I hate him-I love him	11. Dissociation 12. Isolation of affects	Is a deprivation of a unbearable emotion from conscious, thus isolation from pain it may cause. Health professionals often dissociate from their thoughts and isolate their feelings that occur when treating patients. Opposite to projection.
Projection	Disguises threatening impulses by attributing them to others. The thief things everyone else is a thief	13. Introjection	Unconscious. Incorporation of one's values, thoughts, and refereeing to them as to own.
Intellectualization	Offers self-justifying explanations in place of the real, more threatening, unconscious reasons for one's actions. Habitual drinkers may say they drink just to be sociable.	14. Undoing	Mental defeating of the thoughts or actions, which were actually performed.
Displacement	Shifts sexual or aggressive impulses toward a more acceptable or less threatening object or person, as when redirecting anger toward a safer outlet.	15. Compensation	Undertaking of actions which will reduce the tension from undone socially unacceptable (sexual or aggressive needs)
Identification	Incorporating one's values into their own in order to avoid anxiety from aggressive and unacceptable thoughts and feelings. Boys identify with their fathers to overcome envy, guilt, and be loved by mother. Pretending and displaying opposite behaviors, which disguises real hurting feelings.		
Acting out	(hysterical laugh)		

We all encounter stressful events. Often these events produce feelings of guilt, fear, and insecurity. When this happens, we usually try to act as quickly as possible to relieve our discomfort. When we function at the conscious level of the mind, we can recognize the causes for our discomfort and deal with them directly. Often, however, the unconscious mind shortcuts conscious reason and effort. Instead it uses a behavior trick called a **defense mechanism**.

Have you ever been disappointed because you were not invited to a party? Did you convince yourself "I didn't really want to go anyway"? If so, you used a common mental mechanism called **rationalization**. Something you can't have becomes something you don't want.

Different defense mechanisms work in different ways. But all are mental mechanisms that operate without our conscious control. They protect us against uncomfortable feelings of anxiety. They do not ease anxiety by dealing directly with the real problem. For this reason, all defense mechanisms involve self-deception to some degree. They distort the way we see and think about a particular event. However, the situation itself remains unchanged.

Like defending themselves against physical pain, people protect themselves, albeit unconsciously, from emotional pain. The techniques they use to do this, which Freud called defense mechanisms, work by keeping conflict out of the conscious mind. This protection serves to decrease anxiety and thereby helps to maintain a sense of safety, equilibrium, and self-esteem.

Immature Defense Mechanisms

Repression (Unintentional Forgetting)

"Sorry, Doctor, I forgot my appointment." Person had always been proud of his excellent memory. However, he has forgotten two of his last four dental appointments despite sincere efforts to remember them. Was he losing his memory? Actually, he was using **repression**. He was afraid of the grinding and drilling. Unintentional forgetting became a means of blocking out the unpleasant experience. With repression, the reality of a situation is rejected, but only briefly. Reality is soon recalled either in conscious thought or in dreams.

Sometimes we make plans to do something and then forget to do it. Perhaps we forgot to do the task because it is associated with unpleasant feelings. This is an example of repression.

Another example of repression is temporary amnesia secondary to trauma.

Repression is the most basic defense mechanism; the other defense mechanisms are used only when repression fails. Repression is closely related to the defense mechanism of denial, and both are commonly used by medical patients. In repression, a patient unconsciously refuses to believe an aspect of external reality. For example, using repression, a cocaine abuser does not feel bad about the addiction because he fails to remember, or admit to himself, that the length of his drug use spans years rather than months. Using denial, he believes (although there is evidence to the contrary) that he can stop using the drug at any time.

Denial (Rejecting Reality)

Denial is non recognition of reality. Denial is used in many different situations. People constantly fail to recognize, when they are angry or they may also use denial, to a lesser degree. People who are dependent on alcohol or other drugs often use denial. The **refusal to admit** they have problems and will not seek help is a form of denial. Another example is non recognition of serious medical conditions and not seeking medical intervention. . In **denial**, a patient unconsciously refuses to admit to being ill or to acknowledge the severity of the illness. Use of this defense mechanism can be helpful initially because it can protect the individual from the physical and emotional consequences of intense fear. However, denial can be destructive in the long term if it hinders the patient from seeking treatment. For example, if a patient in the initial stages of a myocardial infarction attributes his severe chest pain to a minor problem like indigestion, his physiological fear responses (e.g., increased heart rate and blood pressure) will be attenuated. However, if he persists in this denial and fails to seek treatment, the patient can die. There is another type of denial related to non acceptance of the death of the loved one. In this case denial is a defense and a stage of resolution of bereavement.

Regression- In regression, the ill patient reverts to a more childlike pattern of behavior that may involve a desire for more attention and time from the physician. This response can make it more difficult for the physician to interact with and treat the patient effectively.

Acting Out- Acting out refers to avoiding personally unacceptable emotions by behaving in an attention-getting, often socially inappropriate manner. It is more commonly seen in teenagers and can result in academic and social dysfunctions. A 14-year-old boy with no history of disruptive behavior who begins to talk back to the teacher and fails classes when his parents divorce may be acting out his depressed and anxious emotions over his parents' break-up. For example, transference, or the patient's strong emotional attachment for the analyst, is a symbolic acting-out of his earlier Oedipal attachment for the parent (J.P.Chaplin, Dictionary of Psychology, 1926). A teenage with a terminally ill sibling begins to do badly at school and argues with her parents at home is a clinical example for acting out. Acting out is carrying into action repressed impulses, which are brought to a conscious level in the course of analysis. Often the manifest behavior is symbolic of an earlier behavior pattern.

Projection

C. was not doing well in school. During her final English test, she felt a strong desire to cheat. Her conscience however, wouldn't let her. Suddenly she began glancing around the room at the other students. After the exam she told another classmate, "Over half the class cheated."

C. used **projection**. Often people cannot accept certain faults or feelings in themselves. Unconsciously they may shift these personal traits to others. Then they see themselves in a more favorable way. In A's case, she couldn't admit to herself that she had a desire to cheat. So she relieved her guilt feelings by projecting this desire onto her classmates. Projection is a common defense mechanism. For example, individuals who do not like people in general may shift this trait to others and believe that "nobody likes me".

Sometimes parents are projecting their unaccepted feelings and shifting them to their children.

Example: mother who brought her 12 year old son to see a psychologist because he has a fear of darkness. After first session it was clear that mother is projecting her fear to son.

Use of the projection defense mechanism (attributing one's own personally unacceptable feelings to others) can be associated with the psychopathology such as paranoia or even with common prejudice. The man with

unconscious homosexual impulses who begins to believe, erroneously, that his male boss is making sexual advances toward him is using projection to protect himself from recognizing his own personally unacceptable homosexual feelings.

Splitting-Categorizing people or situations into categories of either "fabulous" or "dreadful" because of intolerance of uncertainty. Seen in patients with borderline personality disorder. patient tells the doctor that while all of the doctors in the group practice are wonderful, all of the nurses and office help are unfriendly and curt

Reaction Formation- When a person purposely behaves in a friendly fashion toward someone he doesn't like, we call it hypocrisy. If done unconsciously because disliking that individual is personally unacceptable, it is an example of the defense mechanism of reaction formation. A woman who spends excessively on expensive gifts and clothing for her children because she is unconsciously resentful of the responsibilities of childrearing is using reaction formation. In other words, reaction formation is a denying unacceptable feelings and adopting opposite attitudes. For a clinical example we can take a man who is unconsciously attracted to a coworker frequently picks fights with her. Reaction formation is a development of a personality trait which is the opposite of the original, unconscious, or repressed trait. Thus, an attractive young woman might show unusual solicitude for a crippled father for whom she must care when her real feelings express the unconscious wish that he would die so that she would be free.

Conversion-psychic derivatives are converted into bodily symptoms. Feelings are manifest as physical symptoms rather than psychological distress. Examples are getting a headache while taking an exam, feeling queasy before asking someone out on date. Extreme forms of conversion/somatization are diagnosed as somatoform disorders (DSM-IV)

Displacement (Transferring Feelings)

A person may transfer angry feelings from somebody (boyfriend or girlfriend) to his mother.

K.'s mother became the victim of this displacement of aggression. K. angrily slammed down the telephone receiver. A girl friend had called to tell her that she had seen her steady boyfriend with another girl. Minutes later, her mother asked, "Why are you so quiet tonight?" and she shouted, "Why can't you ever leave me alone? You are always picking on me." Then she stormed into her bedroom and slammed the door. What was the real reason for her behavior?

She used displacement.

Did you ever meet a stranger you instantly disliked without knowing why? It may be that this stranger unconsciously reminded you of someone else whom you didn't like. In this instance your feelings were transferred from that person to your new acquaintance.

Intellectualization- Intellectualization involves using cognition to avoid negative emotions. The pilot of a doomed flight who explains the technical details of engine failure to the passengers is using this defense mechanism. Using the mind's higher functions to avoid experiencing uncomfortable emotions is an example for intellectualization. For a clinical example we can take a physician who has received a diagnosis of pancreatic cancer excessively discusses the statistics of the illness with his colleagues and family. Intellectualization is the analysis of a problem in purely intellectual terms, primarily as a defense mechanism. In intellectualization, feelings and emotions are ignored.

Dissociation-Mentally separating part of one's consciousness from real life events or mentally distancing oneself from others. A teenager has no memory of a car accident in which he was driving and his girlfriend was killed.

Isolation of Affects- Failing to experience the feelings associated with a stressful life event, although logically understanding the significance of the event. Without showing any emotion, a woman tells her family the results of tests which indicate that her lung cancer has metastasized.

Undoing- Believing that one can magically reverse past events caused by "incorrect" behavior by now adopting "correct" behavior. A woman who is terminally ill with AIDS caused by drug abuse, stops using drugs and alcohol and starts an exercise and healthful diet program.

Compensation

D. loved to swim, jog, play paddleball, and ski. His goal was to be good at every sport. One day D. went swimming in an unfamiliar lake. He ran to the water's edge and quickly dived in, before testing water depth. Tragically, he dived into shallow water. The accident left him paralyzed in both legs. At first he was angry and miserable. He felt he could never be good at anything again. However, his parents bought him a guitar. He soon discovered an interest in music. With practice, he became a very good guitar player.

D. used **compensation**. When one goal cannot be reached, we turn our energies and drives toward another goal. Compensation can be a valuable device when used this way.

Compensation can also have a negative side. E. felt that **he** was unattractive and would never be popular with girls. So, to attract female attention, he became the class clown. He often disrupted classes by cracking jokes and showing off. E used attention getting to compensate for his insecurity with girls. However, his actions did not make him any more popular. Instead, he was placed on probation in school.

Idealization and Identification (Feeling Connected with Others) Introjection

In the process of identification you seek to connect yourself with others. You may adopt their feelings, attitudes, behavior or other personality traits. Children often use their parents as role models after whom they can pattern themselves. -features of external world or persons are taken in and made part of the self. Introjection is the opposite of projection. A resident dresses and acts like the attending physician

However, if identification is carried to extremes, it can prevent you from fully developing your own personality.

L. was tennis crazy. Her idol was the number-one player in the country. L. never missed a chance to see her idol play. She spent hours imitating her heroine. She talked, walked, and dressed like her. L. identified so closely with her idol that in her unconscious mind she *must* the great **player**.

For example, one explanation for the tendency of some abused children to grow into abusers is that person has unconsciously patterned himself after a powerful figure from his past using the defense mechanism of identification (in this case identification with the aggressor). Although that example shows a negative outcome, identification can have a positive outcome if the individual uses a supportive, loving figure from the past as a model for his own behavior.

There is a lot of truth in the saying "Misery loves company." This is another example of how identification is used. When you suffer an emotional shock, you may find it comforting to identify with someone who has had the same experience. This makes you feel that you are not alone. Identification can bring families and relatives closer together in times of grief.

Closely related to identification is the defense mechanism called **idealization**.

When you use idealization, you misjudge the abilities and attributes of others. You see people you love, admire, or respect as people who are without fault. So, you expect too much from them. When they can't measure up to your ideal, what happens? You lose respect for them. Sometimes idealization is directed at oneself. You become blind to your own faults and shortcomings. This can prevent you from recognizing your mistakes and correcting them.

Daydreaming (Fantasy)

What do you like to daydream about? Both daydreams and night dreams are expressions of our unconscious minds. In a daydream your unconscious mind creates a world as you would like it to be, not as it is. *Daydreaming* can ease the frustrations you feel when goals and desires are blocked. But waking from a dream can be more distressing when you realize that you still have not reached your goal and success is not real.

G. wished that he was better at sports. In his daydreams, he saw himself scoring the winning touchdown against the rival school. He was lifted to the shoulders of his teammates and carried off the field as everyone cheered. G., however, did not really apply himself during practice. So, he seldom made it off the bench during a game.

Daydreaming kept G. from working toward his goal. But fantasy can be helpful at times. It can be fun to dream about the future and the possibility of success. Dreams can serve as goals to strive for. Daydreams become harmful only if they are used constantly to escape reality and if they block real accomplishment.

Mature Defense Mechanisms

Mature mechanisms	Description	Mature mechanisms	Description
1. Altruism	Total unconditioned love toward others, desire to help and be of service to others.	4. Anticipation	Reducing anxiety by planning actions and predicting possible negative outcomes.
2. Humor	Expressing the unacceptable or repressed thoughts through socially acceptable jokes that lessen the subjective value of those thoughts.	5. Sublimation	Transformation of unacceptable urges into more socially forms of behavior, especially in creative activity, arts.
3. Suppression	Conscious avoidance of	6. Rationalization	Inventing logical or

	aversive events or minimizing of their negative influence by paying no attention to them.		rational reasons to justify unacceptable or embarrassing behavior or belittling a goal. Students fails an exam and says «it was not a really important subject»
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Altruism

Mature defense mechanisms may even have social benefits. When a man with low self-esteem donates time to visit patients in the hospital, he is using the defense mechanism of altruism to feel better about himself. Other mature defense mechanisms in addition to sublimation and altruism are humor and suppression.

Humor

Humor involves expressing personally uncomfortable feelings without causing emotional discomfort. For example, a patient who is uncomfortable about his erectile problems makes jokes about Viagra (sildenafil citrate). Using suppression, a defense mechanism that includes some aspects of consciousness, a person deliberately pushes anxiety-provoking or personally unacceptable emotions out of conscious awareness. For example, a prostate cancer patient who mentally changes the subject when his mind wanders to the possibility of relapse, yet seeks appropriate treatment for his illness, is using suppressions as a defense mechanism.

Suppression

Suppression is a defense mechanism that includes some aspects of consciousness. When a person deliberately pushes anxiety-provoking or personally unacceptable emotions out of conscious awareness. For example, a prostate cancer patient who mentally changes the subject when his mind wanders to the possibility of relapse, yet seeks appropriate treatment for his illness, is using suppression as a defense mechanism. In other words, suppression is consciously putting aside but not repressing unwanted feelings. Suppression is a stoppage of any neurological or physiological activity, voluntary inhibition of activities on the part of individual, a conscious inhibition of impulses or idea which are incompatible with the individual's evaluation of himself according to his ego ideal.

Anticipation

The individual deals with emotional conflict or internal or external stressors by experiencing emotional reactions in advance of, or anticipating consequences of, possible future events and considering realistic, alternative responses or solutions.

Sublimation

Redirecting natural energy to socially acceptable behavior is called **sublimation**. Engaging in sports is one of the ways of redirecting his aggressive energy. Other people may choose different outlets for their feelings: such as art or public service.

Example: All his life B. remembered feeling hostile toward other people. "You must have been born with a chip on your shoulder," his mother told him. At school he constantly picked fights. No one really liked him.

Finally, a helpful teacher persuaded B. to try out for football. He made the team and became an outstanding tackle. He no longer felt the need to pick fights. He also found other rewards. His family was proud of him and he enjoyed the admiration of his classmates.

Rationalization (Making Excuses)

"Oh well, A. is a brain. We can't all be that smart. Anyway, I would rather be popular," said B.

To justify his low grade, B used rationalization. Rationalization does not mean "rational" behavior. It is an effort to avoid a loss of self-esteem or prevent guilt feelings. When you use this defense mechanism, you make excuses for your behavior. In your own mind your actions make sense and seem right.

Rationalization, intellectualization, and isolation of affect (125)

Educated and uneducated people use defense mechanisms to avoid negative emotions. However, educated people tend to use defense mechanisms that employ the mind's higher functions. These mechanisms include rationalization, intellectualization, and isolation of affect. In rationalization, an individual unconsciously distorts his or her perception of an event so that its negative outcome seems reasonable. A blind person who believes that he now has supernormal hearing is using this defense mechanism. The pilot of a doomed flight who explains the technical details of the engine failure to his passengers is using this defense mechanism. Using

isolation of affect, an individual does not consciously experience any emotion when thinking about or describing an emotional event. The person who expresses no emotion when talking about the loss of a loved one has isolated his emotions from the sad event.

As a final remark, it should be stated that there are other types of different mechanisms such as neurotic and narcissistic, but in a wider context, they are associated with other co-morbid features or pathologies. Further research is still required in these respective areas to differentiate neurotic and narcissistic defense strategies.

Chapter 7 - Psychosomatic Correlations

The Psychosomatic Approach

Psychosomatic disorders reside in a borderland territory between psychoanalysis and physical medicine. Up to the 18th and early 19th centuries, psychological factors such as loss of wealth, the death of a loved one, or disappointment in love were quite naturally accepted by physicians as playing an important part in the causation of disease. But later in the 19th century the growing knowledge of pathology and the introduction of new methods in microscopy led the German pathologist Rudolf Virchow and others to assume that all diseases were organic, that is to say unless demonstrable cell changes could be discovered under the microscope, no disease could be said to exist.

This belief had the effect in psychiatry of distracting attention from psychological factors and concentrating mainly upon physical ones. This approach seemed to be fully justified when a number of mental disorders of organic cause were actually found (e.g., the discovery that general paralysis of the insane is a form of syphilis of the nervous system).

By the beginning of this century, the work of Freud, Janet, and Kraepelin brought the concept of psychologically-produced disorders once more to the attention of psychiatrists, although it is only in comparatively recent years that people have come to realize that organic diseases as well as mental ones may be psychological in origin.

George Groddeck

The first analyst to interest himself in the psychological aspects of organic disease was George Groddeck (1866-1934) of Baden-Baden, who in *The Book of the It*, *The World of Man*, and *The Unknown Self*, propounded a somewhat bizarre and largely intuitive theory based upon his experiences in analyzing cases of heart disease, nephritis, cancer, and other serious organic illnesses. The individual, according to this theory does not live his own life and has little to do with his fate. He is, in fact, lived by the It, which seems to be conceived as a compound of the Freudian Id with the wisdom of the Jungian collective unconscious. It was the It which decided when the individual would be born, and it also decides when he will die, whether or not he will succeed, and when and how he becomes ill. Every disease, from a wart to a cancer, is an expression of the omnipresent and omnipotent It. For example, a woman with a small wart on the inner aspect of her thigh was told by Groddeck that she wished to become a man and had therefore produced (or, rather, her It had produced) a miniature penis.

It is easy to dismiss Groddeck's account of the manifestations of the It as totally absurd, and obviously it would be wrong to suppose that all disease can be so simply explained. But in holding his views, Groddeck was much nearer to the truth than the other extreme, those of the wholly mechanistic physicians of his time. It is not very enlightening to be told that the It produces disease, if we do not know firstly what the It really is, and how It produces its effects.

Origin of Psychosomatic Diseases

In order to understand the genesis of psychosomatic diseases, it is necessary to explain the anatomy and physiology of the nervous system. As has already been noted, there are various levels in the nervous system ranging from the highest and most conscious, to the unconscious and more or less automatic centers where postural adjustments are made, balance maintained, and movements coordinated. But, in addition to the central nervous system, comprising the brain and spinal cord with the sensory and motor nerves which pass to and from the cord, there is a more primitive one known as the autonomic nervous system, which takes the form of two thin nerve-chains with ganglia or knots of nerve-cells at intervals lying on either side of the spine at the back of the abdomen, pelvis, and chest. The solar plexus in the upper abdomen is one of these ganglia, and just as the nerves of the central nervous system going to the skin and voluntary muscles are of two main types-motor (concerned with the movement), and sensory (concerned with sensation)- so the nerves of the autonomic nervous system supply the internal organs and are divided into parasympathic and sympathetic groups. The controlling center of the autonomic nervous system lies in the base of the brain in an area known as the hypothalamus. The system supplies the stomach, intestines, heart, blood-vessels, and other organs, including the important endocrine glands, and its importance lies in the fact that there is situated the physiological basis of emotion.

Alexander

Alexander compares the life of the organism with the life of a nation in which there are two extreme conditions: war and peace. War represents the state of affairs when the organism has to deal with an emergency, peace when it is in a state of rest and relaxation. In the organism, the emotional state of preparedness corresponds to war economy and relaxation to peace economy, as certain organ systems, which are needed in the emergency become stimulated while the others are inhibited. It is the sympathetic part of the autonomic nervous system which prepares for emergency or in biological terms for fight or flight, and when the sympathetic nerves are stimulated certain bodily changes occur:

the heart beats faster, the pupils dilate, gastric activity is inhibited, sugar is released from the liver, and so on. These activities are accompanied by the secretion of the hormone adrenalin from the suprarenal glands above the kidneys, which intensifies their effect. The dilated pupils, the pallor of the skin (due to constriction of the smaller blood-vessels), and the rapid pulse are the observable external signs of such emergency responses in fear or anger, which serve the function of making activity (fight or flight) more effective. When, on the other hand, the organism is at rest—for example, after a large meal or after sexual intercourse or sleep—the reverse changes occur as result of parasympathetic stimulation: the heart beats slowly, the stomach proceeds to digest its contents, the skin is flushed, the pupils contracted, and sugar is stored in the liver. Sympathetic activity therefore is a breaking down (katabolic) process, while parasympathetic activity is a building-up (anabolic) process.

Alexander points out, there are two extreme types of individual: those who in the face of emergency tend to respond by activity (i.e. by sympathetic stimulation), and those who in a similar situation respond by what is described as vegetative retreat (i.e. parasympathetic stimulation). In the former condition the neurotic inhibits his aggressive impulses, and hence is likely to develop such psychosomatic illnesses as high blood pressure, diabetes, rheumatoid arthritis, and exophthalmic goitre. In essential hypertension the increased blood pressure is chronically sustained under the influence of pent-up and never fully relieved emotions, just as would happen temporarily under the influence of freely expressed rage in normal persons. Emotional influences upon the regulatory mechanisms of carbohydrate metabolism probably play a significant role in diabetes mellitus. Chronically increased muscle tension brought about by sustained aggressive impulses appears to be a pathogenic factor in rheumatoid arthritis. The influence of this type of emotion upon endocrine functions can be observed in thyrotoxicosis (i.e. toxic goitre). Vascular responses to emotional tensions play an important role in certain forms of headaches. In all these examples, certain phases of the vegetative preparation for concentrated action are chronically sustained because the underlying motivating forces are neurotically inhibited and are not released in appropriate action. In the second state, that of parasympathetic stimulation, the individual withdraws from action in the face of emergency into a dependent condition, and his organs return to a peace time basis when they should be mobilizing. Prolonged parasympathetic overstimulation leads to such disorders as dyspepsia, duodenal ulcer, chronic diarrhea, colitis, and constipation.

Marbe

More than twenty years ago, K. Marbe, a German Psychologist, observed that the person who has already had one accident is more likely to have another than the person who has never had one at all, and Theodor Reik, in *The Unknown Murderer*, has pointed out the frequency with which the criminal betrays himself and even brings about his own self-punishment by a purposive accident.

Dr. J. L. Halliday of Glasgow, combining Freudian theory with his experience in Public Health, published his *Psychological Medicine* in 1948. This is a highly significant piece of research which, whether we agree in detail with his thesis or not, indicates a relatively new direction in the field of psychological medicine. Basically Halliday is concerned with the problem of psychological and psychosomatic disease as a community phenomenon and in order to illustrate this point he produces medical statistics which are believed to demonstrate certain interesting trends in the health of Britain during the years 1900-39. There can, of course, be no question that the nation's health has greatly improved throughout these years, but if the indices of ill-health are divided into two groups, the one relating to physical ill-health and the other to psychological ill-health, it will be found that, whereas the former conditions show a dramatic decrease, the latter have tended to increase in an equally striking manner. Thus the general death rate, the infant mortality rate, the proportion of stunted and rickety children, and the incidence of typhoid fever, rheumatic fever, diphtheria, and tuberculosis, have gone sharply down. But on the other hand indices of mental ill-health the infertility rate, the suicide rate, the gastric and peptic ulcer rate, the exophthalmic goiter, diabetes, and cardiovascular diseases rates—disorders which come into the “psychosomatic” category—have all gone up.

Wilhelm Reich

Wilhelm Reich, originally an orthodox Freudian, was interested in the influence of social factors—particularly in the political field—on character formation. His later biological formulations are regarded by most authorities as bizarre in the extreme, but his earlier work on body tensions expressed in the book *Character Analysis* exerted considerable influence on analytic practice at the time. Reich put forward the interesting theory that body tensions were a frequent mode of expressing habitual emotional states. Certain postures and expressions (e.g. a drooping mouth, a rigid abdomen, grimaces, typical stance, and so on) were stated to be the outward signs of characteristic ways of reacting. He believed that these and other character resistances should be attacked prior to the actual analytic procedure and broken down by attacked prior to the actual analytic procedure and broken down by repeatedly calling attention to them and to the emotional tensions producing them in all possible situations. This was described as “education for analysis”. Reich denied the existence of a Death instinct and believed that sadism and masochism, seen by Freud as combinations of Eros and Thanatos, were the result of “disastrous social conditions”.

Reich made the two important points (1) that character disorders are a specific form of neurosis even although they may be unaccompanied by “symptoms” in the formal sense and are often more troublesome to the individual's associates than to himself, (2) that all neuroses have their root in character, that is in the adjustments which the ego has made to the instincts as well as to the external world. His method of pointing out to a patient his characteristic

attitudes towards others has proved effective with difficult character problems and was made use of and further developed by Horney and Sullivan.

There are two main categories of psychosomatic disorders: those in which unconscious instinctual attitudes influence organic functions in a psychological way without the changes having any specific psychic meaning, and the conversions of hysteria which express a phantasy in "body language" without any structural change being present.

Now the psychoanalyst does not regard the disease and the mental state as separately coexisting, for to him they are both aspects of the same thing, the biologically-conceived individual, but to the ultra-conservative physician whose conception of "psychological factors" is a state of affairs found in the odd case which obviously retards progress by causing worry in a significant degree it is difficult to understand how an immaterial mind floating about somewhere in the region of the cranium can really affect the human machine with serious chronic diseases which in many cases have been shown to be due to previously unrecognized physical maladjustments. Lack of exercise and over-consumption of cholesterol-containing foods, he will point out, are correlated with a high incidence of coronary thrombosis, so it seems much more satisfactory to assume that the frequency with which it appears in top business executives is due to their sybaritic way of life and physical laziness rather than to their prolonged mental stress. But even a fairly broad-minded physician might draw the line on being told that an asthma attack is "an anxiety equivalent, a cry for help, directed towards the mother, whom the patient tries to introject by respiration in order to be permanently protected" as Fenichel defines it. Statistics in such cases are on the whole not very satisfying and in the above example, for instance, we should like to know how the asthmatics came to see a psychoanalyst in the first place if it were not that they were more concerned about their mental condition than their asthmatic one or that they were referred by physicians who considered their condition not typical of the general run of sufferers. Flanders Dunbar showed by comparing the past history of accident cases in a casualty ward with the accident history of patients in a ward of chronic or serious heart cases which acted as a control series and demonstrated the much greater incidence of accidents in the former group, that people with long and serious illnesses of any type are hardly likely to be in a position to have many accidents. Even on the thesis that accidents are produced by inwardly-directed aggression; the account given will not do; for chronic disease in itself is sufficient punishment for even the most guilt-ridden, and indeed the placidity and comparative cheerfulness of such patients has been attributed to the fact that guilt has been assuaged by suffering. Accidents are not only physically less likely but psychologically unnecessary. Similarly it is possible to agree with Dr Halliday's psychosocial thesis as being a very feasible attempt to explain social trends everyone has noticed without at the same time failing to see that his figures need to be taken with a grain of salt. To begin with, they are presumably based on statistics gathered from that most fallible of sources, the doctor's certificate. This is not a reflection on the ability of the G.P. to diagnose, but rather on his attitude towards certificates and what he regards as his duty to his patients.

The fact is that the concept of psychosomatic disease or organ neurosis did not arise initially because psychoanalysts began to take an interest in organic disease but because, as Freud realized it was inherent in his monistic and biological outlook. Equally, the concept was not accepted from this source by physicians in general because it was not inherent in their dualistic and basically mechanistic one. But a further reason for their non-acceptance was the psychoanalyst's adherence to a jargon which was all but incomprehensible even to those with some smattering of knowledge of Freudian theory.

Psychosomatic medicine is a subspecialty of medical psychology and psychotherapy. It addresses psychological factors on somatic diseases. The term "psychosomatic disorder" refers to physical conditions caused or aggravated by psychological factors. Although most physical disorders are influenced by stress, conflict, or generalized anxiety, some disorders are more affected than others. In DSM-IV, psychosomatic disorders are subsumed under the classification of psychological factors affecting medical condition.

Theories of Etiology

Specificity Theory

This theory postulates specific stresses or personality types for psychosomatic disease and is typified by the work of the following investigators;

Flanders Dunbar- described personality traits that are specific for a psychosomatic disorder, type A personality hard-driving, aggressive, irritable, and susceptible to heart disease.

Franz Alexander- described unconscious conflicts that produce anxiety, are mediated through the autonomic nervous system, and result in a specific disorder, e.g., repressed dependency needs result in peptic ulcer.

Nonspecific theory. This theory states that any prolonged stress can cause physiological changes that result in a physical disorder. Each person has a shock organ that is genetically vulnerable to stress; some patients are cardiac reactors, others are skin reactors. Persons who are chronically anxious or depressed are more vulnerable to physical or psychosomatic disease.

Pathophysiology. Hans Selye described the general adaptation syndrome (GAS), which is the sum of all nonspecific systemic reactions of the body that follow prolonged stress. The hypothalamic-pituitary-adrenal axis is affected with excess secretion of cortisol, producing structural damage to various organ systems.

George Engel postulated that in the stressed state, all neuroregulatory mechanisms undergo functional changes that depress the body's homeostatic mechanisms, leaving the body vulnerable to infection and other disorders.

Neurophysiologic pathways thought to mediate stress reactions include the cerebral cortex, limbic system, hypothalamus, adrenal medulla, and sympathetic and parasympathetic nervous systems. Neurotransmitters include such hormones as cortisol, thyroxine, and epinephrine.

Diagnosis. To meet the diagnostic criteria for psychological factors affecting a medical condition, the following two criteria must be met: (1) a medical condition is present, and (2) psychological factors adversely affect it, e.g., the initiation or exacerbation of the specific physical condition or disorder. The physical condition must show demonstrable organic pathology, e.g., rheumatoid headache.

Psychosomatic medicine

Physicians must be aware of the close association between the mind and body in all aspects of medical practice. Not only are stressed people more likely to become medically ill, but medical illnesses or their treatments can themselves lead to or exacerbate psychological symptoms. Thus, the psychological symptoms displayed by a patient can sometimes be the first indication of a serious medical illness.

Psychological factors that affect medical conditions

The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition-Text Revision (DSM-IV-TR) has identified several psychological factors likely to affect the course or treatment of an individual's medical condition. These factors include psychiatric illnesses, such as depression, and poor health behaviors, such as smoking. They also include stress-related physiological responses and maladaptive personality traits and coping styles.

Medical conditions associated with psychological symptoms

Certain patient populations are more likely to be psychologically stressed than others. These populations include hospitalized patients, especially surgical patients, and those who are being treated in the intensive care unit (ICU) or coronary care unit (CCU). Patients with AIDS, patients on renal dialysis, and patients who have chronic pain are also at high risk for psychological stress and symptoms.

Psychosomatic Reactions

Under prolonged stress the physiological processes usually continue and, with no return to normalcy, they may contribute to aches and pains, tissue damage, or organ malfunctions. These disorders are called **psychosomatic reactions**, for they involve the body, or *soma*, but they have arisen partly through psychological stress. Somatic disorders sometimes influenced by emotional factors include asthma, sinus problems, high blood pressure, adverse skin conditions, ulcers, and even the common cold.

Psychosomatic reactions are sometimes called psychophysiological reactions in resistance to the broad misperception that a psychosomatic problem is totally "in one's head." Psychological factors are presumed to play a significant causal role, but the problem nevertheless has a physiological outcome. The original label of psychosomatic was never intended to mean that there is no bodily problem.

The first clear evidence that ulcers in human beings can be influenced by emotional stress came from observations of a man whose stomach was partially exposed because of an accidental injury. It was then possible to observe the gastric activities directly and to collect samples of the stomach's contents. When the subject was under stress, he developed small hemorrhages in the stomach lining, and when he was subjected to further stress in the form of reproof, his stomach became red and turgid and the production of acid increased sharply. This sequence of events, beginning with anxiety and overactivity in the stomach and ending with hemorrhaging and perforation, seemed to illustrate the origin of peptic ulcers in human beings (Wold & Wolff, 1943).

The reasons why an individual develops one disorder rather than another are far from completely understood, but it is clear that people show different physiological patterns during stress. Some individuals experience sharp cardiovascular changes; others undergo severe muscle tensions. If the stress continues, heart problems are a likely outcome in the first instance; back problems and headaches, produced by sustained contraction of the neck and scalp muscles, seem likely in the second (Lacey, 1967; Bakal, 1975).

Unconscious Motivation

The early stages can have a lasting influence, Freud emphasized, because unresolved problems do not disappear. They only seem to disappear, being dismissed to the realm of the unconscious through repression. As we saw in earlier discussions, this outcome, called unconscious motivation, takes place in three steps. These include (1) an early conflict; (2) the process of repression, which is basically a mechanism of forgetting; and (3) the reappearance of the conflict later in some symbolic form, as it partly escapes the influence of repression. On this basis early conflicts can become important determinants of adult personality. This concept of unconscious motivation is the cornerstone of psychoanalysis and has been highly influential throughout psychology.

Symbolic Behavior

According to Freud, many behaviors reflect problems in one's earlier years, pushed into the unconscious and later reappearing in symbolic form. As described by Freud, mental life is like an iceberg. The most significant aspects lie below the surface, in the unconscious, which is generally inaccessible to the individual. But elements of unconscious life may appear in various disguises, including Freudian slips, dreams, defense mechanisms, disturbed behavior, and even our choice of occupation, hobbies, spouse, and other basic concerns in life. The oral character, for example, may be prone to excessive eating and drinking, sarcasm and arguing, or depression and pessimism when not receiving personal attention. Such behaviors may stem from unconscious efforts to work out unresolved oral problems. In the psychoanalytic view, this person may have a fixation, which means that psychological growth is temporarily or permanently arrested at this point.

The anal character is presumably linked to problems in the second psychosexual stage. This personality may be overly concerned about collecting and saving things, accumulating money until "rolling in it," or the person may go on binges, "letting it all go at once." More symbolically, the anal adult may be scrupulously clean, prompt, and precise or incurably sloppy and disobedient, chiefly in response to the earlier parental efforts at control of these behaviors.

The reader should not dwell on these stereotyped descriptions of personality, which many psychologists regard with skepticism. The important point is that, according to psychoanalysis, adult life brings a reenactment of earlier problems. In calling attention to the role of childhood experiences in adult behavior, Freud made a most significant contribution to the study of human personality development.

In summary, the child's emerging ego sometimes cannot manage the simultaneous demands of the pleasure-seeking id, forbidding superego, and a difficult environment. Depending upon the age of the child, the resulting conflict may involve oral, anal, or phallic concerns. When the ego manages this conflict through repression, the problem is temporarily resolved, but its symptoms may, reappear in later life. The adult may engage in certain activities or seek certain goals for reasons that he or she does not fully understand, a process called unconscious motivation.

Treatment

Supportative psychotherapy. Is great value, especially when therapists form therapeutic alliance with patient. The therapist allows patient to ventilate most fears of illness, especially death fantasies. Many patients have strong dependency needs, which are partially gratified in treatment.

Dynamic insight-oriented psychotherapy. Explore unconscious conflicts regarding sex and aggression. Anxiety associated with life stresses is examined and mature defenses are established.

Group therapy. Of use with patients who have similar physical conditions, e.g., patients with ulcerative colitis and irritable bowel syndrome and hemodialysis patients.

Behavior therapy. Behavior therapy, relaxation techniques, and biofeedback are useful when there is a strong autonomic nervous system component, e.g., asthma, allergies, hypertension.

Psychosomatic diseases are disorders of somatic sphere conditioned by reaction to stress. Psychosomatic diseases, which are called holy seven because the role of psychological factors in their origin is established.

They are:

- Essential hypertension (high blood pressure)
- Stomach ulcer
- Bronchial asthma
- Diabetes (Type II)
- Neurodermatitis (eczema, psoriasis)
- Rheumatic arthritis
- Ulcerous colitis

Disorder	Observations/Comments/ Theory
Asthma	Attacks precipitated by stress, respiratory infection, allergy. Examine family dynamics, especially when a child is the patient. Look for overprotectiveness and try to encourage appropriate independent activities. Propranolol and β -blockers contraindicated in asthma patients for anxiety. Psychological theories; strong dependency and separation anxiety; asthma wheeze is suppressed cry for love and protection.
Headaches	Tension headache results from contraction of strap muscles in the neck constricting blood flow, associated with anxiety, situational stress. Relaxation therapy, antianxiety medication useful. Migraine headaches are unilateral and can be triggered by stress, exercise, high tyramine foods. Manage with ergotamine (Cafergot). Propranolol prophylaxis can produce associated depression. Sumatriptan (Imitrex) can be used to treat nonhemiplegic and nonbasilar migraine attacks.

Hypertension	Acute stress produces catecholamine (epinephrine), raising systolic blood pressure. Chronic stress associated with essential hypertension. Look at lifestyle. Prescribe exercise, relaxation therapy, and biofeedback. Benzodiazepines of use in acute stress if blood pressure rises at shock organ. Psychological theories: inhabited rage, guilt over hostile impulses, need to gain approval from authority.
Metabolic and Endocrine Disorders	Thyrotoxicosis following sudden severe stress. Glycosuria in chronic fear and anxiety. Depression alters hormone metabolism, especially adrenocorticotrophic hormone (ACTH)

The main parameters of person's prone to essential hypertension are the tension between aggressive impulses and inner desire to dominate others and inability to express them. During stress such person represses his irritation and subdues his desire to address the offender resulting in a blood pressure elevation. People prone to stomach ulcer have interpersonal conflicts. Such people, due to special factors in their upbringing and in early childhood need to be defended and supported. During bronchial asthma there is ambivalence between desire to tenderness and fear of tenderness.

Psychological disorders during somatic illness develop as a reaction to the illness. Reaction to illness depends on:

- The treatment and the illness
- The nature of the therapeutic environment.
- The dynamics of the development of the illness
- Patient's ideation of the illness.
- Patient's personality
- Attitude of relatives and friends towards his illness

Examples of some psychosomatic co-relations

Conditions mimicking psychosomatic disorders

Diagnosis	Definition and example
Conversion disorder	There is an alteration of physical function that suggests a physical disorder but is an expression of psychological conflict, e.g., psychogenic aphonia. The symptoms are falsely neurologic- anatomic in description, are symbolic in nature, and allow much secondary gain.
Body dysmorphic disorder	Preoccupation with an imagined physical defect in appearance in a normal appearing person, e.g., preoccupation with facial hair.
Hypochondriasis	Imaged overconcern about imagined physical disease when objective examination reveals none to exist, e.g., angina pectoris with normal heart functioning.
Somatization disorder	Recurrent somatic and physical complaints with no demonstrable physical disorder despite repeated physical examinations and no organic basis. Anxiety noticeable.
Pain disorder	Preoccupation with pain with physical disease to account for intensity. It does not flow a neuroanatomical description. There may be a close correlation between of pain.
Physical complaints associated with classic psychological disorders	Somatic accompaniment of depression, e.g., weakness, asthenia.
Physical complaints with substance abuse disorder	Bronchitis and cough associated with nicotine and tobacco dependence.

Pain is a complex symptom consisting of a sensation underlying potential disease and an associated emotional state. Acute pain is a reflex biological response to injury. By definition, chronic pain consists of pain that lasts at least 6 months.

Analgesia is the loss or absence of pain. Most effective are the narcotics (drugs derived from opium or an opiumlike substance that relieves pain, alters mood and behavior, and produces the potential for dependence and tolerance). Opioids is a genetic term that includes drugs that bind to opioid receptors and produce a narcotic effect. They are most useful in the short-term management of severe, acute, serious pain. A goal should be to lower the pain level so that the patient can eat and sleep with minimal upset.

Reason for consultation	Comments
Suicide attempt or threat	High-risk factors are males over 45, no social support, alcoholism, previous attempt, incapacitating medical illness with pain, and suicidal ideation. If risk is present, transfer to psychiatric unit or start 24-hour nursing care.
Depression	Suicidal risks must be assessed in every depressed patient; presence of cognitive defects in depression may cause diagnostic dilemma with dementia (pseudodementia); check for history of substance abuse or depressant drugs, e.g., reserpine, propranolol; use antidepressants cautiously in cardiac patients because of side effects, orthostatic hypotension.
Agitation	Often related to medical condition, withdrawal from drugs, e.g., opioids, alcohol, sedative-hypnotics; haloperidol most useful drug for excessive agitation; use physical restraints with great caution; examine for command hallucinations or paranoid ideation to which patient is responding in agitated manner; rule out toxic reaction to medication, e.g., cortisol paranoia, anticholinergic delirium.
Hallucinations	Most common cause in hospital is delirium tremens; onset 3-4 days after hospitalization. In intensive care units, check for sensory isolation; rule out brief psychotic disorder, schizophrenia, associated with medical condition, drug intoxication or withdrawal. Treat with antipsychotic medication.
Sleep disorder	Common cause is pain; early morning awakening associated with depression; difficulty falling asleep associated with anxiety. Use anxiety or antidepressant agent depending on cause. Those drugs have no analgesic effect, so prescribe adequate pain killers. Rule out early drug withdrawal reaction.
No organic basis for symptoms	Rule out conversion disorder, somatization disorder, factitious disorder, malingering; glove and stocking anesthesia with autonomic nervous system symptoms seen in conversion; multiple body complaints seen in somatization; wish to be hospitalized seen in factitious disorder; obvious secondary gain in malingering, e.g., compensation case.
Disorientation	Delirium versus dementia; review metabolic status, neurologic findings, drug history. Prescribe small dose of antipsychotics for major agitation, benzodiazepines may worsen condition and cause sundowner syndrome (ataxia, confusion); modify environment so patient does not experience sensory deprivation.
Noncompliance or refusal to consent to procedure	Explore relationship of patient and treating doctor; negative transference is most common cause of noncompliance; fears of medication or procedure require education and reassurance. Refusal to give consent is judgment; if impaired, patient can be declared incompetent, but only by court; associated medical or neurological condition is main cause of impaired judgment in hospitalized patients.

Placebos. Substances with no known pharmacological activity that act through suggestion rather than biological action. It has recently been demonstrated; however, that naloxone (Narcan), an opioid antagonist, can block the analgesic effects of a placebo, thus suggesting that a release of endogenous opioids may explain some placebo effects.

Chronic treatment with placebos should never be undertaken when patients have clearly stated an objection to such treatment. Furthermore, deceptive treatment with placebos seriously undermines patients' confidence in their physicians. Finally, placebos should not be used when an effective therapy is available.

Somatization disorder

Somatic complaints not limited to one organ system and not caused by known medical disorder. (Previously known as Briquet's syndrome.)

Psychodynamics Repression of wish or impulse expressed through body complaints. Superego conflicts, partially expressed by symptom. Anxiety converted into specific symptom.

Psychological long-term insight or supportive psychotherapy is required to provide understanding of dynamics, support through distressing life events, or both; also to follow patient to prevent substance abuse, doctor-shopping, unnecessary procedures, or diagnostic tests.

Conversion disorder

Definition. Characterized by one or more neurological symptoms associated with psychological conflict or need, not physical, neurological or substance-related disorder.

Psychological

Expression of unconscious psychological conflict, which is repressed.

Premorbid personality disorder- avoidant, histrionic.

Impulse, e.g., sex or aggression, is unacceptable to ego and is distinguished through symptom.

Identification with family member with same symptoms from real disease.

Psychodynamics

La belle indifférence is a lack of concern about illness present in some patients.

Primary gain refers to reduction of anxiety by repression of unacceptable impulse. Symbolization of impulse onto symptom, e.g., paralyzed arm prevents expression of aggressive impulse.

Other defense mechanisms- reaction formation, denial, displacement.

Treatment

Pharmacological

Psychological

Insight- oriented therapy is useful in understanding dynamic principles and conflicts behind symptoms. Patient learns to accept sexual or aggressive impulses and not to use conversion disorder as a defense.

Behavior therapy is used to include relaxation and to reduce or eliminate the need for symptom reduction.

Hypnosis and reduction are useful in uncomplicated situations.

Do not accuse patient of trying to get attention or of not wanting to get better.

Narcoanalysis sometimes removes symptoms.

Patients may be symbolically expressing an intrapsychic conflict through the body. Persons may unconsciously regard emotional pain as weak and displace it to the body. Pain can be a method to obtain love or can be used as a punishment. Defense mechanisms involved in the disorder include displacement, substitution, and repression.

Emotional patterns of somatic patients

There are 5 types of patient's attitude towards the illness which depends on the patient's personality

Asthenodepressive- emotional instability, impatience and irritability, weakening of motivation to work, depression and feeling of physical weakness. They are sensitive towards the illness Patient becomes subdued, feeble, broken, and indifferent towards everything in the world.

Psychostenic- highly anxious, fearfulness, pessimistic view of treatment, assurance of lethal end, tendency to seek opinions of many doctors. Such patients are full of alarm and fears. They are convinced about their demise and expect dire consequences.

Hypochondriac- are more assured in being ill, they believe that themselves have many illnesses and visit physicians to explore a new disease, to assure themselves and to rule out an illness. Later again they believe having a serious illness that doctors could not reveal. Focused on subjective painful sensations, tend to tell others about those sensations, exaggerate symptoms.

Hysterical pattern- aggravate ill symptoms, extremely emotional, irritable, in are entirely involved with their illness. Demand extensive attention and exclusive attitude towards self. Gain others attention through extensive demonstration of symptoms and expressive speech and gestures. **Hysterical** patients exaggerate the illness and demand attention from others, blame others, try to get benefits and enjoy it because of getting more attention.

Euphoric-anosognosic- patients are careless about own health, deny the existence of any illness, and ignore doctor's prescriptions and any recommendations. Euphoric anosognosic type of patient behaves as if he is not ill, he takes no notice of the illness and refuses treatment.

Chapter 8 – Onset and Response to Illness

Psychological and Behavioral Predisposition to Physical Illness

There are many psychological, behavioral, and social variables that play a role in the development of physical illness. In fact, lifestyle and personal habits, such as tobacco use, alcohol and drug abuse, overeating, poor nutrition, lack of exercise, and so forth account together for about 70% of all illness and death in the United States (Haupt et al, 1980). Obesity for example, is related to heart disease, diabetes, and hypertension. Nicotine addiction from tobacco smoking is directly associated with lung cancer, emphysema, and coronary artery disease. Alcohol is related to cirrhosis of the liver, gastric ulcers, dementia, and half of the yearly fatal traffic accidents in the U.S. The financial costs of these behaviorally related illnesses are staggering: the direct costs alone were approximately \$250 billion in 1983 (70% of a healthcare expenditure of \$355 billion) (Kamerow et al, 1986). This figure does not even include an estimate of the indirect costs (e.g., lost productivity).

Personality factors have also been thought to be predisposing factors to certain physical illnesses. Probably the best known is the so-called Type A behavior pattern and its relationship to coronary artery disease. Coronary artery disease is now the leading cause of death in this county, and any knowledge about predisposing or other risk factors should help us design appropriate intervention. Type A individuals feel under relentless pressure of time and are usually under a competitive and hostile strain with other people. Such persons are usually quite serious and ambitious in their work. They often find it hard to relax and to enjoy interpersonal pleasures. In general, Type A individuals walk and eat rapidly, jury others along in conversation, speak with a very strong emphasis, clench their hands and teeth, try to do things at once, and experience great time pressure (Friedman, 1969).

Generally speaking, the term *stress* has been used to describe emotional distress, the situational conditions that appear to provoke such distress, or both. For the purposes of clarity in this chapter, “stress” will denote the subjective state of distress, and the conditions that provoke this arousal will be termed “stressors.” In order for conditions to cause subjective stress, they generally must tax the adaptive capacity of the person.

Holmes and Rahe (1967) postulated that major events in a person's life requiring change of any kind, whether positive or negative, would require adaptive efforts and readjustment of the organism. They argued that these effects can be cumulative and the more readjustment required by the person, the more likely the person would be to develop physical illness. Holmes and Rahe (1967) developed the Social Readjustment Rating Scale to measure the impact of cumulative life events. The higher the number, the more readjustment is usually required after the event. While there have been methodologic criticisms of this instrument, hundreds of subsequent investigators using better instruments have also demonstrated an association between life event “scores” and future development of physical illnesses (i.e., the higher the current life events scores, the more likely persons have been to develop physical illnesses in the future [Cohen, 1981]). The psychobiological mechanisms through which life events or stressors can lead to illness are just beginning to be clarified and will be reviewed in a subsequent section.

A study conducted in Britain found strong evidence for a link between stress and the common cold (Cohen et al, 1991). Healthy men and women volunteers were given nasal drops containing a low infectious dose of 1 of 5 respiratory viruses resembling those commonly transmitted person-to-person in producing illnesses. Two days before and 7 days after exposure, the subjects were quarantined to apartments and examined daily by physicians for evidence of respiratory infections such as signs and symptoms (e.g., sneezing, watery eyes, nasal stuffiness, sinus pain, sore throat, cough and sputum), number of facial tissues used, and a serum sample. Prior to the

exposure, subject completed a series of measures of stress or stressful events in their lives over the past months. The investigators found that higher levels of stress were associated with a greater likelihood of viral infections and severity of cold symptoms. The findings suggest that stress compromises the immune system so that people are more vulnerable to viral infections.

There are several lines of investigation linking stress and mortality. One of the most replicable findings about stressful life events has demonstrated the risk of grief. Widows and widowers suffer a significantly increased risk of dying in the year after the death of their spouses (Middleton and Raphael, 1987). A study published in the *New England Journal of Medicine* demonstrated that psychological stress among patients with cardiac disease is associated with silent myocardial ischemia and ventricular dysfunction. This strongly suggests that stress is related to undesirable cardiac events and possible cardiac death (Rozanski et al, 1988). Sudden cardiac death is often precipitated by emotional distress (Dimsdale, 1988).

Lack of social support also seems to be related to the occurrence of illness. One elegant epidemiologic study demonstrated in a prospective fashion that persons with low social support suffered from a significantly increased mortality 5 years later.

Psychobiological Mechanism

How does stress lead to illness? How does low support lead to poor physical outcome? How does psychosocial intervention improve physical outcome?

Most of the mechanisms through which psychosocial variables exert their specific effects on illness processes cannot yet be elaborated in molecular detail. However, many psychoneurologic, and psychoimmunologic pathways are beginning to be discovered and described.

The hypothalamus recognizes threatening circumstances and responds with secretion of releasing factors, such as corticotrophin releasing factor (CRF), which activate the anterior pituitary gland to release hormones, like adrenocorticotrophic hormone (ACTH), which, in turn, act on the adrenal gland to stimulate the production of cortisol. Cortisol has widespread bodily effects, including effects on glucose utilization, metabolism, blood flow to large muscles, and so forth. Cortisol, in addition, suppresses many immune functions.

Impact of the Family on Chronic Illness

There have been increasing numbers of studies on the influences of the family on chronic illness, including research on asthma, renal failure, heart disease, and cancer. Research into the relationship between the family and the course of diabetes has shown a significant correlation between family functioning and disease outcome. Several studies have demonstrated that overall family dysfunction is strongly correlated with poor diabetic control (Grey et al, 1980; Koski and Kumento, 1977; Orr et al, 1983).

Somatization Disorder, Hypochondriasis, and the Family

Another spectrum of disorders that is very likely to have become embedded in the family context and part of the family's operation is the entire range of disorders known as the somatoform disorders, which include hypochondriasis and somatization disorder. These problems are often the nemesis of the primary care physician: While frustrating the best effort of the physician, they may also drive medical costs upward and contribute to the patient's and family's feelings of being misunderstood. These disorders involve situations in which individuals present with many *physical* symptoms that cannot be explained on medical grounds. Such individuals often do not have the capacity to differentiate between emotional and physical experience. (The concept of "somatothymic language" has been developed to describe the use of physical complaints to express emotional or psychological distress (Stoudemire, 1991).) A study by Cimmings and Vanden Bos (1981) found that as many as 60% of all primary care patients present with somatic complaints that are actually an expression of psychosocial distress. These patients require reassurance and time from medical providers that they are often hesitant to give. Another study (DeGruy et al, 1987) reported that patients with a diagnosis of somatization disorder had a 50% higher rate of office visits, 50% higher charges, charts that were nearly twice as thick as the average chart, and significantly more diagnoses than a control sample. These are the patients who may have expensive, potentially dangerous and unnecessary procedures and treatments. They often have a history of numerous hospitalizations, generate great cost to the healthcare system, and cause significant distress to the physician who is repeatedly faced with their complaints. Stoudemire (1991) suggests that physicians often have difficulty recognizing or understanding the somatothymic language of the patient, possibly leading to misdiagnosis and frustration with the poor outcomes that usually result.

The Family and the Stages of Chronic Illness

John Rolland (1987), a family psychiatrist, has described how the specific *developmental phase* of an illness should be addressed to understand what situation the patient and his or her family is actually facing. He proposes a model for examining the different phases and types of illnesses, rather than separating illnesses across biological criteria, to gain a better understanding of the likely problems that the individual and family are going to face in

managing the illness. Rolland distinguishes between the *crisis phase*, the *chronic phase*, and the *terminal phase* of illness and states that families have different tasks for each of these phases.

- 1) *Crisis Phase*. During the crisis phase, the family knows that something is wrong and tends to pull together to cope with the symptoms in the medical system. To deal effectively with this phase, families must reorganize temporarily to meet the immediate needs. They must begin to address the task of accepting the illness, creating a meaning for the illness, and dealing with uncertainty. This is a time when families need to pull together during the acute stage of an illness; they manage this phase relatively better or worse depending upon their ability to do so.
- 2) *Chronic Phase*. During the chronic phase, which may be fairly static or have acute exacerbations and remissions, depending upon the type of illness, the patient and the family need to accept the permanent change, grieve for the pre-illness identity and must negotiate new roles for chronic care. In Rolland's words, "Families try to live a normal life in abnormal conditions."
- 3) *Terminal Phase*. For chronic illnesses that result in death, the terminal phase, of course, occurs when death is clearly inevitable.

Beyond looking at the three developmental phases of illness, Rolland has also characterized illnesses based upon their onset, course, outcome, and degree of incapacitation. For example, the onset of an illness may either be *acute*, like a stroke, or *gradual*, as in Alzheimer's disease. A family that can muster its resources very quickly may manage an acute onset well. In a family that is unable to do this, however, the management of an illness with a more gradual onset may be more successful.

The course of the chronic illness may be *progressive*, *constant*, or *relapsing and episodic*. Alzheimer's disease can be considered progressive, although it is to some extent relapsing. The aftermath of a head injury is relatively constant. Asthma is an example of a relapsing illness. Obviously, the necessity for a family to arrive at a new set of roles to manage the chronic course of constant illness symptoms is very different from the kind of requirements placed on a family with a relapsing, episodic illness. In some ways, this is perhaps the most difficult type of illness for a family to manage because the illness "comes and goes" and the roles need to shift accordingly. For example, a Crohn's disease patient might manage personal affairs and do well when the illness is in remission but then may become quite incapacitated at another point in time, thus creating the necessity for other people to step in and take over the role. This patient and family may find it very difficult to continuously relinquish and take on the same role, and flexibility will be essential. Rolland refers to *outcome* to mean whether it is expected that the disease will shorten the lifespan or result in *incapacitation*, according to Rolland, reflects the degree of disability. An illness is either incapacitating, such as Parkinson's, or relatively nonincapacitating, such as hypertension (refer to Table 9-1).

The Doctor-Patient Relationship and the Biopsychosocial Model

Every patient must be seen as a singular human being if medical care is to be appropriate and effective. This requires application of the biopsychosocial model, a theoretic construct that assesses a person within the distinctive context of supports and stressors affecting his or her daily functioning.

Illness Dynamics

The relationship among one's biological status (e.g., genetic construction and physical pathology), emotional makeup, and the supports and stresses of a social matrix constitutes that person's *illness dynamics* (Green, 1985).

The Grief Process and Illness

Illness is universally experienced as a loss, namely the loss of health, because it decreases one's degree of autonomy. Illness imposes restrictions on people that may be transient and mild (e.g., immobilization of a sprained joint) or chronic and severe (e.g., hemiparesis following a cerebrovascular accident). Although feelings of loss are most intense when a serious health problem permanently and profoundly alters one's physical status, they also occur with minor ailments.

Whether illness has a predominantly symbolic or concrete effect, it precipitates a predictable psychological reaction – namely, a grief reaction during which patients mourn the loss of their previous healthier functioning. The process is identical to bereavement, causing an outpouring of varied and shifting emotions as patients acknowledge their current state of health and contrast it with a pre-morbid level. Grieving entails recognition of the good and bad associated with a particular loss, that a person must progress through before resolving those emotions and coming to terms with a temporary or permanent health impairment.

The Denial Response

Denial is a common defense mechanism that enables one to reject cognitive and emotional aspects of anxiety-provoking unpleasant external reality. Despite this function, denial usually serves an adaptive role (Vaillant, 1977), such as facilitating continued functioning by moderating the impact of an overwhelming stressor that might otherwise threaten one's psychological health (e.g., the massive anxiety that precedes battle or other potentially life-threatening situations). Denial becomes maladaptive only when it is exclusively defensive, causing significant distortions in the assessment and acceptance of life's realities. For example, persons who never recognize their contribution to their recurrent failed relationships will probably perpetuate the pattern and increasingly become isolated as life progresses. Persistent denial is often reflected in noncompliance with a therapeutic regimen, which may commence immediately after a medical crisis (e.g., refusal to maintain bedrest while recuperating from a myocardial infarction) and continue throughout a chronic illness (e.g., continued smoking in a patient with chronic obstructive pulmonary disease). Denial is seen in terminal patients who refuse to acknowledge impending death. In sum, denial, if extreme, may interfere with accurate diagnosis, impede definitive treatment, and, consequently, perpetuate the disease state.

The Anxiety Response

Anxiety is an adaptive feeling that signals danger, prompting one toward purposeful action. The fight-flight behavior of animals confronted by a predator illustrates how this affect spurs self-protective behavior. In relation to illness, anxiety promotes preventive behaviors (e.g., scheduled immunizations, healthy diet) and timely medical attention following the onset of symptoms. And its persistence during an episode of ill health, secondary to patients' concern about a multitude of diverse issues (e.g., the discomfort of diagnostic and therapeutic procedures, long-term limitations to daily functioning), further motivates compliance with treatment. However, anxiety can become excessive, prompting an irrational preoccupation with health issues that evolves into a pathological illness response.

Anxiety is maladaptive when the concern it causes the person exceeds its protective function. In this circumstance, patients may become hypersensitive to all aspects of an illness (e.g., ruminating about casual remarks passed by caretakers, obsessing to the point of indecisions about therapeutic options). Such absorption with one's physical status greatly detracts from all other aspects of life, progressively displacing former pleasures with a debilitating angst. Paradoxically, this also interferes with medical care. Heightened anxiety compromises objectivity and, consequently, one's ability to provide an accurate history, tolerate diagnostic procedure (e.g., colonoscopy, and MRI scan), or even cooperate in a routine physical examination.

The Anger Response

All medical and surgical patients become frustrated, resentful, or overtly hostile about their plight, and vent those feelings in several directions. The anger is directed globally and specifically. Patients may curse their fates, God, the unfairness of life, or, alternatively, castigate themselves for being ill whether or not such self-criticism is warranted (e.g., cirrhosis secondary to alcohol abuse) or unreasonable (e.g., the result of an uncontrollable infectious disease). They may lash out at family members and friends for varied reasons – condemning ancestors for passing on a defective gene, blaming friends or family for causing exacerbations of an illness (e.g., the impact of marital discourse on labile hypertension), or basically resenting the reality of heightened dependency on people in their social network who enjoy good health. Medical personnel are often primary and direct targets for patients' hostility because of the restrictions they impose (e.g., constraints on diet and physical activity), the discomfort they may cause (e.g., performing painful diagnostic procedures, prescribing medications with unpleasant side effects), the limitations of the profession (e.g., inability to cure many diseases), and their role as bearers of grim news about patients' welfare and mortality.

Patients who fail to work through these angry feelings may develop an illness response that is often characterized by severe interpersonal conflicts. They engage in overt and covert struggles with the people in their lives, which fosters a progressive isolation from necessary support and undermines their medical care. Patients may angrily refuse to submit to important diagnostic tests, comply with rehabilitative programs, or take prescribed medications; these behaviors frustrate family members, control caretakers, and also reflect a self-directed anger because all these actions are ultimately detrimental to the patients. Struggles may also occur in subtle, unstated ways, by passive-aggressive behaviors (e.g., failing to adhere to a prescribed diet or medication regimen), which afford the pleasure of secret control over persons. In this manner, the anger response progressively transforms the patient's supportive alliances into adversarial relationships, with widespread negative effects on treatment and day-to-day life.

The Depression Response

This illness response is characterized by the common cognitive, affective, and behavioral signs and symptoms that constitute a clinical depression. These include changes in mood, most commonly a sustained sadness with tearfulness and anhedonia (loss of pleasure and interest in life), although irritability and agitation may also be present. The patient also manifests physiological sequelae of depression, which span the spectrum from the usual neurovegetative complaints (e.g., insomnia, anorexia, fatigue, decreased sexual drive) to somatic disturbances of any organ system (Lindemann, 1944). The most prominent behavioral manifestation of this illness response is a change in established daily patterns, which most often takes the form of generalized withdrawal from one's environment. Patients can manifest more specific behaviors, such as neglecting professional responsibilities or avoiding family

interactions, reaction influenced by the particular illness and/or its treatment (e.g., one may be inclined to retreat from social commitments, and to rely more on family support following a disfiguring surgical procedure). Behavioral changes also include radical departures from usual routines of life, such as quitting a satisfying job, precipitously moving, or ending a long-term marriage. Finally, diminished self-esteem is a prominent feature of this illness response. Already stressed by the effects of a physical functioning, the psychological reaction to that reality can provoke a negativistic spiral of self-criticism and self-reproach that ultimately leaves the patient feeling helpless and worthless. Each of these four areas of objective and subjective signs and symptoms can vary in intensity, with the result that depression response may range from a relatively mild adjustment disorder to a major depression.

The Dependency Response

Treatment noncompliance is a common manifestation of excessive dependency, as patient haphazardly adhere to prescribed therapies (e.g., a medication regimen, physical rehabilitation following a traumatic injury). Although the motivation for such behavior may be purposeful or unconscious, it yields the same end point: prolong dependence on healthcare personnel who must then compensate for the patient's self-neglect by providing an ever greater degree of care. At a minimum, this slows one's return to optimal functioning; at worst, it aggravates the illness by intensifying its pathophysiological effects.

Individuals' interpersonal relationships also suffer when illness spawns excessive dependency. Established family patterns must adapt to the patient's prolonged regression, sometimes causing considerable disruption to relatives who now tend to matters usually managed by the patient. Growing resentments may, in turn, detract from the supportive efforts. A parallel situation occurs when healthcare providers develop a negative reaction to so-called hateful patients (Groves, 1978), fostering conscious or unconscious neglect of their care. The dependency response signals the evolution of an individual into a professional patient who is more concerned with being cared for than with achieving an optimal level of coping. When physicians fail to recognize this illness response, which may be hidden by a patient's stated desire to get well quickly, there is a greater risk that the collaborative doctor-patient relationship will steadily degenerate into an adversarial association harmful to both parties.

Chapter 9 – Ethical Issues

Doctor-Patient Communication

Establishing effective communication between doctor and patient is the first step in establishing the essential alliance that will allow the doctor to help the patient. This step is influenced by many factors. For example, a patient's previous experiences with medical care can influence how he or she responds to the doctor. A doctor's unconscious countertransference reactions based on past relationships can influence how he or she responds to the patient. Other factors that influence the doctor-patient relationship include the patient's physical and mental condition, personality style and coming mechanisms, use of defense mechanisms, and cultural belief systems.

Getting information from patients

The clinical interview is the most important tool a physician has for obtaining information from patients. An effective interview starts with establishing trust in and rapport with the patient. Doing this involves maximizing the physical placement of the doctor and patient to facilitate effective and safe interaction and then gathering the physical, psychological, and social information needed to identify the patient's problem.

The **clinical interview** is used to obtain the patient's medical and psychological history and to gather other relevant information. The two major categories of questions used in the clinical interview are open-ended and direct. **Open-ended questions** are nonstructured, do not close off potential areas of pertinent information, and allow for a variety of responses. These questions are used in the interview to facilitate conversation and obtain information. **Direct questions** are those that can be answered with "yes", "no", or a few simple words. They are used to clarify the information obtained from open-ended questions. For example, an open-ended question such as "Describe the pain" is used to get an overview of the patient's distress. "Does the pain wake you at night?" is a direct question about a specific area of interest.

Direct questions are also used to elicit information quickly in an emergency or when a patient has a cognitive disorder. This type of question may also be preferred when a patient is sexually provocative toward the doctor or overly talkative. Whatever the situation, doctors should avoid using **leading questions** that suggest an answer, such as, "You really feel better, don't you?"

Specific strategies and techniques, such as **support, empathy, validation, facilitation, reflection, silence, confrontation, and recapitulation**, that are used in interviewing patients are described.

Interviewing children

Like adults, children and adolescents respond best during a clinical interview when they feel comfortable with the doctor. In contrast to adults, the type of questions most effective in interviews with adults may not be appropriate for children. For example, young children may have difficulty responding to open-ended questions. A 6-year-old child may not know how to respond to a question such as "Tell me about yourself," but she may be able to answer a specific question such as, "What grade are you in?" Other children may not respond well even to direct questions. Methods of obtaining information from these children (if they are old enough to understand and comply) include asking the child to draw a picture (e.g., "Can you draw a picture of yourself?") and asking questions in the third person (e.g., "Why do you think the little boy in the picture looks sad?") Getting the child to use his imagination can be fun for the child and can provide information for the doctor (e.g., "Let's pretend that you have two wishes. What would they be?") Gaining parental permission to speak to teachers and babysitters can also be helpful in getting information about a child.

Typically, adolescents worry about appearance, hetero- and homosexuality, sexually transmitted diseases, and substance abuse, concerns they may find difficult to discuss with their parents. Often, all that is required of the doctor is that she be nonjudgmental and able to reassure the adolescent that his or her thoughts are normal and common in people in this age group. With the exception of certain breaches of confidentiality, it is also appropriate for the doctor to reassure the patient that such information will not be shared with his or her parents. Parents usually understand this need for privacy.

Impaired physicians

It is always unethical and in some circumstances illegal for physicians or physicians –in-training to practice medicine when their judgment or abilities are impaired. Causes of impairment include drug or alcohol abuse, physical or mental illness, and impairment in functioning associated with old age. If a physician is impaired, he must immediately and voluntarily remove himself from contact with patients.

Professional boundaries

No matter what behavior a patient shows toward the doctor, it is the doctor's responsibility to maintain a professional separation or boundary between herself and the patient. For this reason, a physician should not treat himself, family members, or close friends. However, such treatment is not ethically or legally proscribed.

Doctors should also avoid socializing outside of the medical setting with any patient who might misinterpret such contact. In a similar way, accepting valuable gifts from patients is not appropriate, although it may be appropriate to accept a small token of appreciation from a patient, such as eggs produced by home-raised chickens.

Components of informed consent

Before patients can give consent to be treated by a doctor, they must be informed

- Of and understand the health implications of their diagnosis
- Of the health risks and benefits of the treatment or procedure
- Of the alternatives to the treatment or procedure
- Of the likely outcome if they do not consent to the treatment or procedure
- That they can withdraw consent at any time before or during the treatment or procedure

Chapter 10 – Psychotherapy

An Introduction to Psychotherapy

In psychology, a number of different theories or paradigms are used as models to explain human behavior. Each etiological theory has corresponding therapeutic techniques that are based on the different underlying explanatory models of behavior. Biological therapies, for instance, postulate a biological substrate for behavior, and the corresponding interventions involve biological treatments, such as psychopharmacology and electroconvulsive therapy (ECT). Other therapies view behavior from perspectives other than the biological; these corresponding treatments are generally called psychotherapies.

Different theories of behavior are not mutually exclusive, but rather, when taken together, provide a complex and integrated picture of a person's thoughts and actions from different perspectives. Certain clinical problems and patients may respond more to one therapy than to another; therefore, psychiatrists must be adept at using a number of different therapeutic techniques and interventions in order to treat patients skillfully.

Psychotherapy

The ability of one person to comfort, to teach, or to influence others is a universal part of human experience, or in short has incontrovertible validity. Psychotherapy is merely an attempt to capture this power within a healing context, to systematize it so that it becomes transmissible (and researchable) and to regulate it in a helping professional relationship for the protection of the consumer and therapist alike. In this section on treatment, there are a number of chapters addressing the various kinds of psychotherapy used with children and adolescents. In general, these chapters focus on the theory, practice, and clinical indications of particular methods. Beneficence of outcome, and an established place in the therapeutic armamentarium and in teaching programs in child and adolescent psychiatry, is largely assumed.

Psychotherapy has some distinctive features that differentiate it from many other medical treatments. First, its practice is not limited by statute to licensed physicians, and there are those who will argue that the rules of medicine thus do not apply. However, it can be said equally that physicians who practice psychotherapy are still so obliged, and that should be one of the discernible differences between psychiatrists and nonmedical professionals. Second, while medicine did originally depend on charisma and caste to establish validity of treatment, this has gradually faded considerably in favor of hard data from well-designed clinical trials. For a variety of reasons, some of which reflect the sheer complexity of the subject, though others are less worthy, traditional child psychotherapy was and is still largely dependent on charismatic leaders and innovators rather than on data.

Psychotherapy further unspecified encompasses all kinds of such treatment that are united by the common goal of healing within a professional relationship using psychological means alone, independent of the technique or underpinning theory, whether psychodynamic, client-centered, behavioral, individual, play, group, family, brief and long term, and so on. While the use of this generic term may appear simplistic or even demeaning, there is both utility and good reason for doing so. First research has demonstrated that much of the therapeutic power stems from a set of variables common to all kinds of psychotherapy however different they may seem. Second, many kinds of child psychotherapy are insufficiently explicated to examine their putative differences from each other. Third, there are insufficient data to examine all kinds of child psychotherapy individually, and aggregating studies is necessary to get sufficient statistical power. Finally, those who think that their kind of psychotherapy is superior, despite insufficient data to support their contention, may be motivated to do the studies necessary to prove the point. Unless otherwise stated, psychotherapy is described as applied to children. Child is taken to include infants, children, and adolescents.

Psychoanalysis and Psychoanalytic Psychotherapy

There are two forms of treatment based on Sigmund Freud's theories of a dynamic unconscious and psychological conflicts. The major goal of these forms of therapy is to help the patient develop insight into unconscious conflicts, which are based on unresolved childhood wishes and are manifested as symptoms, and to develop more consciously adult patterns of interacting and behaving.

Psychoanalysis is the most intensive and rigorous of this type of therapy. The patient is seen 3-5 times a week, generally for a minimum of several hundred hours over a number of years. The patient lies on a couch with the analyst seated behind, out of the patient's visual range. The patient attempts to say freely and without censure whatever comes to the mind, to free associate, in order to follow as deeply as possible the train of thoughts to their earliest roots. This includes associating to dream material and to transference feelings that are evoked in the process. The analyst uses interpretation and clarification to help the patient work through and resolve conflicts that have been affecting the patient's life, often unconsciously. Psychoanalysis requires that the patient be stable, highly motivated, verbal, and psychologically minded.

The patient also must be able to tolerate the stress generated by analysis without becoming overly regressed, distraught, or impulsive.

Psychoanalytically oriented psychotherapy is based on the same principles and techniques as classic psychoanalysis but is less intense. There are two types: insight oriented or expressive psychotherapy and supportive or relationship psychotherapy. Patients are seen 1-2 times a week, and sit up facing the therapist. In supportive psychotherapy, the essential element is support, rather than the development of insight. This therapy can be long term, lasting many years, especially in the case of chronic patients.

Brief dynamic psychotherapy. A short term treatment, generally consisting of 10-40 sessions for a period of less than a year. The goal, based on Freudian theories, is to develop insight into underlying conflicts, which leads to psychological and behavior changes. This therapy is more confrontational than the other insight-oriented ones in that the therapist is very active in repeatedly directing the patient's associations and thoughts to conflictual areas. The number of hours is explicitly agreed on by the therapist and patient prior to the onset of therapy and a specific, circumscribed area of conflict is chosen to be the focus of treatment. More extensive change is not attempted.

II. Behavior therapy

The basic assumption of this therapy is that maladaptive behavior can change without insight into its underlying causes. Behavior therapy is based on the principles of learning theory. It includes operant and classic conditioning. Operant conditioning is based on the premise that behavior is shaped by its consequences that is, if behavior is positively reinforced it will increase, if it is punished it will decrease, and if it elicits no response it will be extinguished. Classical conditioning is based on the premise that behavior is shaped by its being coupled with or uncoupled from anxiety – provoking stimuli.

Token economy. A form of positive reinforcement used with inpatients. A patient is rewarded with various tokens (e.g., food, passes) for performing desired behaviors, e.g., dressing in street clothes, attending group therapy. This form of therapy is usually applied in psychiatric hospitals and chronic patients.

Aversion therapy. A form of conditioning in which an aversive stimulus, e.g., a shock or unpleasant smell, is paired with an undesired behavior. A less controversial form of aversion therapy involves the patient imagining something unpleasant coupled with the undesired behavior.

Systematic desensitization. These techniques work through a combination of positive reinforcement for confronting anxiety-provoking stimuli and the extinguishing of maladaptive behavior by the realization of an absence of negative consequences. Hierarchy construction often is associated with relaxation techniques, because it is felt that anxiety and relaxation are incompatible, thus leading to an uncoupling of the imagined images from anxiety (reciprocal inhibition)

Flooding. A technique in which the patient is exposed immediately to the most anxiety-provoking stimulus, e.g., the top of a tall building if he or she is afraid of heights, instead of being exposed gradually or systematically to a hierarchy of feared situations. Behavior therapy is believed to be most effective for clearly delineated, circumscribed maladaptive behaviors, e.g., phobias, compulsions, overeating, cigarette smoking, stuttering, and sexual dysfunctions.

IV. Cognitive therapy. Cognitive therapy is based on the theory that behavior is secondary to the way in which persons think about themselves and their roles in the world. Maladaptive behavior is secondary to ingrained, stereotyped thoughts, which can lead to cognitive distortions or errors in thinking. The theory is aimed at correcting their cognitive distortions and the self-defeating behaviors that result from them. The therapy is short-term, generally 15-20 sessions over 12 weeks, during which patients are made aware of their own distorted cognitions and the assumptions on which the questions are based. Homework is assigned: patients are asked to record what they are thinking in certain stressful situations and to ascertain the underlying, often relatively unconscious, assumptions that fuel the negative cognitions. Cognitive therapy has been most successfully applied to the treatment of mild to moderate, nonpsychotic depressions.

Cognitive-Behavior Therapy

During the past two decades, psychologists from a wide range of specialty areas have become increasingly interested in cognitive processes and their relation to behavior. Social psychologists, for example, have become fascinated with “schemata,” particular types of higher-order knowledge structures.

Central to cognitive-behavior therapy is its hybrid origins. Some have described it as a resolution between what had been two divergent therapeutic perspectives, namely the behavioral and cognitive/intrapersonal or the behavioral and cognitive/semantic therapies.

Cognitive-behavior therapy adopts as its theoretical base an interactionist perspective regarding the determinants of human behavior and psychological well-being. At the center of this perspective is the belief that the interaction between the individual and the environment continuously determines behavior, cognitions, and affect. Private thoughts and intrapersonal factors act upon the environment. Additionally, environmental factors influence these same intrapersonal factors. Further still, intrapersonal factors affect the individual's perception of environmental forces. Therefore what emerges is a three-factor model-environment/person/behavior-of person-situation interaction. Bandura has labeled this reciprocal determinism.

Ellis's A-B-C model of behavior and personality disturbance (where A=Activating Events, B= the individual's Belief system, and C= Consequence) stimulated theorists to explore a variety of therapeutic alternatives to unidirectional therapies. Cognitions are thought to influence behaviors, which in turn influence the environment, which in turn influence cognitions, and so on.

Cognitive- behavior therapy stands firmly on an information-processing foundation. More specifically, a belief in reciprocal determinism enhances the cognitive-behavior therapist's close affiliation with research psychology has also promoted its continued development over the years.

Cognitive-behavior therapy attempts to alter clients' interpretations of themselves and their environments, as well as the manner by which they create these interpretations. Thus, cognitive -behavior therapy attempts to alter the meaning a client attaches to events. Clients are taught new ways of interpreting both themselves and those around them through dialogue, observation, and behavioral experiences. Often the new ways of thinking about themselves involve becoming more accepting of desires, limitations, and strengths. Additionally, clients' new self- concepts are more flexible, enabling them to evaluate aspects of the self in a noncritical manner.

Cognitive-behavior therapy emphasizes the learning process and encourages clients to acquire new skills during the course of therapy. Coping skills in particular are emphasized; client problems can often be understood as stemming from inadequate coping skills.

One of cognitive- behavior therapy's primary goals is providing cost- effective treatment for a wide variety of clinical problems. In the face of increasing health care costs, the provision of affordable treatment has taken on new importance. In this regard, treatment sessions are sometimes limited. Therapists and clients may contract to meet for a certain number of sessions (frequently 15 to 25), with an agreement to renew this contract should both parties feel it necessary. Cognitive-behavior therapy is also concerned with the generalizability of its positive its positive treatment effects. Clients are encouraged to practice skills acquired during a therapy session at home or anywhere else they might be practical use.

Briefly restated, the overarching goals of cognitive-behavior therapy include:

Providing cost-effective treatment for a wide range of client problems.

Altering clients' interpretations of themselves and their environment by changing their behavior, their environment, or their cognitions directly.

Increasing clients' available store of coping skills.

Increasing the likelihood that therapeutic gain will be maintained once therapy is terminated.

Although these goals are determined by the theoretical orientation of the cognitive-behavior therapist, it is collaboration between both client and therapist that produces the goals of a given course of therapy. Clients present for therapy, often with particular agendas. Therapists listen carefully, drawing upon their experience, and design ways in which clients' needs can be satisfied most effectively and efficiently.

In the past 15 years, cognitive- behavior therapies have been used with various client populations including those with interpersonal anxiety, test anxiety, writer's block, uncontrollable anger, depression, sexual dysfunction, schizophrenic symptoms, impulsive behavior, etc.

Clients bring their own strengths and weaknesses to the therapeutic setting. Some are particularly good at recalling feelings; others focus more on thoughts, and still others relate only their overt behaviors when describing experiences that led them to seek psychotherapy. Given the integrative framework of cognitive behavior therapy, a therapist working from this perspective should be able to communicate effectively with each of these client types. The cognitive- behavior therapist's attention to thoughts, feelings, and behaviors, as well as his/her willingness to intervene at any point in the person /environment/ behavior triangle allows the therapist to establish a rapport with most clients. Clients who articulate their problems in behavioral terms might be asked to self- monitor their problematic behaviors, whereas those who speak of intrusive or upsetting thoughts might be asked to record their private internal dialogues and eventually challenge them with alternative self- statements. Availability of such varied interventions is one of the attractive features of working within the cognitive- behavioral framework.

Clients vary greatly in the way they conceptualize their own problems. The cognitive-behavioral therapist is able to work with both types of clients.

Clients seldom enter therapy without having experienced some degree of worry, anxiety, depression, frustration, and preoccupation with their problems. Early stages of cognitive- behavior therapy often focus on helping clients articulate their goals for therapy. Clients willing to examine specific areas of their lives that they wish to work on in the course of therapy will benefit from this goal-oriented framework of cognitive- behavior therapy.

Central to cognitive behavior therapy is its ability to structure the therapeutic process. Therapy may be structured through the setting of goals, the use of regular "homework" assignments, or a particular spacing of therapy sessions. As such, it might be particularly useful for those clients who seek help in structuring both their lives and inner experience.

Unlike other therapies that have a clearly defined assessment component frequently conducted by someone other than the therapist him/herself, cognitive-behavior therapy assesses the client's functioning throughout the duration of therapy. The assessment phase is inextricably tied to other phases of therapy. Central to cognitive-behavior therapy is the assessment of clients' cognitions and behavior patterns. The behavior therapist often views cognitions that precede

maladaptive behaviors as “behaviors” themselves, assuming continuity between cognition and behavior; the cognitive-behavior therapist does not assume such continuity. Similarly, cognitive therapists focus on clients’ irrational beliefs, or thinking processes. The cognitive-behavior therapist prefers to assess both, the nature of clients’ behaviors and accompanying cognitive processes. Particular attention is given to the ways in which these two aspects of the client interact.

Specific Methods of Assessment and Intervention

Meichenbaum describes a range of assessment and intervention techniques used by cognitive-behavior therapists. We will therefore only highlight the most important methods currently in use:

1. *The clinical interview.* Cognitive-behavior therapy takes the position that the process of assessing a given behavior necessarily alters it due to subsequent self-consciousness experienced by the client. Specific instructions designed to enhance the representativeness of information derived from the client are often incorporated into the clinical interview. For instance, a client who presents for test anxiety might be encouraged to imagine herself preparing to take a test. Through such experiences, problem-related cognitions, affects, and behaviors may be elicited. Once a series of experiences relevant to the presenting complaint is described by the client, the therapist might ask him or her to imagine any other recent situations where these same thoughts, feelings, or behaviors were experienced. In this way the extent of the client’s symptoms can be understood.

2. *Imagery-based techniques.* Meichenbaum encourages therapists to have a client image, or “run a movie through his head,” of a recent time when she or he experienced the presenting problem. This technique makes salient certain aspects of the situation that otherwise would have gone unnoticed. This technique is often quite useful when working with clients who might report an affect-laden situation but are unable to recall important details, thus leaving the therapist confused as to the situation’s significance for the patient.

Cognitive-behavior therapists have long been concerned with clients’ internal dialogues. But these self-statements may take a form other than words. Imagery methods are useful in assessing clients’ cognitions that take a pictorial form. Clients often carry with them certain core images that represent communications to themselves. These self-images organize clients’ experiences and attitudes about themselves.

Imagery techniques can also be used to assess clients’ positive potential. One may encourage clients to imagine themselves carrying out adaptive behaviors or reciting positive self-statements in difficult situations.

3. *Behavioral assessment and situational analysis.* Clients who have difficulty working in an imagistic framework may be better able to access cognitions and affects by performing the problematic behavior in those situations in which these behaviors might occur. Performance of the problematic behavior may be either in a realistic setting or through an «enactment» of the behavior during a therapy session.

Other forms of behavioral assessment include having the client engage in the problematic behavior outside the therapy session. However, the behavior is assessed in a new manner in either an *a priori* or post-hoc fashion. The client may be instructed before performing the behavior to pay close attention to any internal thoughts or dialogue while engaging in the behavior; or the client might be interviewed by the therapist after performing the behavior with an emphasis placed on these same aspects on the client’s experience. In both instances, the behavior is conceptualized and evaluated in a new manner. Most importantly, therapists encourage their clients to evaluate their problematic behaviors in such a way as to increase clients’ sensitivity to previously hidden, yet important, aspects of the person /environment/behavior triad.

4. *Decision-making and problem-solving strategies.* One of the goals of cognitive-behavior therapy is to help clients acquire skills that will improve their ability to navigate problems that arise during the course of everyday life. Relatively recent interest in problem-solving and decision-making theory and research has led to the development of specific psychotherapy interventions aimed at increasing clients’ ability to make appropriate decisions. These procedures teach clients specific problem-solving strategies including how to accurately recognize and define the problem, construct realistic and manageable decision trees, evaluate the costs and benefits of decisions, generate and consider alternatives to problem situations, develop concrete methods of executing a desired decision, and evaluate the outcome of executing the desired decision.

Cognitive-behavior therapy strives to make clients aware of new alternatives. Clients who present for psychotherapy feeling overwhelmed by a lack of alternatives and unable to think clearly about their problems may particularly benefit by the problem-solving and decision-making techniques mentioned. These techniques encourage clients to think about their problems in a more “dynamic” manner. The goal of problem-solving and decision-making techniques is not to teach clients how to solve a particular problem in a particular situation; rather it is hoped that clients will acquire a set of generalizable skills that may be used to cope with a variety of perceived problem situations.

5. *Self-efficacy training.* Judgments of one’s self-efficacy in any given situation are thought to influence one’s decisions to engage in and actually perform certain activities. People avoid those activities that they believe exceed their coping abilities and participate in those they are confident of performing capably. Additionally, evaluations of

one's self-efficacy influence the amount of effort one expends. Building on Bandura's belief that psychotherapists can create contexts in which to strengthen self-efficacy expectations, Goldfried and Robbins outline a series of interventions designed to enhance clients' perceived self-efficacy. The first strategy involves helping the client distinguish between the past and present once progress is made. The past may serve as an anchor against which to measure clients' progress. Highlighting behavioral change in this fashion encourages clients to review their progress (in response to the therapist's questions) and increase their feelings of self-efficacy.

A second strategy outlined by Goldfried and Robbins is to provide clients with an objective vantage point from which they may more accurately evaluate themselves. Clients, particularly those suffering from depression, often attribute personal success to an external cause and attribute failures to themselves. Therapists can serve as an objective reference point, reminding clients of their personal success experiences, and the aspects of themselves that contributed to these experiences. Therapists may also help clients retrieve past successes and incorporate them into their self-concept. Lastly, therapists can evaluate clients' abilities to evaluate adequately the sequence of events that precede, accompany, and follow opportunities for enhancing self-efficacy. The therapist serves to realign the sequence of expectancies, anticipatory feelings, actual behaviors, objective consequences, and subsequent self-evaluations. Clients often hold inconsistencies between two or more segments in this sequence of events.

These techniques focus the therapy on issues pertaining to client perceptions of self-efficacy. Though careful consideration of clients past and present experiences (e.g., clients' cognitions, affects, and behaviors), the therapist works with the client to achieve a more accurate and less distorted perception of themselves and their experiences.

6. Self-monitoring procedures. A common assessment technique is to use structured self-monitoring sheets designed to assess problematic cognitions, affects, behaviors, or environmental circumstances. Self-monitoring tasks are tailored to meet the needs of specific clients populations. Therapists differ in the type of monitoring sheets they use. Some prefer that clients construct their own sheets, and others prepare sheets for their clients. Some self-monitoring sheets leave spaces for clients to fill in the blanks, check off boxes, or circle the appropriate responses. Therapist selection/creation of self-monitoring sheets often reflects what they feel will be most beneficial for a particular client. Depressed clients may already be well aware of their feeling states and therefore would benefit from recording their negative self-statements. Other clients, who need to establish greater awareness of their affective responses to situations may benefit by being asked to monitor their feeling states.

Clients vary widely in their capacity to carry out assigned monitoring tasks. After explaining the self-monitoring task to clients, it is important to explore any reasons they might have for thinking they will not be able to carry out the task. Such informal "trouble-shooting" increases the likelihood that clients will actually monitor themselves. Clients' resistances confronted in this fashion are often deflated, becoming less powerful. As clients are taught to recognize their own resistances to change, they become more able to counter these resistances in the absence of their therapist.

7. Coping skills and stress inoculation training. Many therapists working from a cognitive-behavioral perspective have adopted the view that therapy should not focus solely on the resolution of specific problems, but rather, more broadly, it should focus on teaching the client a series of effective and generalizable coping skills. This conceptualization of therapy assumes that members of contemporary society are continually faced with stressful life problems with which they must cope. The transactional perspective of the stress and coping process, like cognitive-behavior therapy, takes a reciprocal-deterministic framework, postulating that individuals both influence and respond to their environments.

The coping skills and stress inoculation approaches to therapy strive to facilitate clients' abilities to respond adaptively to their problems. Particular emphasis is placed on clients' assessing the accuracy of these self-appraisals and the acquisition and rehearsal of effective coping skills. Coping skills frequently addressed in cognitive-behavior therapy include following:

8. Taking others' perspectives. This skill stems from the understanding that "when things are objectively bad, they seem subjectively worse". There are times when clients' ways of viewing their circumstances serve to increase their subjective suffering and distress. Although some clients are able to alter their painful circumstances others cannot. Clients suffering from irreversible circumstances are often best treated by exposing them to similar others who are currently coping effectively with a shared experience.

9. Social support networks. Clients often present for psychotherapy after their own resources have been exhausted. A client's social support network may be used effectively to sustain them through difficult times. Therapists can encourage clients to engage their friends and relatives in protherapeutic ways. Explaining to clients that their friends are sources of valuable information and aid can often serve to increase interaction with them. Communication and social skills training are often used in conjunction with encouraging clients to seek out members of their social support networks. Central to this type of training is learning to send "clear" messages to others and accurately receive them.

10. Relaxation training. A frequently employed strategy for coping with anxiety is relaxation training. This technique views relaxation as a specific coping skill. Relaxation training is currently used widely as a method of promoting general relaxation skills.

Family therapy. Family therapy is based on the theory that a family is a system that attempts to maintain homeostasis, regardless of how maladaptive the system may be. This theory has been called a family systems orientation, and the

techniques include focusing on the family rather than on the identified patient. One of the major goals of the family therapist is to determine what homeostatic role, however pathological; the identified patient is serving in the particular family system. Other goals of family therapy include changing maladaptive rules that govern a family, increasing awareness of cross-generational dynamics, balancing individuation and cohesiveness, increasing one-on-one direct communication, and decreasing blaming and scapegoating.

(examples)

Spouse counseling

Parent and child counseling

Psycho education of family

Parent counseling on children's problems

Pre-marital counseling

Divorce counseling

Psychoeducation of family for a mentally impaired member

Post-traumatic stress counseling

mediation

In family systems theory, psychopathology in one family member, the identified patient, reflects dysfunction of the entire family system. Because all members of the family cause behavioral changes in other members, the entire family (not necessarily just one person) is really the patient in the family therapy.

In family therapy, as many involved family members as possible meet with a therapist. In the initial sessions, the therapist identifies dyads, triangles, and boundaries within the family system. Dyads are subsystems between two family members. For example, the executive dyad should include only the two parents. Children should not be included in the executive dyad. Boundaries are barriers between subsystems; for example, a generational boundary should exist between the executive dyad and the children. Abnormal boundaries are defined as too rigid (e.g., the parents never consider how the children feel about family decisions) or too permeable (e.g., the parents talk to the children about their marital relationship). Triangles are dysfunctional alliances between two family members against a third member (e.g., a mother and son forming an alliance against the father).

Specific techniques used in family therapy include normalizing boundaries between subsystems and reducing the likelihood of triangles. Redefining blame (e.g., encouraging family members to reconsider their own responsibility for problems) is another important technique that is used. Another mechanism, mutual accommodation, is a process in which family members are encouraged to work toward meeting each other's needs. Family therapy is particularly effective as a treatment for children with behavioral problems, families in conflict, and people with eating disorders or substance abuse.

Marital/couples therapy

Marital/couples therapy is related to family therapy in that the relationship – the couple in this case – is really the patient. Heterosexual and homosexual couples work together with a therapist on problems like communication, psychosexual issues, or differences in value systems. Types of marital/couples therapy include conjoint therapy, in which the therapist sees both members of the couple individually, and four-way therapy, in which two therapists see both members of the couple together. The latter type of marital/couples therapy is used commonly to deal with sexual problems.

Interpersonal therapy (IPT)

IPT is short-term psychotherapy, lasting 12-16 weeks, developed specifically for the treatment of nonbipolar, nonpsychotic depression. Intrapsychic conflicts are not addressed. Emphasis is on current interpersonal relationships and on strategies to improve the patient's interpersonal life. Antidepressant medication is often used as an adjunct to IPT. The therapist is very active in helping to formulate the patient's predominant interpersonal problem areas, which define the treatment, focus.

Group therapy

Group therapies are based on as many theories as are individual therapies. Groups range from those that emphasize support and an increase in social skills, to those that empathize specific symptomatic relief, to those that work through unresolved intrapsychic conflicts. Focus may be on a person within the context of a group, on interactions that occur among persons in the group, or on the group as a whole.

Groups tend to meet 1-2 times a week, usually for 1.5 hours. They may be homogeneous or heterogeneous, depending on diagnosis. Certain types of patients do not do well in certain types of groups.

Alcoholics anonymous (AA). An example of a large, highly structured, peer-run group that is organized around persons with a similar, central problem. AA emphasizes a sharing of experience, role models, ventilation of feelings, and strong sense of community and mutual support. Similar groups include Narcotics Anonymous (NA) and Sex Addicts Anonymous (SAA).

Milieu therapy. The multidisciplinary therapeutic approach used on inpatient psychiatric wards. The term "milieu therapy" reflects the idea that all activities on a ward are oriented toward increasing a patient's ability to cope in the

world and to relate appropriately to others. Milieu therapy generally involves groups and may include art therapy, occupational therapy, activities of daily living groups, community meetings, group passes, and social events.

Multiple family groups (MFGs). Composed of families of schizophrenic patients. The groups discuss issues and problems related to having a schizophrenic person in the family and share suggestions and means of coping. MFGs are an important factor in decreasing relapse rates among schizophrenic patients whose families participate in the groups.

VIII. Couples and marital therapy

As many as 50 % of patients are estimated to enter psychotherapy primarily because of marital problems; another 25% experience marital problems along with their other presenting problems. Marital or couples to achieve self-knowledge while working on their problems. Couples and marital therapy encompasses a wide range of treatment techniques with the goal of increasing marital satisfaction.

Psychodrama

Developed by Jacob L. Moreno. Employs guided dramatic action to examine problems or issues raised by an individual (psychodrama) or a group (sociodrama). Psychodrama facilitates insight, personal growth, and integration on cognitive, affective, and behavioral level, clarifies issues, increases physical and emotional well being, enhances learning and develops new skills.

The basic elements (operational components) of psychodrama are:

The **protagonist**: Person(s) selected to represent theme of group in the drama.

The **auxiliary** egos: Group members who assume the roles of significant others in the drama

The **audience**: Group members who witness the drama and represent the world at large.

The **stage**: The physical space in which the drama is conducted

The **director**: The trained psychodramatist who guides participants through each phase of the session.

In a classically structured psychodrama session, there are three distinct phases (structural components) of group interaction:

The **warm-up**: The group theme is identified and a protagonist is selected.

The **action**: The problem is dramatized and the protagonist explores new methods of resolving it.

The **sharing**: Group members are invited to express their connection with the protagonist's work.

Psychodrama affords participants a safe, supportive environment in which to practice new and more effective roles and behaviors.

Autogenic training and relaxation

Autogenic training-a century-old European method for achieving relaxation based upon passive concentration and body awareness of specific sensations. Effectiveness shown in relieving many stress-related disorders including anxiety, tension, insomnia, and examination.

History-Developed by German psychiatrist and neurologist, Johannes Schultz, in the early 20th century, following the works of Prof. Oscar Vogt.

Practice-Schultz described six autogenic formulas or states as follows:

Focus on heaviness in the arms and legs

Focus on warmth in the arms and legs

Focus in warmth and heaviness in the heart area

Focus on breathing

Focus on warmth in the abdomen

Focus on coolness in the forehead

Conditions with Reported Improvement by Autogenic Training

Hypertension	diabetes
Thyroid disease	insomnia
Grief	tension
Eating disorders	generalized anxiety
PMS	migraine
Asthma	bladder problems
Circulation disorders	ulcerative colitis
Peptic ulcers	irritable bowel syndrome

Aversive Conditioning

Aversive conditioning is used mainly in the treatment of unwanted behavior such as paraphilias or addictions. Here, using classical conditioning, a personally pleasurable but maladaptive behavior like smoking or sexual interest in children is paired with an aversive or painful stimulus like an electric shock, so that the two become associated. Subsequently, the person stops engaging in the maladaptive behavior because it automatically provokes an unpleasant response. For example, a 35-year-old smoker is given an electric shock each time he is shown a videotape of a group of people smoking. Later he feels uncomfortable when he sees a package of cigarettes and avoids smoking.

Flooding and implosion (170)

Flooding and implosion are operant condition techniques used primarily to treat phobias. The strategy of these techniques involves direct exposure (without the possibility of avoidance or escape) to the actual (flooding) or imagined (implosion) feared stimulus. For example, a woman who is afraid of riding in cars takes a long road trip (flooding) or imagines being in a car (implosion) on a long road trip. The theoretical basis of flooding and implosion is that by preventing avoidant/escape behavior, the conditioned response (avoidance of the feared stimulus) becomes extinct. Clearly, this dramatic form of treatment is best handled by a therapist well trained in these techniques.

Token economy (170)

Token economy is a strategy used to increase positive behavior in persons who are severely disorganized (e.g., psychotic), autistic, or mentally retarded. Through the process of operant conditioning, desirable behavior (e.g., tooth brushing and hair combing) is reinforced by a reward or positive reinforcement (a token). Subsequently, the person increases the desirable behavior to gain the reward. For example, a 24-year-old poorly groomed female inpatient with disorganized schizophrenia is given a token when she takes a shower. She can exchange the tokens for privileges like visiting the snack bar or watching a movie. She then takes a shower every day.

Biofeedback gained popularity in the 1970s as a noninvasive alternative to medication for treating physiological disorders. It has been effective in treating disorders such as hypertension, Raynaud's disease, migraine and tension headaches, chronic pain, fecal incontinence, and temporomandibular joint pain. Biofeedback is based on operant conditioning. A patient is given ongoing physiological information, and this information in turn acts as a reinforcer. The patient then uses this reinforcement in conjunction with relaxation techniques to control visceral changes.

The following is an example of how biofeedback can work in the clinical setting.

A 60-year-old hypertensive woman has her blood pressure measured regularly and the readings are projected to her on her computer screen.

She is then instructed to use a relaxing mental technique or image to reduce her blood pressure.

By trial and error, the patient finds that when she imagines herself at the beach, the screen shows that her blood pressure decreases.

This observed blood pressure decrease acts as positive reinforcement, and the patient increases her relaxation behavior.

After a few weeks, the patient's beach image reduces her blood pressure even when she is not looking at the computer screen.

Group Therapy

In group therapy, people with a common negative life experience (e.g., rape victims), with particular disorders like anxiety or personality disorders, or with interpersonal problems such as trouble interacting with the individual therapists as authority figures, get together with a therapist. Groups of about eight people usually meet weekly for 1 to 2 hours. The group provides members with an opportunity to express feelings as well as give feedback, support, and empathy. The therapist facilitates, observes, and comments on the members' interpersonal interactions.

In a related type of treatment, leaderless group therapy, no one person is in authority. Rather, members of the group provide each other with support and practical help for a shared problem like alcoholism, loss of a loved one, or a specific disorder. Twelve-step groups such as Narcotics Anonymous (NA) and Overeaters Anonymous (OA) are based on the original Alcoholics Anonymous (AA) leaderless group model.