This should help you review for the IB Test. This document is to serve as a template for making your study guide for the unit. Though all of the information is required, you may find a different format is more to your liking.

Study guide for Unit: **BIOLOGICAL PERSPECTIVE**

**Part I. Key vocabulary**

You may add as many words to this chart as necessary for your vocabulary development.

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<th>Term</th>
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**Part II. Key studies**

For each study, include the aim, procedure, results, and implications.

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<tr>
<th>Researchers</th>
<th>Description of study &amp; findings</th>
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Study guide for Unit: **COGNITIVE PERSPECTIVE**

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Study guide for Unit: **Social Psychology**

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For the short answer questions, (8 marks) you will answer in different groups. For the larger questions (20 marks), you will each answer the same questions and all groups will compare.

Outline the specificity you would use to answer each question. Use names, studies, terminology, and theories for your specificity. Detail is crucial here. Don’t make generalized statements (i.e.- Skinner theorized about learning.)

**Biological Perspective: 8 marks**

1. (a) Describe one theoretical explanation of behavioural change in humans based on the biological perspective. [4 marks]
   (b) Explain the strengths and limitations of the explanation of behaviour described in part (a). [4 marks]

2. Explain why a reductionist approach adopted by many biological psychologists is controversial. [8 marks]

3. a. Outline what is meant by the reductionist approach. [2 marks]
   b. Explain how one theory or empirical study from the biological perspective demonstrates a reductionist approach. [6 marks]

4. Outline historical or cultural considerations that have given rise to the biological perspective. [8 marks]

5. Explain how determinism relates to the biological perspective. [8 marks]

6. Identify and explain one contribution of the biological perspective to the scientific study of behaviour. [8 marks]

**Biological Perspective: 20 marks**

1. Explain and evaluate claims that correlates exist between physiological processes and psychological behaviour. [20 marks]

2. “Behavioural change can be regarded as arising from an interaction between innate disposition and environmental factors.” Describe and evaluate theories or studies within the biological perspective related to this statement. [20 marks]

3. Discuss how ethical and methodological considerations affect the interpretation of behaviour from a biological perspective. [20 marks]

4. Discuss strengths and limitations of research methods used within the biological perspective. [20 marks]

5. Describe assumptions on which key concepts from the biological perspective are based. [10 marks]
   Evaluate the assumptions described in part (a). [10 marks]

6. Identify one key concept from the biological perspective and discuss its contribution to the understanding of behaviour. [20 marks]
For the short answer questions, (8 marks) you will answer in different groups. For the larger questions (60 marks), you will each answer the same questions and all groups will compare.

Outline the specificity you would use to answer each question. Use names, studies, terminology, and theories for your specificity. Detail is crucial here. Don’t make generalized statements (i.e.- Skinner theorized about learning.)

**Cognitive Perspective: 8 marks**

1. **a.** Describe one assumption on which the cognitive explanation of human behaviour is based. [4 marks]
   **b.** Choose one research study to demonstrate how the assumption described in part (a) underpins a cognitive explanation of human behaviour [4 marks]

2. **a.** With reference to one research study, describe the main features of one method of investigation used by cognitive psychologists [4 marks]
   **b.** Outline one strength and one limitation of this method [4 marks]

3. **a.** Describe one cognitive explanation of human behaviour, making reference to one empirical study. [4 marks]
   **b.** Describe one strength and one limitation of this explanation of human behaviour [4 marks]

4. Choose one cognitive research study that could be considered to be controversial
   **a.** Outline the method used in the chosen study. [4 marks]
   **b.** Explain why the study is considered controversial [4 marks]

5. **a.** Outline one assumption of the cognitive perspective. [2 marks]
   **b.** Identify one key concept based on the assumption outlined in part (a) and explain the relationship between the two [6 marks]

6. **a.** Briefly describe the method used in one empirical study from the cognitive perspective. [4 marks]
   **b.** Outline one ethical strength and one ethical limitation of the method described in part (a). [4 marks]
Cognitive Perspective: 20 marks

1. a. Outline one theoretical explanation of behaviour from the cognitive perspective. [6 marks]
   b. Discuss strengths and limitations of the theoretical explanation of behaviour outlined in part (a). [14 marks]

2. a. Describe one model of information processing that helps in the understanding of one aspect of human cognition [10 marks]
   b. Using psychological theory and/or research, evaluate the model described in part (a) of this question. [10 marks]

3. To what extent is determinism integral to the cognitive perspective? Illustrate your answer using relevant theories and studies [20 marks]

4. a. Explain one psychological or social question (for example, aggression, or gender differences) from the cognitive perspective [10 marks]
   b. Compare the cognitive explanation of the question selected in part a) with the explanation offered by one other perspective you have studied for this paper. [10 marks]

5. Assess the extent to which one concept or model of information processing has helped in understanding cognition [20 marks]

6. Describe and evaluate methodologies used in the cognitive perspective (e.g. experiments, interviews, verbal protocols) [20 marks]
For the short answer questions, (8 marks) you will answer in different groups. For the larger questions (20 marks), you will each answer the same questions and all groups will compare.

Outline the specificity you would use to answer each question. Use names, studies, terminology, and theories for your specificity. Detail is crucial here. Don’t make generalized statements (i.e.- Skinner theorized about learning.)

The Psychology of Dysfunctional Behavior: 8 marks

a) Outline one dysfunctional behavior (6 points)

b) Compare two models or theories explaining the dysfunctional behavior described in part (a)

The Psychology of Dysfunctional Behavior: 20 marks

1. “Critics claim that the process of diagnosis and interpretation of dysfunctional behavior is often subjective and open to biases.”
   
   Examine how gender considerations may affect the interpretation of dysfunctional behavior.

2. Describe and evaluate two concepts related to dysfunctional behavior.

3. Discuss diagnosis of dysfunctional behaviors.
<table>
<thead>
<tr>
<th>Biological</th>
<th>Cognitive</th>
<th>Social</th>
<th>Behaviorism</th>
<th>Abnormal</th>
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<tbody>
<tr>
<td>Gazzaniga</td>
<td>memory</td>
<td>Zimbardo- prison</td>
<td>Pavlov</td>
<td>mood disorders-bipolar and major depression</td>
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<tr>
<td>Broca</td>
<td>reconstructive nature</td>
<td>Asch- conformity</td>
<td>Skinner</td>
<td>schizophrenia: paranoid, catatonic, disorganized schizophrenia</td>
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<tr>
<td>Wernicke</td>
<td>Loftus car</td>
<td>Millgram- obedience</td>
<td>Bandura</td>
<td>personality disorders- schizoid, borderline, narcissistic, paranoid, etc</td>
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<tr>
<td>Neurotransmission</td>
<td>Loftus lost in mall</td>
<td>bystander effect</td>
<td>Seligman- dogs learned helplessness</td>
<td>anxiety disorders- ptsd, gad, panic attacks, phobias</td>
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<tr>
<td>Localization</td>
<td>Perception</td>
<td>diffusion of responsibility</td>
<td>classical conditioning</td>
<td>Empty, hollow, thud pseudopatient study (rosenhan study)</td>
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<td>mri/fmri/pet/eeg</td>
<td>sensory/short term/long term</td>
<td>Aggression- think bandura (imitation)</td>
<td>operant conditioning</td>
<td>medications- antidepressants, anti psychotics</td>
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<td>ssri/drugs</td>
<td>procedural memory</td>
<td>frustration-aggression hypothesis</td>
<td>social learning theory</td>
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<td>fat rat study</td>
<td>semantic memory</td>
<td>do good feel good</td>
<td>little albert- (john watson)</td>
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<td>reduced frontal lobe activity in schizophrenics (correlational study p 65 glassman)</td>
<td>episodic memory</td>
<td>social identity theory</td>
<td>ucs/ucr/ns/cs/cr</td>
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<td>Neurotransmitters (p 67 glass)</td>
<td>proactive/retroactive interference</td>
<td>ingroup/outgroup</td>
<td>PR/NR/PP/NP</td>
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<td>mnemonic</td>
<td>outgroup derogation</td>
<td>FR/VR/FI/VI</td>
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<td>aphasia</td>
<td>problem solving/ intelligence</td>
<td>ingroup favoritism</td>
<td>Extinction</td>
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<td>ethics</td>
<td>Garner mult intelligences</td>
<td>superordinate goal</td>
<td>Generalization</td>
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<td>algorithm/heuristics</td>
<td>robbers cave study (realistic conflict theory) (sherif)</td>
<td>Acetylcholine- (increased NT when learning is taking place)</td>
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<td>phrenology- history</td>
<td>language development/ stages</td>
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<td>cognitive dissonance-easier to change attitude than behavior</td>
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<td>fundamental attribution error</td>
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<td>basic emotions- eckman/ they are same globally</td>
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Biological Perspective
(Physiological Approach)

Origins and History:
• Also known as the physiological, biopsychological, neuropsychological, nativist (in reference to the “Nature vs. Nurture” debate), and innate approach.
• Integrates and runs parallel to the rest of psychological thought since early Greek times—the Greek physician Galen suggested that personality and temperament may be linked to the levels of body fluids such as blood and bile in the body.
• As knowledge of human anatomy, physiology, biochemistry, and medicine developed, important insights for human behaviour and experience were gained.
• The field continues to progress as the technology to isolate the effects of genes and scan the living brain develops.

Basic Assumptions:
1. All that is psychological is physiological—that is since the mind appears to reside in the brain, all thoughts, feelings, and behaviours ultimately have a physical/biological cause.
2. Human genes have evolved over millions of years to adapt physiology and behaviour to the environment. Therefore, much behaviour will have a genetic basis.
3. Psychology should therefore investigate the brain, nervous system, endocrine system, neurochemistry, and genes.
4. It is also useful to study why human behaviour has evolved in the way it has, the subject of evolutionary/sociobiological theory.

Key Concepts:
• Localization (of function): a specific part of the brain controls certain things, such as speech, sight, hearing, etc.
• **Lateralization:** The division of the brain into two, distinctive hemispheres which function completely differently.
  
  A. The left hemisphere of the brain is usually dominant for language and writing and logical, analytical, and calculating thought.
     1. Controls both the motor and sensory cortexes of the right side of the body.
  
  B. The right hemisphere is usually dominant for visuospatial tasks (such as drawing, face recognition, and visuospatial problems) and synthetic or holistic thought.
     1. Controls both the motor and sensory cortexes of the left side of the body.

• **Body Rhythms:** Biological processes that show cyclical variation over time.
  
  1. **Circadian Rhythms:** Humans show physiological changes over a 24-hour cycle in hormone levels, body temperature, and heart, respiration, and metabolic rate.
     A. The circadian sleep-waking rhythm determines alertness and activity levels during the day and night.
        i. It’s regulated by the endogenous pacemakers (*internal body clock*) of the suprachiasmatic nucleus (SCN) and the pineal gland. The SCN is part of the hypothalamus that regulates sleep-waking patterns by sending messages to the pineal gland to release melatonin (thought to stimulate the production of serotonin in the raphe nucleus during sleep).
        ii. It’s thought to be the product of evolution
        iii. Humans actually run on a cycle of 25 hours, though there seem to be individual differences in people.
        iv. External re-setter (zeitgeber) of the body clock is light, which can influence the SCN to synchronize our rhythms to the 24 hour cycle of the day.
v. Slowly adjust to new starting points and can be resisted with a struggle, although it is remarkably consistent.

**Theories of the Function of Sleep:**

1. Restoration theory: *The function of sleep is to restore bodily energy reserves, repair the condition of muscles and cells and to allow growth to occur. Sleep could also allow brain neurotransmitters to replenish and aid psychological recovery.*
2. Memory Consolidation Theory: *Sleep facilitates the reinforcement in memory.*
3. Evolutionary Theory: *Given its universal nature and the fact that this unconscious and defenseless state seems a dangerous behaviour to show, sleep probably has an important evolutionary survival function to:*
   a. Conserve energy when food gathering has been completed or is more difficult
   b. Avoid damage from nocturnal predators or accidents by remaining motionless.

**Theories of the Function of Dreams:**

1. Crick and Mitchison’s Reverse Learning Theory: *Dreaming can be regarded as the random and meaningless by-product of the bombardment of the cortex with random stimulation from the brain stem during REM sleep, to serve the biological function of clearing the brain of useless or maladaptive information.*
2. Hobson and McCarley’s Activation Synthesis Theory: *Dreams are the meaningless result of random brain activity. The activation part of the theory involves the random firing of giant cells in the reticular activating system (triggered by the presence of acetylcholine) which activates the sensory and motor areas of the brain during REM sleep. The synthesis part of the theory involves the attempt of higher parts of the brain to organize and make sense of the random activity—producing the semi-coherent dreams we experience.*
3. Reprogramming Theory: *REM sleep is required by the brain to update itself in the light of new information received during the day and that dreams are the interpretation of this assimilation.*
4. Problem Solving: *Dreams are a meaningful way of considering worries or problems from conscious, everyday life. Dreams may use metaphors and may provide solutions for problems.*
5. Wish Fulfillment: *Dreams are the disguised expressions of unconscious desires and impulses. The recalled manifest content of the dream has been disguised by the dream censor through methods like symbolism to protect our conscious self from the anxiety provoking latent meaning of the dream.*

**Theories of Motivation:**

1. Homeostatic Drive Theory: *Behaviour is motivated by biological needs. Homeostasis refers to the process by which an organism maintains a fairly constant internal body environment. With imbalances in the body’s need for food and water, however, the animal actively has to do something to restore bal-
ance and so drives are activated to motivate food and water seeking behaviour. Drives are only reduced when these motivated behaviours are effective in restoring homeostasis.

2. Brain Physiology:
   a. The medial forebrain bundle: “Pleasure area”
   b. The hypothalamus: A small area of the brain involved in homeostasis and the motivation of a vast majority of behaviours
   c. The reticular activating system: Controls general arousal and activity levels
   d. The cerebral cortex: The location of the more rational, cognitive sources of motivation.

3. Genetics, Evolutionary Theory: All behaviour is motivated by evolutionary survival needs. Behaviours evolve to better adapt an organism to their environment to promote survival.

Theories of Hunger:
1. The Mouth: The mouth and throat are only short-term sensory receptors for hunger and satiety.
2. The Stomach: Stomach contractions are the mechanism involved in monitoring and triggering the hunger drive.
3. The Duodenum: The duodenum releases cholecystokinin (CCK) in response to fatty acids in the intestine.
4. The Hypothalamus: The ventromedial nucleus acts as the satiety center to stop eating once the animal has consumed the required intake. The lateral nucleus acts as a feeding center to initiate eating behaviour when intake is required.
5. Blood Glucose Levels: When glucose levels drop, they motivate eating behaviour to restore the loss.

Theories of Motivation:
1. Drive-Reduction Theory: Clark Hull (1943) believed that an organism’s level of drive was important since drive reduction was the basis of reinforcement, proposing:
   a. Reinforcement is linked to biological needs
   b. When needs are thwarted and the animal is deprived, physiological drives are energized to make the organism seek for ways to fulfill its needs
   c. By trial and error, some responses satisfy the need
   d. The responses are thus reinforced and are more likely to occur again.
   \[ \text{I.e.: Likelihood of Response} = \text{Strength of Habit} \times \text{Drive} \times \text{Incentive} \]
   His equation was not very successful, as more and more factors had to be taken into account. Sheffield et al (1951) used female rats in the goal box of a maze as a sexual reinforcer for the male rats who had to learn to run it. The researchers found that the
rats would still run the maze even if they were prevented from ever seeing the females, thus not reducing their drive.

Theories of Emotion:

1. James-Lange Theory: Different emotion-arousing external stimuli will produce specific physiological responses that in turn directly cause specific emotional feelings. Thus, the external stimuli of a dangerous object will cause the physiological response of adrenaline release/increased heart rate which, in turn, is felt as the emotion of fear. Physiological arousal is necessary and sufficient for emotions to occur.

2. Cannon-Bard Theory: Conscious feelings of emotion and physiological changes occur as separate but simultaneous reactions to external emotion-arousing stimuli. Thus, the external stimuli of a dangerous object will cause the thalamus to send signals:
   a. To the hypothalamus to trigger a general “flight or fight” physiological response
   b. To the cortex to register the conscious emotion of fear
   c. Physiological arousal is therefore neither necessary nor sufficient for emotions to occur.

3. Schachter and Singer: The “Cognitive Labeling Theory of Emotion”: Emotion-arousing external stimuli will cause a general physiological arousal response that will be interpreted by a cognitive appraisal of the stimuli as a particular emotional feeling. Thus, the external stimuli of a dangerous object will cause a general “flight or fight” physiological response and a cognitive evaluation of this arousal in the light of, for example, past experiences involving this object. Physiological arousal is therefore necessary for most genuine emotions to occur, but not sufficient by itself.

   Schachter and Singer (1962): Told subjects that they were going to test the effects of a vitamin injection on their vision, but instead injected them with adrenaline. Subjects were either then:
   i. Informed of the real effects (e.g. increased heart/respiration rate)
   ii. Misinformed of the effects (e.g. told false symptoms such as itching)
   iii. Given no information on the effects
   iv. The “control” group was injected with a saline placebo

   Subjects were then led to a waiting room where another “subject” (really another researcher) would begin to act:
   i. Angrily
   ii. Euphorically

   It was found that those in groups ii and iii were more likely to follow the behaviour of the other “subject.” Thus, the following conclusions were drawn:
   i. Those who did not have an accurate explanation for their physiological arousal (groups ii and iii) used the cues of the
“subject’s” behaviour to identify and label their own emotion.

ii. Those who already had an accurate explanation (group i) for the effects did not need other cues so did not follow the behaviour of the “subject.”

iii. Those who changed their behaviour (groups ii and iii) did so according to cognitive appraisal of their emotions, rather than specific physiological arousal, indicating that only general arousal is required.

Strengths:
The approach is very scientific and ground in the hard science of biology with its objective materialistic subject matter and experimental methodology.

It provides strong arguments for the “nature” position of the “Nature vs. Nurture” debate.

Physiological practical applications are usually extremely effective

The physiological approach has contributed to psychologists’ understanding of a very wide range of phenomena.

Weaknesses:
Reductionism: the biopsychological approach explains thoughts and behaviour in terms of the action of neurons or biochemicals, ignoring other more suitable levels of explanation and the interaction of casual factors.

The approach has not adequately explained how mind and body interact—consciousness and emotion are difficult to study objectively.

Overly simplistic—biopsychological theories often over-simplify the huge complexity or physical systems and their interaction with environmental factors.

Studies:
Broca: In 1861, an aphasic (relating to a language disorder that impairs speech) patient named “Tan” (as it was the only word he could say) was placed under the care of Broca. Determined to unearth the cause of Tan’s aphasia, Broca experimentally tested various bases for Tan’s speech disorder. Were the speech muscles paralyzed? No, for Tan could move his lips and tongue when asked to do so. His hearing was normal for he could hear the ticking of a watch at about the normal distance and could, of course, respond to questions (though could not verbally answer them). His vision was clear enough to allow him to tell time by looking at a watch. He understood what was said to him but he could only communicate with gestures. This general lack in impairment to his intelligence led Broca to conclude that Tan’s speech apparatus was not paralyzed, but instead, he couldn’t remember HOW to use the speech apparatus to form the words he wanted to say.
Six months after Tan’s death, Broca came into contact with another patient with symptoms similar to Tan’s (though less extreme). Through research with this patient, Broca was able to locate what he believed to be the area of the brain specialized for speech production and the use of memory to select words. This research helped to develop the idea of localization of function—different areas of the brain serve to perform different functions.

**Sperry:** Sperry and his team were invited by a group of physicians who had been doing split-brain (severing the corpus callosum) surgery and studying its effects on patients to join the team and devise behavioural measures that might pick up more subtle effects of the damage to the brain. Sperry and his teammates realized that the patients were able to move their eyes, meaning that visual input from any source could be directed anywhere within the visual system as the patient moved his eyes around. Using this knowledge, it was decided that some visible stimulus would be presented very briefly (200 milliseconds—the time it takes for the eye to begin to move in response to a stimulus) to the left or right of a particular fixation point, and then the patient would be asked what, if anything, they had seen. Sperry was able to conclude that in split-brain patients, visual information that is presented to one half of the brain simply is not available to the other half; essentially, the brain acts as two rather than one. If the image of an object is presented in the left half of the visual field, the visual information is sent to the right hemisphere. And when this is done, the patient cannot identify or describe what is shown. If asked, “What did you see?” the patient would respond, “I didn’t see anything.” In contrast, if the information is sent to the left hemisphere, the patient can name and describe it without difficulty. In fact, this is also true of touch: patients can name and describe objects that were placed in their right hands, but not the name of objects placed in their left hands. This is because the left hemisphere of the brain is responsible for speech. Interestingly, if a picture of a spoon was shown to the right hemisphere, patients were able to pick out a spoon, by touch, from among other objects using the left hand. But when told that they were correct, they remained adamant that they had never even seen an object. In split-brain patients, visual and tactile information cannot be relayed to the left hemisphere of their brains because the channel has been severed by which such information would normally have been conveyed. The speech apparatus cannot generate a name for what the right hemisphere sees because it is not told about it. The left hemisphere no longer knows what the right hemisphere is doing—or seeing, or feeling.

**HEART Experiment:** Patients were presented with the word “Heart” divided by a focal point so that “HE” was on the left side and “ART” was on the right. Because the corpus callosum was severed, the two hemispheres of the brain could not communicate; patients said that they saw “Art” (which was presented as a stimulus to the right eye, which in turn means that it was discerned by the left hemisphere of the brain—the side of the brain that controls speech), but point to “He” (which they didn’t know that they were seeing because it was presented on the left visual field but discerned by the right hemisphere).
The Cognitive Perspective

Origins and History:
• Began to revolutionize psychology in the late 1950s and early 1960s to become the dominant paradigm in the subject by the 1970s. Interest in mental processes had been gradually resurrected through the work of people like Tolman and Piaget but it was the arrival of the computer that gave cognitive psychology the terminology and metaphor it needed to investigate human minds.
  a. Alan Turing developed the first computer (his Colossus computer helped break the German Enigma codes during World War II) and created an analogy between computers and human minds in which the brains are the hardware and the minds are the software.
• Cognitive psychology compares the mind to computer, suggesting that we are “information processors” and that it is possible and desirable to study the internal mental processes that lie between the stimuli we receive and the responses we make. Cognition means “knowing” and cognitive processes refer to the ways in which knowledge is gained, used, and retained. Therefore, cognitive psychologists have studied perception, attention, memory, thinking, language, and problem solving.
• Cognitive psychologists believe these internal mental processes can be investigated scientifically by proposing models of psychological functions and then conducting research to see, when people are given an input of information, whether their output of behaviour/verbal report matches what the models would predict.

Basic Assumptions:
1. The study of internal mental processes is important in understanding behaviour—cognitive processes actively organize and manipulate the information we receive—humans do not just passively respond to their environment.
2. Humans, like computers, are information processors—regardless of their hardware, they both receive, interpret, and respond to information—and these processes can be modeled and tested scientifically

Key Concepts:
1. Data without theory is meaningless, theory without data is empty.
2. Cognitive processes interact with each other and with non-cognitive processes.
3. Cognition needs to be studied through a variety of scientific methods.
4. Basic research in cognitive psychology may lead to applications, applied research may lead to basic understanding.

5. Memory:
   a. Encoding Types of Memory:
      Imagery memory: Some memory representations appear to closely resemble the raw, unobstructed data containing original material from our senses, such as the extremely brief iconic (visual) and echoic (auditory) after images that
rapidly fade from our eyes and ears. Yet, even after these have gone, we retain the ability to recall fairly vivid visual images of what we have seen and to hear again tunes we have experienced.

**Procedural Memory: (Implicit Memory)** the memory for “knowing how” to do things such as talk, walk, juggle, etc. Although we retain these skills and abilities, we are often completely unable to consciously introspect upon or describe how we do them.

**Declarative Memory: (Explicit Memory)** Concerns all the information that we can describe or report, and as such has been the focus of the majority of research on memory, including:

a. **Semantic Memory:** Concerning memory for meaning, the storage of abstract, general facts regardless of when those facts were acquired (such as “knowing” what a word means).

b. **Episodic:** This “knowing when” memory based upon personal experience and linked to a particular time and place in our lives. Very vivid episodic memories have been deemed “flashbulb” memories.

**Duration Types of Memory:**

1. **Sensory Memory:** The sense organs have a limited ability to store information about the world in a fairly unprocessed way for less than a second. The visual system possesses iconic memory for visual stimuli (such as shape, size, color, and location—but NOT meaning) whereas the hearing system has echoic memory (for auditory stimuli)

2. **Short Term Memory:** Information selected by attention from sensory memory may pass into short-term memory (STM). Short Term Memory allows one to retain information long enough to use it (looking up a telephone number and remembering it long enough to dial it).

   a. Lasts between 15 and 30 seconds (Peterson and Peterson 1959) unless it's rehearsed.

   b. Short term memory has a capacity of about 7 “chunks” (Miller 1956)

   c. Short Term Memory mostly encodes memory acoustically (in terms of sound) but can also retain visuospatial images.

3. **Long Term Memory:** Provides the lasting retention of information and skills from minutes to an entire lifetime.

   a. Appears to have a limitless capacity.

   b. Seems to be encoded in terms of meaning but also retains procedural skills and imagery.

**Other Types of Memory:**
1. **Reconstructive Memory:** Tends to concentrate on qualitative changes in what is remember, often of more everyday material such as stories, pictures or witnessed events under more natural conditions.
   b. Pioneered by Bartlett (1932) who argued that people do not passively record memories as exact copies of new information they receive, but actively try and make sense of it in terms of what they already know—a process he called “effort after meaning.” Bartlett proposed that information may be remembered in a distorted way since memories are essentially “imaginative reconstructions” of the original information in the light of each individual’s past experiences and expectations. Rather than remembering what actually happened, we remember what we think should or could have happened, a term he called “schema.”
   i. **Schema:**
      - Represents both simple and complex knowledge of all kinds
      - Links together to form larger systems of related schemas or smaller systems of sub-schemas
      - Has slots with fixed values, optional values, and default values
      - Acquires their content through generalized personal experience or the taught beliefs and stereotypes of a group or society.
      - Operates as active recognition devices—all schemas constantly try to make sense of new information by making the best fit with it.

6. **Problem Solving:** Refers to the cognitive processing that allows a desired goal to be reached from a current situation where there appears to be no immediately obvious means of doing so.
   2. **Gestalt Problem Solving:**
      a. Takes a holistic approach to problem solving.
      b. Problems are solved when a cognitive re-arrangement or reorganization of the different aspects of the problem results in a new structural understanding of the relationship between them.
      c. Insight occurs as a sudden revelation or “aha” experience as pieces of the solution slot into place.
      d. Productive thinking involves finding new solutions to problems while reproductive thinking applies past solutions and experiences to new problems.
      e. Reproductive thinking may inhibit progress in problem solving because it leads to:
         1. Mental set (*using previously successful strategies out of habit to solve new problems when better strategies may exist*)
2. Functional Fixedness *(failure to see that an object can have other uses from its normal one)*

3. Confirmation Bias *(Failure to look for disconfirming evidence that would eliminate useless strategies)*

3. Information-Processing Approach:
   i. Takes a reductionist approach to problem solving.
   ii. Divides problem solving into a set of stages involving representing the problem, selecting appropriate strategies to tackle it and then evaluating the progress achieved.
   iii. Algorithmic strategies involve a systematic search through all possible solutions. This guarantees a solution but becomes increasingly impractical and time-consuming the greater the number of possible solutions.
   iv. Heuristic strategies involve rules of thumb for approaching and solving problems including:
      a. Means-ends analysis—breaking down a problem into a set of sub-problems by working backwards from the goal state to the present state and solving each in turn to reduce the distance between the two situations. The analysis proceeds by identifying the goal state, the obstacles that stand in the way, and the operators available to overcome the obstacles.
      b. The analogy heuristic strategy—Applying past knowledge to a current problem by identifying a similar past problem through matching similar elements in both and adapting strategies that were successful in dealing with the past problem for the new one.

7. Decision-Making: Refers to making choices between alternative courses of action. This involves a comparative assessment of the costs and benefits of the different courses of action, however the future value of a choice is not always fixed or known before it is made. Risk taking refers to decision making when the outcomes of particular choices are not guaranteed and the consequence of uncertainty means that an assessment of the probability of a positive or negative outcome has to occur. Given that human thinking about probability is prone to many errors and biases, there are many important practical implications for risk taking behaviour.
   i. Errors in thinking about probability:
      a. The Representativeness (similarity) Heuristic:
         i. Refers to estimating the probability of a particular sample of events based on their similarity to characteristics we feel are typical of the whole category population of those events.
ii. This may lead to the impression that some events are more likely than others and that certain trends can be predicted.

iii. However, if people do not follow the true principles of Representativeness (if they ignore information on probability base-rates or forget that small samples are less likely to be representative) then the similarity of the sample to the population characteristics can lead to false estimates.

iv. Thus, if people believe events are drawn from a random population, a small sample of events that “looks” random (HTTHTH) will be thought of as more probable than events that appear orderly (HHHTTT) even if they are equally likely.

Kahneman and Tversky (1972) found people incorrectly judged the birth order B B B G G G as less likely than G B B G B G because the latter appeared more characteristic of the general randomness of birth order. They also found people tended to see small and large samples of births from different sized hospitals as being equally representative. Kahneman and Tversky (1973) found people would ignore base-rate probability information on the frequency of different professions if a description of a person’s characteristics were similar to those thought to be stereotypical of a rarer profession.

b. The Availability Heuristic:

i. Involves estimating the probability of an event based on how easy it is to remember past examples of it.

ii. This may lead to familiar and recent events being more “available” to memory and thus seen as more probable.

iii. However, if experience of the world’s events is not typical or if the events themselves are random, familiarity and recency will not be useful predictors of probability.

iv. Thus, a recent freak accident or biased reporting of events in the media can increase estimates of accident probability.

Tversky and Kahneman (1973) presented people with a list of 39 names consisting of 19 women and 20 men (or vice versa). When the minority group of men or women consisted of famous names, 80% later estimated that they had occurred more frequently. Weber et al (1993) found doctors were more likely to make a certain diagnosis if they had recently made a similar diagnosis.

8. Retrieval and Forgetting:
i. Types of Retrieval:
   a. Recall- The active searching of our memory with very few external memory cues
   b. Recognition- A sense of familiarity with external material whether we can name/identify it or not. The material to be retrieved is matched to its external likeness.
   c. Re-learning- The ability to re-learn previously presented material.
   d. Reconstruction- Retrieval that has distorted original information due to our interpretation of it based upon our past experiences, beliefs, schemas, and stereotypes.
   e. Confabulation- The unintentional manufacture or invention of material to fill in missing details during retrieval.
   f. Redintegration- Patchy details of an experience will pop into consciousness regardless of what is currently thought about and gradually become more coherent.

ii. Retrieval:
   a. Availability: Whether the material is actually there to be retrieved.
   b. Accessibility: The problems involved in retrieving available information
   c. Gray Area: Ambiguity between these two concepts

iii. Repression:
   a. A concept from psychodynamic psychology which focuses heavily upon emotion. Freud proposed that forgetting is motivated by the desire to avoid displeasure, so embarrassing or anxiety producing experiences are repressed, pushed deep into the unconscious.
   b. A protective defense mechanism that involves the ego actively blocking the conscious recall of memories which become inaccessible.

iv. Flashbulb Memory:
   a. Events that can be remembered in almost photographic detail—as if they are imprinted upon their mind, most likely to occur when the event was not only surprising to the person but also had consequences for their own life.

9. Perception: The process of interpreting and organizing the environmental information received by the senses. For visual perception, this involves taking the constantly fluctuating patterns of light, which arrive from all over the environment, upside down, on to our two-dimensional retinas and achieving:
a. Feature or object detection—Detecting the shape of objects in their environment
b. Depth Perception—Establishing location in three-dimensional space
c. Pattern or Object Recognition—recognizing an object in terms of its shape, size, brightness, color, despite its: Viewpoint, Distance, or Luminescence.

I. Theories:
   a. Bottom-Up Theory: Emphasizes the richness of the information entering the eye and the way the perception can occur from using all the information available. Perception occurs directly from sensation.
   b. Gibson's Theory of Direct Perception: The optical array contains all the information needed to directly perceive three-dimensions with little or no information processing needed. Light reaching the eye contains invariant information about the depth, location, and even function of objects. “Sensation is perception.”
   c. Top-Down Theory: Stresses the factors in the construction of reality that go beyond the information received from the senses. Perception is a very active process, whereby the individual's past knowledge, experiences and stereotypes seek out sensory data to “complete the picture.”
   d. Gregory's Perceptual Inference Theory: We go beyond the available sensory information in perception; “A perceived object is a hypothesis, suggested and tested by sensory data.”
   e. Perceptual Set Theory: Stresses the idea of perception as an active process involving selection, inference, and interpretation.

Studies
1. Festinger (1957): The experiment was done in three parts:
   i. The investigators asked their participants (college students) to perform a boring and repetitive series of tasks such as putting spools into a tray then dumping them out and putting them back in again—over and over—a pointless, dull task intended to induce stupefying boredom.
   ii. Under the assumptions that it was essential that the next “participant” believe that the task she was about to perform was “interesting and enjoyable” participants were offered either $20 or $1 to lie to the woman (the independent variable).
   iii. The participants (who lied) were then asked how they themselves felt about the tasks they had performed earlier in the experiment. Those students who had been paid $20 to lie rated the activity as “dull.” The students who had been paid $1, however, rated the task as “enjoyable.” Those who received an abundant amount for lying did not change their attitudes about the task while those
who received little compensation did. According to Festinger’s “Cognitive-Dissonance Theory”, this is because $1 does not “justify” a lie and thus, the participant felt “dissonance” and accordingly had to convince himself that he had enjoyed the activity in order to overcome the internal conflict he was experiencing.

2. **Tversky and Kahneman (1981):** Participants were divided into two groups and two forms of a decision problem were presented, one to each group. They both began with this stem: “Imagine the U.S. is preparing for the outbreak of an unusual Asian disease which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimate of the consequences of the program are as follows:” the two groups were then presented with two different programs:

   a. If program A is adopted, 200 people will be saved. If program B is adopted, there is a 1/3 probability that 600 people will be saved and a 2/3 probability that no people will be saved. Which of the two programs would you favor?

   b. If program C is adopted, 400 people will die. If program D is adopted, there is a 1/3 probability that no one will die and a 2/3 probability that 600 people will die. Which of the two programs do you favor?

   In reality, the two decision problems are exactly the same. Programs A and C describe the same outcome: 200 people will be saved but 400 will die. Programs B and D both describe the same outcome: a 1/3 chance that no one will die, but a 2/3 chance that all 600 will die. If outcome A is preferred to B by most people then outcome C should be preferred to D. However, 72% of the participants in the first group favored outcome A while 78% in group 2 favored option D. This experiment relies heavily upon the concept of framing. It is theorized that people chose option D because it was phrased in terms of “lives lost.” This is because this question represents a “risk seeking” behaviour and thus the possibility of “loss.” Thus, when the question is posed, we choose the risky alternative where there is a possibility of gain. However, if the question is posed as a possible “gain”, we are more likely to hold onto the “sure thing” which explains the preference of program A to program B.
Dysfunctional Behaviour

The Concept of “Normalcy”:
Models of Deviation Include:

A. Statistical Approach: An individual deviates from what is considered “normal.” This model, however, fails to take into consideration that:
   i. Many unusual behaviours, such as genius, are desirable.
   ii. Some undesirable behaviours, such as depression, are statistically normal.
   iii. The “norm” depends upon a variety of factors, including age and culture, and is not universally applicable.
   iv. Who decides what constitutes as “deviation” from the norm. And for that matter, who decides what constitutes as “normalcy”?

B. Social Deviation: Abnormality can be defined in terms of certain standards of social behaviour. This model, however, fails to take into consideration that:
   i. Social deviations vary according to prevailing moral perspectives and can lead to an abuse of individual rights.

C. Deviation from Mental Health: Suggested by Jahoda, this model states that we can define psychological well being in order to recognize mental illness. The key features are: self-acceptance, potential for growth and development, autonomy, accurate perception of reality, environmental competence, and positive impersonal relations. However, this model finds critics it that:
   i. It is highly influenced by cultural attitudes
   ii. It is too idealistic—very few people actually achieve its high standards.
   iii. Its concepts are too difficult to measure and too vague for diagnosis.

D. Dysfunction and Distress: Behaviour that disrupts the ability to work and conduct satisfying relationships with people. It is based on the ideal of functionality. However:
   i. in some situations, dysfunctional behaviour may be functional
   ii. Not all mental disorders are accompanied by distress.

E. Integrated Model: Thomas Szasz asserted that mental illness is a myth, a fictional creation used to control and change people. He believes that people aren’t “ill,” they just suffer from “problems in living.”

F. Adequacy Model: The impairment of performance of everyday activities by a person’s behaviour.

G. Personal Discomfort: Feeling distressed and unhappy, although others may fail to notice.

Models of Dysfunctional Behaviour:
**Biological Model:** Is based on the assumption that if the brain, neuroanatomy, and related biochemicals are all physical entities and work together to meditate psychological processes, then treating any mental abnormality must be a biological process. Psychological illness, therefore, should be treated like any physical illness (being caused by chemical imbalance, microbes, or physical stress) with surgery or drugs. There is evidence that genetics play a roll in psychological wellbeing.

**The Learning (Behavioural) Model:** Concentrates on behaviour and whether or not it is “adaptive” or “maladaptive.” It assumes that providing the behaviour is presenting no problems to the individual or to other people that there is no need to regard the behaviour as a mental disorder. Behaviourists claim that the “symptoms are the disorder” and we need not concern ourselves with the causes of the behaviour which raises criticism.

**The Cognitive Model:** Believes that an individual’s thoughts, emotions, and beliefs influence their reactions to external stimuli. It is thought that if a person’s thoughts toward something are influenced to change that their behaviour will also change. Like the behavioural model, this method, does not deal directly with the cause of the problem directly.

**Psychodynamic Model:** Pioneered by Freud, it proclaims that psychological “illness” comes about from repressed emotions and thoughts from experiences in the past, and as a result of repression, alternative behaviour replaces what is being repressed. The patient is “cured” when they can admit that which is being repressed.

**Classificatory Systems and Diagnosis:** Define, classify, and organize psychological disorders.  

**DSM-IV:** Diagnostic and Statistical Manual of Mental Disorders is the classification system of the American Psychiatric Association (APA). It consists of five axes of disorders and thereby suggests to the diagnostician not to focus only on one clinical disorder but as well as to consider other important aspects.

**Axis 1: Clinical Disorders (excluding personality disorders and mental retardation)**

a. Disorders usually first diagnosed in infancy, childhood, or adolescence
b. Delirium, dementia, and amnestic and other cognitive disorders
c. Mental disorders due to a general medical condition (not elsewhere classified)
d. Substance-related disorders
e. Schizophrenia and other psychotic disorders
f. Mood disorders
g. Anxiety disorders
h. Somatoform disorders
i. Factitious disorders
j. Dissociative disorders
k. Sexual and gender identity disorders
l. Eating disorders
m. Sleep disorders
n. Impulse control disorders (not elsewhere classified)
o. Adjustment disorders
p. Other conditions that may be a focus of clinical attention

Axis 2: Personality Disorders and Mental Retardation
Axis 3: General Medical Conditions (related to mental disorders)
Axis 4: Psychological and Environmental Problems
Axis 5: Global Assessment of Functioning (psychological, social and job-related functions are evaluated on a continuum between mental health and extreme mental disorder)

ICD 10: the International Classification of Diseases is the standard diagnostic classification for all general epidemiological and many health management purposes published by the World Health Organization (WHO). Chapter V is relevant for mental and behavioural disorders and consists of 10 main groups:

FO: Organic, including symptomatic and mental disorders
F1: Mental and behavioural disorders due to the use of psychoactive substances
F2: Schizophrenia, schizotypal and delusional disorders
F3: Mood (affective) disorders
F4: Neurotic, stress-related somatoform disorders
F5: Behavioural syndromes associated with physiological disturbances and physical factors
F6: Disorders of personality and behaviour in adult persons
F7: Mental retardation
F8: Disorders of psychological development
F9: Behavioural and emotional disorders with onset usually occurring in childhood and adolescence.

There is also a group of “unspecified mental disorders.”

Description and Etiology of Dysfunctional Behaviours:
Phobias

Description: An irrational, intense, persistent fear of certain situations, activities, things, or people. Phobias are the most common form of anxiety disorders.

Three categories: Social Phobia (can further be categorized as generalized social phobia or specific social phobia), specific phobias (fear of single specific panic trigger such as spiders, snakes, dogs, elevators, etc.), and agoraphobia (a generalized fear of leaving one’s home for fear of possible panic attack).

Symptoms: An excessive, unreasonable desire to avoid the feared subject accompanied by panic

Etiology: See “Theories of Emotion”. It is generally accepted that phobias arise from a combination of external events and internal predispositions. In a famous experiment, Martin Seligman used classical conditioning to establish phobias of snakes and...
flowers. The results of the experiment showed that it took far fewer shocks to create an adverse response to a picture of a snake than to a picture of a flower, leading to the conclusion that certain objects may have a genetic predisposition to being associated with fear. Many specific phobias can be traced back to a specific triggering event, usually a traumatic experience at an early age. Social phobias and agoraphobia have more complex causes that are not entirely known at this time. It is believed that heredity, genetics, and brain chemistry combined with life-experiences to play a major role in the development of anxiety disorders, phobias and panic attacks.

Anxiety

**Description:** A psychological and physiological state characterized by cognitive, somatic, emotional, and behavioural components which combine to create an unpleasant feeling that is typically associated with uneasiness, fear, or worry. It is distinguished from fear in that it occurs without the presence of an external threat or an identifiable triggering stimulus. It is the result of threats that are perceived to be uncontrollable or unavoidable.

**Symptoms:** (Physical) Heart palpitations, fatigue, nausea, chest pain, shortness of breath, stomach aches, headaches

(Emotional) Feelings of apprehension or dread, trouble concentrating, feeling tense or jumpy, anticipating the worst, irritability, restlessness, watching for signs of danger, feeling as if one’s mind has gone blank, nightmares, obsessions about sensations, déjà vu, a feeling of being trapped in one’s mind, and being “scared” of everything.

**Etiology:**

*Psychological Theory:* Anxiety is a signal that an unacceptable drive or impulse is surfaced which arouses the individual (unconsciously) to prevent its expression. The symptoms of anxiety are “incomplete containment” or “repression” of the unacceptable drive.

*Behaviour Theory:* Anxiety (and phobias) is based originally on learned responses to painful or fearful stimuli. Eventually, the anxious response can occur without the stimulus.

*Cognitive Theory:* Anxiety arises as a result of faulty and distorted thinking patterns that precede expression of anxiety symptoms. For example, patients with panic disorder might overreact to normal body sensations (such as light headedness or an increased heart rate) and eventual spiral into a panic attack.

*Biological Theory:* Many biological abnormalities have been associated with anxiety disorders, including obscured increase in brain neurotransmitters. The locus ceruleus, a part of the brain located in the brainstem may be responsible for many anxiety symptoms. Electrical stimulation of the locus ceruleus produces marked fear and anxiety. Drugs like yohimbine, which increase locus ceruleus activity (such as benzodiazepines, clonidine, and propranolol), have anti-anxiety effects. Many patients with panic disorder are extremely sensitive to slight increases in carbon dioxide in the air.

**Eating Disorders**
Description: To eat or avoid eating to an extent that one’s mental and physical health are both negatively affected.

Types (and symptoms): Anorexia Nervosa: Deliberate and sustained weight loss driven by a fear of distorted body image accompanied by an abnormally low body weight, amenorrhea, an intense fear of gaining weight or become fat, a preoccupation with body weight and shape, low self-esteem, constant self-criticism, the fear of losing control, and the classification of foods as “good or bad.”

Bulimia Nervosa: A cyclical and recurring pattern of binge eating followed by guilt, self-recrimination, and over compensatory behaviour such as crash dieting, over exercising, and purging to compensate for the excessive caloric intake (see “Anorexia Nervosa” for symptoms).

Binge-Eating Disorder: The consumption of very large amounts of food in a short period of time.

Etiology:

Environmental: The media is thought to have incredible influence over accepted societal views of values, norms, and image standards. The media sends the message that “thin is beautiful”. Interestingly, society’s exposure to media and eating disorders parallel one another in their growth. It could also help to explain why anorexia nervosa is a disease found only in western culture.

Biological: Patients with bulimia have been found to have abnormally low levels of serotonin which is secreted by the intestines and central nervous system during digestion. Bulimics are also reportedly low in cholecystokinin (a hormone that causes one to feel full and decrease eating) levels. People with eating disorders traditionally have high levels of cortisol (a hormone which promotes blood sugar and increases metabolism) which could be attributed to an imbalance in or around the hypothalamus. A study in London found anorexics to have a high level of serotonin.

Family Systems: Believes eating disorders to stem from both the adolescent’s difficulty in separating from over-controlling parents and disturbed patterns of communication. When parents are critical and unaffectionate, their children are more prone to becoming self-destructive and self-critical and have difficulty developing the skills to engage in self-care giving behaviours. Such developmental failures in early relationships with others, particularly motherly empathy, impairs the development of an internal sense of self and leads to an over-dependence on the environment. When coping strategies have not been developed, food and drugs serve as a substitute.

Trauma: Many eating problems begin as survival strategies rather than vanity or obsession with appearance. Eating disorders and a disconnected relationship with one’s body is commonly a response to environmental stressors such as abuse, racism, and poverty.

Schizophrenia:

Description: A psychiatric diagnosis describing a mental disorder characterized by abnormalities in the perception or expression of reality that may affect all five senses, but most commonly manifests itself as auditory hallucinations, paranoid or bizarre delusions, or disorganized speech and thinking with significant social or occupational dysfunction whose onset typically occurs in young adulthood.
**Types (and symptoms):** Delusions, hallucinations, disorganized speech (formal thought disorder), grossly disorganized behaviour (dressing inappropriately, crying frequently, etc), catatonic behaviour, affecting flattening (lack or decline in emotional response), alogia (lack or decline in speech), avolition (lack or decline in motivation) manifested as:

1. **Paranoid type** (where delusions and hallucinations are present but thought disorder, disorganized behaviour, and affective flattening are absent)
2. **Disorganized type:** Where thought disorder and flat affect are present together
3. **Catatonic type:** The subject may be almost immobile or exhibit agitated purposeless movement.
4. **Undifferentiated type:** Psychotic symptoms are present but the criteria for paranoid, disorganized, or catatonic types have not been met.
5. **Residual Type:** Where positive symptoms are present at a low intensity.

**Etiology:**

*Biological:* It is suggested that schizophrenia is a disease of “complex inheritance” with several genes possibly interacting to generate risk for schizophrenia or the separate components that can co-occur leading to a diagnosis, though these genes have been classified as “non-specific” and may raise the risk of developing other psychiatric disorders such as bipolar disorder. Schizophrenia has also been associated with rare deletions or duplications of tiny DNA sequences (known as copy variants) disproportionately occurring with genes involved in neuronal signaling and brain development. There is evidence that prenatal exposure to infections increases the risk for developing schizophrenia later in life, a suggestion that supports the diathesis stress model. The diathesis stress model suggests that an individual has a predisposition toward a disease (such as schizophrenia) and that dysfunctional behaviour occurs as a result of environmental stressors (that awaken the predisposition). The dopamine hypothesis suggests that people with schizophrenia suffer from an excess of the neurotransmitter dopamine. Autopsies on people with schizophrenia reveal them to have unusually high levels of dopamine (Iversen 1979). Antipsychotic drugs work by binding to the dopamine receptor sites. Interestingly, it is possible to create the symptoms of schizophrenia by taking too much of the drug L-dopa (used to treat Parkinson’s).

*Social:* Living in an urban environment, social disadvantage (poverty), migration related to social adversity, racial discrimination, family dysfunction, unemployment, poor housing conditions, abuse, and trauma have all been consistently found to be a risk factor for schizophrenia, which supports the diathesis stress model.

**Approaches to Treatment and Therapy:**

*Biological Approach:* Assumes that psychological disorders are based on physical causes (usually attributed to abnormalities in the structure or function of the brain). The most common “therapy” is the use of drugs which alleviate symptoms but ignores the causation of the symptoms. According to a study done in 1993, Xanax is no more effective than a placebo pill after 8 weeks. Psychosurgery, a drastic approach used most
commonly with people suffering from epilepsy (although it has been used to treat OCD and anorexia) seeks to eliminate symptoms by removing the part of the brain associated with the dysfunction, although only roughly 5/18 patients significantly improve after surgery. Electroconvulsive therapy administers a series of shocks to the brain to induce seizures in anesthetized patients in order to destroy the parts of the brain believed to be responsible for causing major depression, mania, catatonia, and schizophrenia.

**Behaviourist Approach:** Assumes that behaviour is the result of faulty learning and does not assume that there is an underlying causal factor; behaviour is the problem: learned behaviour is too varied to make classification meaningful.

*Systematic Desensitization:* Is based on the idea that a person cannot make 2 competing reflex responses (anxiety and relaxation) at the same time. Clinician and individual develop a hierarchy of fears that ranges from mild to intense and the clinician attempts to recondition the individual so that the stimuli in this hierarchy become associated with relaxation rather than fear. It is used in a wide variety of fears (snakes, heights, etc. – Wolpe 1973) and has a success rate of 70%.

*Flooding:* Exposes the patient to vast amounts of the feared stimulus assuming that one cannot stay anxious forever and will eventually begin to calm down and associate this newfound calmness with the previously feared object. Wolpe (1973) experimented with this technique by locking a girl afraid of cars in a car and driving her around for hours until she calmed down.

*Aversive Conditioning:* Induces an adverse response to stimuli which are associated with undesirable behaviours (antabuse is given to an alcoholic). The individual realizes that if they stop the behaviour (such as drinking) then the discomfort will end. However, Forrest 1985 claimed that this method is in effective for if “drinkers” realize that if they quit taking the antabuse, then they can drink with adverse reactions and McConnel 1974 cites this method as “controversial” because it involves pain and discomfort.

*Operant Conditioning:* Relies heavily on controlling relevant reinforcers to shape behaviour. One of the most widely used form of operant conditioning in therapy is the establishment of a “token economy”, especially in institutional settings (Ayllon & Azrin 1968) where reinforcers are readily controlled and behaviours are easily monitored.

**Cognitive Approach:** Focuses on using thoughts to control behaviour and emotions and involves three main steps: Disconfirmation (proving existing “faulty” thoughts to be untrue), Reconceptualization (forming new “rational” thoughts and beliefs), and insight.

*Rational Emotive Therapy (RET):* Pioneered by Albert Ellis, it is aimed at changing unrealistic assumptions, assuming that people’s thoughts and beliefs often dictate the reaction an individual has to a given stimulus. In Ellis’s Words: A (the activating event) does not directly cause C (the consequences that follow), but rather B (a person’s belief system) interferes after A and influences C.

*Beck’s Cognitive Therapy:* Assumes that maladaptive thought patterns cause a distorted view of one’s self and lead to problems.
Treatment of Dysfunctional Behaviour:

**Phobias:** Are most often treated using the behavioural approach, especially systematic desensitization.

**Anxiety:** Is treated using both the biological method (with use of tranquilizers such as Xanax and Valium) and the cognitive approach.

**Eating Disorders:** Are treated most often with the cognitive approach (which seeks to improve body image).

**Schizophrenia:** Is treated almost exclusively in accordance with the biological approach with the use of antipsychotic drugs such as Aripiprazole (Abilify and Risperidone (Risperdal), although Cognitive Behaviour Therapy is often used in conjunction with drugs to help patients cope with related issues, such as self-esteem and social functioning.