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Psychology (SL and HL) Examination

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Study Guide

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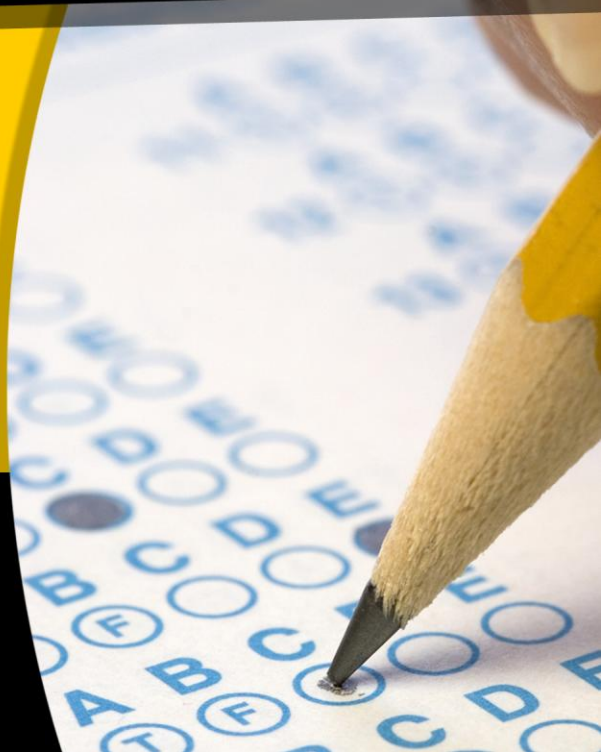

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Dear Future Exam Success Story:

Congratulations on your purchase of our study guide. Our goal in writing our study guide was to cover the content on the test, as well as provide insight into typical test taking mistakes and how to overcome them.

Standardized tests are a key component of being successful, which only increases the importance of doing well in the high-pressure high-stakes environment of test day. How well you do on this test will have a significant impact on your future- and we have the research and practical advice to help you execute on test day.

The product you're reading now is designed to exploit weaknesses in the test itself, and help you avoid the most common errors test takers frequently make.

How to use this study guide

We don't want to waste your time. Our study guide is fast-paced and fluff-free. We suggest going through it a number of times, as repetition is an important part of learning new information and concepts.

First, read through the study guide completely to get a feel for the content and organization. Read the general success strategies first, and then proceed to the content sections. Each tip has been carefully selected for its effectiveness.

Second, read through the study guide again, and take notes in the margins and highlight those sections where you may have a particular weakness.

Finally, bring the manual with you on test day and study it before the exam begins.

Your success is our success

We would be delighted to hear about your success. Send us an email and tell us your story. Thanks for your business and we wish you continued success-

Sincerely,

Mometrix Test Preparation Team

Need more help? Check out our flashcards at: http://MometrixFlashcards.com/IB

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Top 20 Test Taking Tips

1. Carefully follow all the test registration procedures
2. Know the test directions, duration, topics, question types, how many questions
3. Setup a flexible study schedule at least 3-4 weeks before test day
4. Study during the time of day you are most alert, relaxed, and stress free
5. Maximize your learning style; visual learner use visual study aids, auditory learner use auditory study aids
6. Focus on your weakest knowledge base
7. Find a study partner to review with and help clarify questions
8. Practice, practice, practice
9. Get a good night's sleep; don't try to cram the night before the test
10. Eat a well balanced meal
11. Know the exact physical location of the testing site; drive the route to the site prior to test day
12. Bring a set of ear plugs; the testing center could be noisy
13. Wear comfortable, loose fitting, layered clothing to the testing center; prepare for it to be either cold or hot during the test
14. Bring at least 2 current forms of ID to the testing center
15. Arrive to the test early; be prepared to wait and be patient
16. Eliminate the obviously wrong answer choices, then guess the first remaining choice
17. Pace yourself; don't rush, but keep working and move on if you get stuck
18. Maintain a positive attitude even if the test is going poorly
19. Keep your first answer unless you are positive it is wrong
20. Check your work, don't make a careless mistake

Research in Psychology and Qualitative Research

Principles of Psychology

Enhance methods of inquiry. Psychologists learn about human behavior through investigation. By enhancing methods of inquiry for research, psychologists are able to develop more valid and reliable experiments thus obtain better results.

Increase critical thinking. Because the extent to which the mind plays a role all human processes, by increasing critical thinking, psychologists are able to better understand the functions of the brain.

Provide support for theoretical concepts. This involves research in obtaining findings that allow theoretical concepts to become practical applications.

Present relevant information. This is important in order that old concepts and information are continually validated and updated.

Reinforce learning. In the beginning stages of learning anything, it is important to practice in order to reinforce what was initially learned.

Research methodology

Because of the underlying cognitive differences between children and adults, educational psychologists have designed innovative research methodology to study how children learn as well as the unique educational problems and instructional issues discovered in the classroom environment.

- Experiments and studies must be designed so that they provide internal, external, and ecological validity
- Methods should include both quantitative and qualitative measurements
- An important development in quantitative methodology is factor analysis, which is used to summarize a set of variables such as test questions, develop theories about both positive and negative reactions to the test, and determine the reliability of the content of test questions
- Qualitative analysis uses verbal data gathered from the notes of classroom instructors and classroom observers
- The information can be obtained from conversations, interviews, focus groups, and personal journals
- Analysis can also come from students' artwork, computer logs, and interactions recorded on video

Children research methods

All branches of psychology use various research methods to study behavior. However, scientists have discovered that concepts used to test adults cannot always be used to test children. Adult tests, if modified and simplified, can usually be used successfully to test adolescents.
Here are broad definitions for common research methods:

- Laboratory experiments test a hypothesis in a controlled environment
- Experimental study changes one variable in the environment
- Observational study tries to change as little of the existing environment as possible
- Psychometrics studies ways to measure individual differences in

knowledge, ability, attitude, and personality
- Longitudinal study observes a large group of individuals who were born around the same time over a long period of time
- Cross-sectional study observes individuals of different ages. Cross-sequential study combines both longitudinal and cross-sectional methodologies by observing different age groups over a long period of time and noting both similarities and differences in and between the groups

Basic research and applied research

Basic research could also be called exploratory of research in that the psychologist's intention is to gain additional knowledge or build on existing knowledge from previous research. On the other hand, applied research focuses on a specific issue or problem with an aim to find a solution to the problem. Both basic and applied research are similar because they rely on previous research as well as theoretical concepts in order to build a basis for the hypotheses that will be explored within that experiment. However basic research does not have any intention of finding a specific solution to a problem whereas applied research does. For example, basic research may include exploring the various functions of the brain simply to gather more information about these functions. Conversely, applied research may research the activities and needs of inner city youth in order to develop effective intervention programs to increase of learning and positive communities.

Operational definitions

Operational definitions are the researchers' specific definitions about the variable tested in an investigation. Specifically, for a variable to be operationally defined, the researcher must include information on the procedure used to determine the variable. For example, if a variable is low socioeconomic status, the operational variable may be that low socioeconomic status includes all individuals who fall under the poverty line according to the Department of Housing and Urban Development. It is important to define variables in such a way so future researchers can replicate the study. Using well defined operational definitions will also increase the validity and reliability of a study.

Scientific attitude

Curiosity is the first component of the scientific attitude. This curiosity stems from wanting to know more about the world around you and is an essential component to determining what is research were the as well as determining what questions need to be asked in order to find the correct answers. Skepticism is the next component of the scientific attitude, which prefers simply to an individual's tendency to ask questions about the answers they have been given. In other words and when provided with an answer a skeptic may ask "how do you know that's the answer?" This questioning opens the door for further inquiry. Finally humility refers to our own ability to admit error and be open to new lines of thinking which often result from scientific inquiry.

Theory and hypothesis

The theory is a proposed explanation of a phenomenon or behavioral that is typically based on observation or previous research. Theories are often not proven and through further research may be modified or completely rejected. A hypothesis is typically a one sentence

statement that aims to predict the certain phenomenon to be tested in the research experiment. Based on the results of the research the hypothesis is either supported or not supported. Both theories and hypotheses are components that are tested or further explored for scientific research. The both components are essential in an experiment because they provide support for the purpose of the study as well as the focus of what the researcher hopes to or expects to find with the results.

Survey methods

Survey methods are a common research method and psychology because the survey can be distributed to a large population in order to address numerous issues. However, researchers must be careful when conducting surveys because of two main limitations the first is wording effects and the other is random sampling. Wording affects deal with how survey questions are worded. The simple change in wording the change the understanding or meaning of a question and may result in the question not answering what it was intended to answer also called a valid survey. Wording effects can be a matter of simple understanding of the language or a matter of social stigmas associated with the topic. Random sampling refers to obtaining a sample population that effectively represents the entire population. A common limitation with psychological research is the available sample population is college students, which may or may not represent the population as a whole.

Double blind procedure, placebo effect, experimental group, and control group

Double blind procedure is one in which neither the participants nor the experimenter are aware of what group the participant is in.

Placebo affect occurs when an individual given a placebo who is unaware that they been given a placebo, experiences changes that are similar to those experienced by individuals given the actual treatment.

Experimental group is the research group who is given the actual treatment.

Control group is the research group that is given no treatment or is given a placebo.

For example, in this study on depression and medication the experimental group will be given the study drug in order to examine the effects of this trend on depressive symptoms. The control group will be given either a placebo or no drug and all. In a double blind procedure neither the participant nor the experiment will know who received the actual drug.

Case study

A case study is an in-depth exploration into one individual or entity in order to gather as much information in order to use support or develop a theory or support the hypothesis. Case studies are beneficial in exploring situations that may not be widespread. For example, research involving brain damage is often done through case studies because there is not a large sample population of individuals with brain damage to draw from. The limitations of case studies are the fact that it is such a limited number of individuals and therefore cannot be generalized to a larger population. This also applies to limitations in generalizing from one individual to the next with a similar issue (e.g., Two people with right hemisphere brain damage). The reason for this is because the case study could be

an atypical case. Additionally case studies are based on qualitative self report information rather than quantitative information and therefore cannot suggest cause and effect and may be biased on the part of the researcher or the participant.

Help correlation

Correlation is the extent to which two things are related to each other. For example, research may suggest that minutes spent reading per day is correlated to the academic performance. In stating this correlation the researcher will aim to obtain a correlation coefficient which states the degree to which two things correlated as well as the direction which may be positive or negative. For example, if two items have a positive correlation that means as one increases the other increases as well. On the other hand if two items have a negative correlation it means as one increases the other decreases. For example minutes spent reading per day and academic performance of positively correlated, meaning the more time a child spends reading the better their academic performance. Likewise stress and the home is negatively correlated with academic performance therefore the more stress a child experiences at home the more their academic performance will decrease.

Independent and dependent variable

The independent variable is also referred to as the experimental variable. This is the variable that will change based on the experimental treatment. For example, in this study on academic interventions the independent variable may include traditional curriculum and a new academic curriculum. The dependent variable the is the variable that is measured based on the independent variable. In this example the dependent variable may be academic performance which will be measured based on whether the student is in the traditional curriculum or the new academic curriculum group. In other words, the researcher seeks to find differences in the dependent variable (academic performance) based on which group the participants are in (independent variable: traditional vs. new curriculum). Therefore if students perform better when placed in the new academic curriculum group compare to those in the traditional curriculum group the researcher may determine that the new curriculum is more effective.

Data gathered from an experiment

Mode is a frequency score and is the most common score among all participants. For example, if the academic performance is measured in the study and five students receive an A, seven students receive a B, two students receive a C, and one student receives a D, the mode for this statistical data is it B since this was the most frequent score achieved.

Median is the middle point when all scores are lined sequentially from smallest two largest. For example, if the total score possible on a test is a 5 and 10 students obtained the following scores; 1, 1, 3, 3, 3, 4, 4, 4, 4, 5; the median score is a 4 since the score is located at the midpoint.

Mean is the average of all scores. In the above example, the mean score is a 3.2.

Ethical considerations

All researchers must first provide participants with an informed consent form that they must read and sign prior to beginning any psychological research. Contained within this form is information about the study, their responsibilities during the study, the researchers responsibilities, information on

confidentiality, if as well a disclosure that the participant may quit the study without any negative repercussions. The researcher must also do everything possible to protect participants from harm. Researchers must maintain confidentiality of all participants which includes avoiding linking individual names or other identifying information to their study results. Finally, the researcher must fully debriefed participants following the conclusion of the study. This includes providing them with any information that was not disclosed prior to beginning of the study as well as a brief discussion on the purpose of the study in what the results may be used for in the future.

Measures of variation

Range refers to the difference between the lowest and the highest score. For example, if the lowest score is a 70 and the highest score is the 100 the range of scores is 30.

Standard deviation refers to the amount that one score it defers or deviates from another score. This measure of variation tells the researcher if scores of an entire sample population are close together or widely disbursed. For example a standard deviation of one indicates that one score typically defers from another that only plus or minus. As such, by looking at one score of a 85, the researcher can be certain to find similar scores of 84 and 85.

Normal curve, also referred to as an inverted U-shaped curve indicates that most scores will fall within the middle and fewer scores fall on the upper and lower points. For example, IQ is often indicated by a normal curve with the majority of people scoring at the midpoint or around 100 and fewer people scoring either below or above this midpoint.

Learning and cognition relationship

Most educational psychological studies are based on two assumptions: how well students retain knowledge and skills and if they can and do apply the information learned in the classroom to situations outside the classroom.

- Studies have shown that people, on average, remember 20–30% of what they learned in school for as long as 10 years
- A second discovery is that the greater the level of mastery of a subject, the longer the retention time
- Whether students apply what they learn in the classroom to situations in the real world is harder to study
- Researchers disagree on the quantity and quality of evidence available to prove or disprove how much, if any, knowledge acquired in an educational setting is transferred to and used in real-life situations
- Educational psychologists agree more study is needed so that curriculum content, methods of instruction, and classroom management can be improved and the learning environment enhanced for all children

Educational psychology

Education is knowledge obtained through learning.

- Psychology is the study of mental processes and behavior
- Educational psychology is the study of how knowledge is obtained, how knowledge is imparted, and the effects of social interactions in an instructional environment

- Educational psychologists develop theories and devise methods to test these theories
- School psychologists try to find and use practical applications of the theories in the classroom and other educational settings
- This branch of psychology studies how children acquire knowledge
- This includes average children, children in individual groups such as gifted children, and those with special needs
- Because educational psychology includes instructional design, curriculum development, organizational learning, special education, and classroom management, it is associated with the department of education rather than the psychology department in most colleges and universities

Moral development

The basic tenet of moral development is learning the difference between right and wrong and applying those lessons consistently, without giving conscious thought to the reasons for the response.

- It is exhibited in a person's unconscious conduct toward, attitude about, and treatment of other people
- The mores of a culture develop over time and depend on how its citizens establish, respect, and follow societal norms, rules, and laws
- Behavior is based on a cultural social contract that, in turn, is founded on certain universally accepted aspects of moral functioning such as self-control, compliance, altruism, empathy, and reasoning
- Moral development is a lifelong process that begins in infancy, grows in childhood and adolescence and matures in adulthood
- Its manifestations change as the person ages
- Reaching the next level of development is dependent on learning and integrating the previous level
- If the process is impeded at one stage, it could negatively influence behavior later in the process

Self-regulated learning concept

The concept of self-regulated learning is based on the idea that students who are active participants in the learning process absorb more information, retain the data longer, and use it more effectively both inside and outside the classroom.

- These students set goals and devise strategies to reach those goals, analyze complex tasks and divide them into manageable parts, and monitor themselves on how well they understand the information presented to them
- Self-regulated learning students work to achieve their goals, which often include the following:
  - increasing their knowledge and skills (mastery)
  - earning higher grades and demonstrating their abilities (performance approach)
  - avoiding feeling like a failure (performance avoidance)
- Factors that contribute to their success or failure include:
  - interactions with adults both in school and at home
  - academic and social relationships with peers
  - their motivation to learn
  - how much they believe in their ability to succeed

Kohlberg's view of children's moral development

Kohlberg defined three levels of moral development, with each level having two stages.

- The preconventional level is seen in children until about age 10. They are concerned with punishment and obedience, which means avoiding punishment and individualism and making sure their needs are met
- The second level is conventional and is seen from age 10 and beyond. Children are concerned with interpersonal conformity, which means meeting the expectations of others.
- The other stage in this level is social system and conscience, which involves doing the right thing because it is good for the group rather than the individual
- The postconventional level is concerned with doing the right thing based on the opinion of the people with whom one interacts. It is based on a social contract, individual rights, and universal ethical principles. At this point in a person's moral development, societal laws that conform to universal moral reasoning are obeyed; those that violate these universal principles are ignored

Piaget's view of children's moral development

Jean Piaget discovered that children have a very basic understanding of right and wrong and that this view changes as the child ages.

- Young children base bad behavior on the amount of damage the particular behavior causes
- For example, if someone takes three cookies from the cookie jar and a second person makes sure mom is unable to see him take one cookie from the cookie jar, the younger child would say the three-cookie thief is naughtier than the one-cookie thief because he or she took more cookies
- This type of reasoning is called objective morality, or moral realism
- However, an older child would say the one-cookie thief is naughtier because he or she was sneaking the cookies while his or her mom was not looking
- This more mature reasoning is called subjective morality, or autonomous morality
- Piaget believed children were unable to use this more advanced form of reasoning before the age of 12 or 13

Scientific studying of moral development

Most laypeople recognize a good person by unconsciously applying the accepted criteria of their culture.

- Scientists do not disagree about who is a good person but, depending on their field of study, they may define morality differently
- The specific age the scientist is researching will also influence his or her definition of morality
- Taken together, these scientific viewpoints establish a complex picture of what constitutes a "good person" and how involved the lifelong process of moral development really is
- Psychoanalysts study internalized behavior (conscience or superego) and the way a person reacts to stimuli

- Behaviorists study outward behavior such as sharing, helping, and lying
- Sociocultural scientists focus on how society's values are passed on, personality traits (moral character), and cognitive behavior
- Biologists study neuroanatomy, how genetics influence moral characteristics, and the role hormones play
- Cognitive psychologists focus on moral reasoning and the decision-making process

Marriage age relationship to divorce

Studies indicate that the age at which a couple marries may have a significant impact on whether they remain married for an extended period. Individuals who marry before either member of the couple is 18 will often separate within a few years of their marriage.

- Individuals who are in the 18–25 range will separate less frequently than those who marry before 18, but they are still at a very high risk for their marriage ending in divorce rather than death
- Individuals who marry after both members of the couple are over 25 have a significantly lower risk of divorce than those who marry at younger ages
- Ultimately, statistics show that the risk of divorce decreases as the age of each member of the couple at the time of the marriage increases

Divorce

Divorce is the termination of the union created by marriage before the death of either member of the union.

- It has a significant impact on the stability of the family unit as a whole, and it affects the relationships and well-being of the individual members of the family
- Frequently, when the marital couple decides to divorce, there has already been significant stress placed on the entire family from the difficulties the marital couple has been experiencing
- Divorce can often lead to a great deal more stress being placed on the family, especially when children are involved
- As a result, individuals within and outside the marital couple may become more withdrawn or hostile as the structure of the family changes
- Divorce also allows both members of the marital couple to later remarry, as their legal obligation to each other no longer exists
- This can further alter the family structure by adding stepparents to the mix

Divorce risk factors

There are many factors that may influence the risk of a marriage ending in divorce, including income, education, religion, pregnancy before marriage, and whether the parents of the married couple are divorced.

- Couples who make over $50,000 a year are at a much lower risk of divorce than couples who make less than that amount
- Couples comprised of well-educated individuals who have graduated from high school and have at least some college background also have a much lower risk of divorce than less educated individuals
- Couples with no religious background or drastically different religious backgrounds have a much higher risk of divorce

than couples who have religious backgrounds that do not conflict
- Couples who have a baby prior to being married also have a higher risk of divorce than couples who have children after they are married
- Individuals with parents who are divorced also have a higher risk of divorce than individuals from intact families

Family social and economic factors

Social and economic factors affect the overall functioning of a family. In fact, researchers use an index called the socioeconomic status, or SES, to measure the ability of the family to function in a healthy fashion.

- The SES uses the educational background of the members of the family, the family's total income, and the skill—both actual and perceived—required by the occupations of the individuals who act as providers for the family to measure the family's ability to function
- Individuals who are well-educated tend to marry later in life, receive jobs with higher incomes, and have careers with a higher social status, which all add stability to the marriage and stability to the overall functioning of the family
- Families that earn a higher income are also less concerned with obtaining basic necessities because the family consistently has the means to obtain them. As a result, there is often less stress experienced by the family

Unifying concepts of science, strands, content goals, and objectives

These unifying concepts of science, strands, content goals, and objectives are as follows:

- Systems, order, and organization
- Evidence, models, and explanation
- Constancy, change, and measurement
- Evolution and equilibrium
- Form and function.
- Scientific literacy?

Scientific literacy tenets

The tenets of scientific literacy include the following abilities:

- Find or determine answers to questions derived from everyday experiences
- Describe, explain, and predict natural phenomena
- Understand articles about science
- Engage in nontechnical conversation about the validity of conclusions. Scientific issues underlying national and local decisions
- Pose explanations based on evidence derived from one's own work

Strands

The strands include the following:

- Nature of Science
- Science as Inquiry
- Science and Technology
- Science in Social and Personal Perspectives

Student science curriculum

Science is a way of knowing that is characterized by empirical criteria, logical argument, and skeptical review. Through a comprehensive science curriculum, students should develop an

understanding of what science is, what science is not, what science can and cannot do, and how science contributes to culture.

Self-reflection questions

The following are examples of self-reflection questions:

- Do the directions clarify what teachers should do with pre-assessment results?
- Are students using reading and hands-on experiences to gather knowledge?
- Are students synthesizing information from more than one text and more than one investigation to develop a concept?
- Does the lesson sequence provide opportunities for highly able students to extend their knowledge through grouping practices, content, process, or product?
- Does each lesson sequence include formative and possibly pre-assessment?
- Are students writing and reflecting in each session?
- Are students using a science journal several times per lesson sequence?
- Does each session target and align with the indicators identified on the lesson planning sheet?

Science curriculum guide

A science curriculum guide contains a series of pages that describe the unit in detail. A unit may last about 10 weeks depending on the grade level or topic. Typical elementary units cover a kit and take 10 weeks.

Reliable assessment tools

Choosing an authentic, reliable assessment tool is challenging.

- Most teachers have huge time constraints because of the number of students they teach
- An essay test could consume 10 hours to grade
- Multiple choice tests are faster, but finding one that correlates with the core is difficult
- Textbook tests are frequently vocabulary-driven and poorly written
- Assessment options often seem limited and unsatisfactory. Here are two suggestions for teachers who are interested in improving their assessment strategies
- First, if you have not had an assessment class in your professional training, consider taking one
- Knowing more about assessment will change not just your test; it will also change how you teach
- Excellent assessment practices lead directly to excellent instruction
- Begin with the end in mind: improve your assessment practices to improve your teaching

Experiment

An experiment:

- Construct a barometer to use in an experiment that students design to measure the air pressure on a daily basis
- Students will construct a barometer to use in an experiment that they design to measure the air pressure on a daily basis
- These observations of air pressure will allow students to

predict weather and determine how weather is affected when a storm is approaching

Science assessment purposes

Depending on whom you ask, the following are among the purposes of assessment in science education:

- To monitor student progress
- To plan teaching activities
- To formulate education policy

Classification system design

The problem: Classification systems are based on levels of shared characteristics. Organisms may be classified according to similarities in structure or methods of carrying out life processes. In this activity, you will have the opportunity to design a classification system for a particular set of objectives.

Materials Needed: A set of 15–20 photographs of animals.

Planning your classification system investigation:

- Make a list of characteristics that you could use to classify your animals
- Make your list based on the actual animal, not on the photograph alone
- Use your textbook or other classroom sources
- Think about whether some characteristics for dividing the animals into two large groups
- Then consider other characteristics that could be used to divide each group into several smaller groups
- Decide on the system you wish to use, and determine how many classification groups you have in all

Conducting your investigation:

- Develop a set of directions to classify your animals according to the system you established
- You may change your system if you feel it is not working well
- Make a chart showing the classification groups you used and how many animals are in each group

Communicating your results:

- Write reasons why you selected certain characteristics rather than others
- Describe any difficulties you had using your system
- Tell how your classification system would be useful
- Finally compare your system with others in class, and list advantages and disadvantages of each
- Is there only one "correct" classification system

Science assessment focus

Science assessment should focus on highly valued content, such as inquiry; understanding facts, concepts, theories, and principles; scientific reasoning and decision making; and scientific communication.

- It should not just focus on content that is easily assessed
- Basic knowledge is more easily assessed than understanding or the abilities of inquiry
- Even so, all must be addressed. If, for instance, only basic knowledge is assessed, both teachers and students will likely dismiss the importance of the understanding or the abilities of inquiry
- Assessing inquiry abilities can be a time-consuming process, but teachers do not want students to get the impression that inquiry is of little significance

- Moreover, if most assessment consists of multiple choice exams of scientific factoids, teachers are conveying to students that if they can pass a test on that information, they "know" science
- The assessments teachers give communicate to their students the content they believe has the most value
- Consequently, teachers need to ensure that the content they assess is the valued content defined by their state and the National Science Education Standards

Ensuring assessments are consistent

An educator can be sure that assessments are consistent with the decisions they are designed to inform by asking himself or herself the following:

- What general purpose will the data I collect serve?
- Is the purpose to plan my teaching, report to parents, and provide feedback to students?
- What specific decision will I make with the data I collect?
- Will I use the data to decide how to improve the way I teach inquiry?
- Will I use the data to decide whether or not to fail a student?
- Will I use the data to decide if I should reteach weight-weight problems tomorrow?
- What data do I need to make the decisions?
- If my decision is related to my teaching of inquiry, my data should measure how students' ability to inquire improved as a result of the teaching method I used
- If my decision is about failing a student, my data should include, among other data, a broad range of information about the student's achievement, the effort the student has put forth, and mitigating circumstances in the student's personal life
- If my decision is about whether or not to reteach weight-weight problems tomorrow, my data might include the questions students asked at the end of class and their performance on the practice problems assigned for homework

Science teachers question

Science teachers should ensure their questions are aligned with lesson objectives.

- This enables students to see what topics are pertinent to the tasks
- When asking questions, teachers must make sure that they are specific so that students will know how to respond
- Asking a question such as "What did you think of Martin Luther King Jr.'s speech?" may not encourage students to respond because it is too general
- Asking "Why did Martin Luther King, Jr., keep repeating certain phrases in his speech?" is more specific. In questions, the language should contain familiar vocabulary so that students feel comfortable responding
- If the question contains unfamiliar words, students might not respond because they do not know exactly what the question is
- Also, allotting enough response time is important so that students are able to carefully consider their responses

Three main types of scientific questions

The three primary types of scientific questions used by teachers are factual, interpretive, and evaluative.

- Factual questions have only one correct answer such as the date a war started or the name of a character
- These questions are best used for inquiry-based projects with concrete answers
- Interpretive questions have more than one answer, but they still need evidence to support the answer chosen
- These types of questions create good class discussions and stimulate higher-order thinking on a topic because they require reasoning
- The last type of question is evaluative
- These types of questions have no right or wrong answers because they rely on points of view or opinions

<u>Mistakes that science teachers make in their questioning</u>

Science teachers can employ ineffective questioning strategies that confuse their students.

- Students may believe that they must respond to questions with answers that the teacher wants to hear, rather than generating their own thoughts and ideas
- In asking questions, it is important that the teacher is not the only one asking the questions
- The students must be able to reciprocate the questioning as well
- When solutions are discussed, do not assume that everyone in the class is following the discussion
- Occasional rewording and summarizing can be helpful techniques for clarifying discussion points
- This especially helps students who are too shy to raise their hands for clarification
- Some teachers will ask questions, expecting a certain answer, but when a different answer is given, they may consider that answer incorrect
- However, all responses should be given equal validity, even the responses that the teachers themselves may not have considered

Scientific learning centers

Scientific learning centers are designated areas in the classroom where students participate in specific activities to acquire certain learning skills or knowledge.

- When used in a classroom, these centers can be an effective method for fostering independent or small group work
- Students typically work in these learning centers without direct instruction from the teacher
- They may receive instructions from the teacher, but all work accomplished in the centers is self-directed
- Generally, the activities are structured
- The centers may be separate from one another, or it may be required that work be completed in one center before students are allowed to proceed to the next
- Students can work in these centers in small groups, pairs, or individually, depending on the task

Biological Level of Analysis

Genetic and environmental traits

Research has shown that some traits that are almost completely genetic include eye color, blood type, and most diseases.

- In most cases, genetics also determines one's risk of future diseases, vision, and vision impairments
- Religion and language, on the other hand, are examples of traits that researchers have proven to be almost completely environmental
- These traits are all linked to specific genes or to specific environmental factors, but most traits are actually a result of both environmental and genetic influences
- Traits such as height, weight, and skin color are all examples of traits that are influenced by both an individual's genes and his or her environment

Effective family communication

Families with individuals who use direct, clear communication are the most effective.

- These family members listen to one another, spend more time communicating, respect one another's points of view, and pay attention to the more subtle forms of affective communication
- By communicating directly and concisely with other family members, each family member creates a much more effective form of communication than that which would be found in any other setting
- If the individuals receiving the information listen to and respect their fellow family members and—more importantly—make the time to listen to them in the first place, the communication between family members will become much stronger
- Of course, this communication can be strengthened even further if members of the family are careful to take note of emotional indicators that allow them to identify the feelings of another family member without that person having to verbally express his or her feelings

Nervous system

The nervous system is the communication network from the various organs of the body to the brain. This system consists of nerve cells that send the election of chemical impulses from organs to the brain in order to receive information on how to respond to various stimuli. The two main subsystems of the nervous system include the central nervous system (CNS) and the peripheral nervous system (PNS). The central nervous system includes the spine and brain and the peripheral nervous system includes all organs and areas of the body outside of the spine in brain.

Adrenal and pituitary glands

The adrenal glands are located above the kidneys. These glands serve to increase levels of epinephrine and norepinephrine in order to increase arousal of the body during times of stress. Specifically, the hormones epinephrine and norepinephrine, secrete it by the adrenal glands, increase her rate blood pressure and blood sugar. The increase of these functions provides individuals with the

necessary energy to deal with a stressful situation.

The pituitary glands are influenced by information from the hypothalamus and are located in the brain next to the hypothalamus. These glands responsible for growth regulation in the control of other endocrine glands.

Positron emission tomography scans, magnetic resonance imaging, and functional MRI

Positron emission tomography (PET) is used to view the activity of the brain, specifically glucose in the brain while the individual is completing a task. This is possible because depending on the task, glucose will be found in different location.

Magnetic resonance imaging (MRI) provides a picture of the soft tissue of the brain via magnetic fields and the various radio waves produced by the brain during a given task.

Functional MRI (fMRI) reveals brain function by visualizing the blood flow over a series of MRI images while the individual performs various tasks.

Sympathetic and parasympathetic nervous system, somatic nervous system, and autonomic nervous system

The sympathetic nervous system works to initiate the appropriate functions for action. In other words, the sympathetic nervous system will arouse the body in time of stress. Conversely, the parasympathetic nervous system acts to conserve energy and will calm the body during times of rest. The somatic nervous system is a part of the peripheral nervous system and controls all skeletal muscle. The autonomic nervous system is also part of the peripheral nervous system; however, this system controls the internal organs of the body and the glands. Additionally, the autonomic nervous system serves two functions; on the sympathetic side, arousal occurs and on the parasympathetic side, inhibition or a calming effect occurs.

Electroencephalogram

An electroencephalogram, also referred to as an EEG, measures brain activity. Specifically, the EEG measures the brains electrical by conducting numerous sweeps across the surface of the brain. Individuals undergoing an EEG are hooked up to the machine with electrodes that are placed on the scalp that specific locations. During the measurement of these brain waves different stimulus will be presented to the individual in order to activate different brain waves. Specific brain waves include delta, theta, and alpha waves, all of which indicate various activities from attending to a stimuli to sleeping.

Thalamus, amygdala, and hypothalamus

The thalamus is located at the top of the brain stem and serves as the center for sensory information processing. Specifically the thalamus receives and processes information from every sense except smell.

The amygdala the part of the limbic system and is located in the temporal lobes of the brain. The amygdala has been found to be associated with the emotions of fear and aggression. Additionally, this component of the brain may also be associated with emotional memories.

The hypothalamus is located below the thalamus and serves as the manager of the endocrine system. Additionally, the hypothalamus monitors basic needs including hunger, thirst, and sleep.

Lobes of the brain

The brain is divided into four main lobes, the frontal lobe, the parietal lobe, the occipital lobe, and the temporal lobes. The frontal lobe located in the front of the brain is responsible for a short term and working memory and information processing as well as decision-making, planning, and judgment. The parietal lobe is located slightly toward the back of the brain and the top of the head and is responsible for sensory input as well as spatial positioning of the body. The occipital lobe is located at the back of the head just above the brain stem. This lobe is responsible for visual input, processing, and output; specifically nerves from the eyes enter directly into this lobe. Finally, the temporal lobes are located at the left and right sides of the brain. These lobes are responsible for all auditory input, processing, and output.

Corpus callosum and the effects of a split brain

The corpus callosum consists of a number of fibrous nerves that are gathered in a band and in stretch from the left hemisphere to the right hemisphere. This band of fibers passes information from one side of the brain to the other allowing the brain in the left and right sides of the body to coordinate and function as one. In cases of a split brain, the corpus callosum it is severed, inhibiting the individual to coordinate left and right hemisphere processes. For example, when presented with the word car in the right visual field, an individual with a split brain will be able to draw all the word however will not be able to read the word. This is because information in the right visual field is processed on the left side of the brain which is responsible for verbal activities, conversely the rights of the brain is responsible for visual and artistic type activities and therefore the individual can draw the picture.

Dual processing of the mind

Dual processing of the mind concerns the fact that processing can occur in both the conscious and the unconscious at the same time. This concept is demonstrated in various ways. One way are implicit, or unconscious, memories and explicit, of conscious, memories. This notion of the dual processing of the mind is also clearly demonstrated in individuals with brain damage. For example, an individual with brain damage, who was also left partially blind, could successfully complete visual tasks, such as picking up a block and placing a card into a mail slot. However, the individual could not correctly indicate the size of the block or the mail slot.

Motor cortex and sensory cortex

The motor cortex is located near the back of the frontal lobes and is responsible for movement; specifically voluntary movement. Of note, the brain controls the opposite side of the body; therefore, the left side of the motor cortex will control the right side of the body and vice versa. The sensory cortex is located at the front of the parietal lobes and is responsible for the input and processing of touch and other sensations related to movement. Those body parts that are more sensitive are correlated to a larger area of the sensory cortex.

Cognitive neuroscience

Cognitive neuroscience is the psychological study of the brain's processes and cognition which includes thinking, memory, perception, and language. The most basic purpose of the cognitive neuroscientist is to uncover how the mind works to receive, process, and output information. The cognitive neuroscientists will likely studying conscious processes; however, unconscious processing is within the realm of this subfield. Cognitive

neuroscientists use instruments including positron emission tomography scans, magnetic resonance imaging, and functional MRI to map and examine the activity in the brain during different mental activities. Many cognitive neuroscientists focus on the dual processing aspects of the brain that involve higher level processing.

Selective attention

Selective attention is the individual's ability to process only necessary information while additional and unnecessary information or stimuli is blocked out. This is necessary as individuals are presented are millions of stimuli or pieces of information per second that they could not possibly process. One common example of selective attention is the cocktail party effect. This effect occurs when individuals are having a conversation in a crowded noisy room. They are able to tune out the other conversations and focus on their single conversation because of selective attention. While humans do have this ability, in situations where attention is necessary, engaging in other tasks may result in a focus of attention moving from one activity to the other. For example, while driving and talking on a cell phone, an individual's attention may shift to the conversation and tune out the road.

Selective inattention

Selective inattention is the phenomenon that humans are inattentive to the majority of the incoming stimuli. For example, when presented with a series of pictures with only a slight change, the majority of individual will not notice the change. This can also be referred to as change blindness, which suggests that unless, paying attention to a possible change in the setting or environment, the individual will not notice a change. Inattentional blindness occurs when the individual does not notice objects unless paying specific attention to the object. For example, if instructed to look for a dog in a picture, then asked if a cat was in the picture, the individual will likely not notice the cat since they were not attending to this object.

Cognitive Level of Analysis

Direct and indirect communication

Direct communication occurs when a person who is attempting to convey a given piece of information simply states that information to the person he or she wants to receive the information.

- Indirect communication, on the other hand, is when the person communicating the information states the information, but not to anyone in particular
- For example, if a parent says, "Christine, we need to set the table," that is an example of direct communication because the parent is addressing the person he or she wants to talk to directly
- However, if the parent instead simply mutters out loud, "We need to set the table," rather than saying it to someone in particular, that would be an example of indirect communication
- Direct communication is far more effective in carrying out the day-to-day functions necessary to maintain a family than indirect communication because various tasks can be assigned directly to a particular individual

Relationship conflict causes

The many sources of conflict within a relationship are too numerous to mention, but some of the common problems include the following:

- setting expectations that are too high
- not appreciating or respecting the other person in the relationship
- not considering the feelings of the other person
- being afraid of showing affection or emotion
- being over-dependent
- being inflexible
- expecting the other member of the relationship to change
- lacking effective communication

Preventing conflict can be extremely difficult. Preventing it altogether is virtually impossible, but avoiding some or all of these common sources of conflict can greatly reduce the number of conflicts that take place within any given relationship.

Well-functioning family problem solving

A well-functioning family would first identify the problem itself and determine the cause of the problem.

- The family would then develop a list of solutions that could potentially solve the problem, and they would attempt to determine the benefits of each solution
- After determining the benefits of each solution, the family would choose the solution that seems to best solve the problem and then, after putting the solution into effect, monitor the solution to make sure that it actually solved the problem
- Finally, the family would decide whether the solution worked or not to determine whether it was necessary to try something else
- This entire process is important to the functioning of a family because it prevents problems from being misdiagnosed early on and prevents them from getting too far out of control

Outside family social interaction

Outside social interaction is extremely important for all family members, regardless of age, because it offers an opportunity for each individual to improve his or her social skills, learn about the world around them, and learn more about values that one might not learn from the family alone.

- This is especially true in the case of children
- Research shows that children who have regular outside social interaction, through things such as extracurricular activities, are less likely to rebel or cause problems and more likely to excel in school and relationships
- Outside social interaction is also necessary for the children of a family to eventually leave the household and create families of their own, as they need to seek out their own relationships
- Social interaction with individuals outside of the family is necessary not only for the fulfillment of the members of the family, but also to continue the life cycle of the family

Phonemes, and morphemes

Phonemes are the basic sounds of language. Among all spoken languages, there are approximately 869 phonemes, of these, there are 20 phonemes in the English language. Phonemes, as units, may have more than one sound. For example /e/ produces two sounds (long and short). Changing the sound of a phoneme will change the meaning of a word. Finally phoneme units may consist of one letter /e/ or a group of letters /ch/.

Morphemes are the smallest units of a language that also have meaning. For example, I, the first person definition of self, is a morpheme. These units of language also include suffixes and prefixes.

Semantics and syntax

Semantics set the rules of morphemes. More specifically, the rules of semantics determine whether a word should be past, present, or future. Essentially, semantics and use morphemes to clarify words. For example, when one adds the morpheme pre- to the word soak we know that the action soak must be done first.

Syntax sets the rules for sentence structure. The organization of words in a sentence helps make the sentence readable. For example "Her blue eyes." In English this sense sentence has correct syntax. However, other languages, such a Spanish, the rules of syntax will reverse the adjective and noun.

Receptive language

Receptive language is the beginning of speech recognition and focuses on the basics of sounds. Receptive language begins around 4 months when infants are first beginning to understand sounds. As such, infants focus on faces and make connections between a sound and the shape of the speaker's mouth. Around seven months, infants begin segmenting sounds within words. This ability becomes difficult in adulthood and explains why it is more difficult to learn a new language in adulthood compared to childhood. However, by observing an infant's listening patterns one can determine an infants future language abilities that will take place between two and five years old.

Skinner's theory of operant learning

Learning language is accomplished through associations, imitation, and

reinforcement, what are three key components of operant learning. Babies create associations with the help of their parents and caregivers. By repeating a word while visually presenting the word (e.g., saying car while pointing at a car) an association is made. Likewise, babies watch adults speak and imitate their mouth shapes. As development continues, babies will also imitate and repeat sounds made by those around them. Finally babbling noises and eventually speech is reinforced through positive acknowledgment that occurs during the two words stage (e.g., A baby says "want Milk" and they receive the milk), thus further developing speech.

Audio, visual, and motor cortex

The audio cortex, also referred to as Wernicke's area, process is all audio information. This area is located in the temporal lobe of the brain and is involved in the understanding of information. Damage in this area of the brain results in a deficiency in being able to read a word from a page or explain the events depicted in a picture. Once processed through the audio cortex, information passes to the visual cortex, also called the angular gyrus located in the occipital lobe, where the person sees or visualizes the word. The angular gyrus is also essential to reading aloud and damage to this area of the brain will affect this function. Finally, information is sent to be processed in the motor cortex, or Broca's area. Once processed, the individual will respond appropriately. Broca's area is key in speech; therefore, damage to this area will affect the individual's response to the processed information.

Productive language

When a baby begins to produce words they are said to have productive language. In the development of productive language there are three stages. The first age or babbling stage is a result of natural movements of the baby's mouth; however, the baby does not create any discernible words. This stage typically begins around 4 months. The one-word stage typically begins at one year old and during this stage babies learn that words have meaning and begin to associate words and their meanings. During the two-word stage, babies begin to make short senses or two word combinations. This is also called telegraphic speech and may contain word pairs such as "big truck." This final stage is productive language development typically begins around two years of age.

Chomsky's theory

Chomsky suggested that infants learn grammatical rules too quickly to be explained by typical learning strategies often used later in life. Therefore, he suggested that rules of grammar are natural and possibly inborn. Further supporting this theory is the fact that small children will create unique sentences they have never heard before. The universal grammar aspect of this theory refers to the basic structures of language such as nouns and verbs. This theory provides an explanation for children's ability to quickly and accurately learn a language and is particularly evident in children between the ages of two and five years old.

Reading to babies

Since babies at the very young age are beginning to learn language, they are also beginning to use various structures of the brain related to language. When parents read to a baby, they are working the auditory cortex and the baby begins to learn the various sounds of their language. Additionally, when the baby watches their parent's mouths move as they read, the baby's visual cortex processes these movements, which will

be further process and the motor cortex. The ultimate result is the baby's ability to output what has been processed and learned and thus produce language. The repetition of reading to a baby further reinforces the structures of the brain, audio, visual, and motor cortex for language development and learning.

Linguistic determinism in bilingual speakers

Linguistic determinism was proposed by Benjamin Lee Wohorf who suggested that language plays a key role in determining how a person thinks. As such, someone may have different thinking patterns based on the language they speak. For example, there are significant differences between eastern and western cultures. Similarly, languages in these regions also differ. An individual who speaks both English and Japanese may describe themselves differently based on which language they are speaking at that time. This is because words for self in English are more individual focused whereas words for describing self and Japanese are focus more on the collective, based on cultural values.

Nativist approach

The nativist approach to language development uncovers some of the problems with the learning theory approach to language development. As such, this approach suggests a universal grammar that is a biological process, in other words is an in-born process. The main proponent of the nativist approach to language development was Noam Chomsky, who felt that this innate ability provides humans with not only the ability to learn basic language but the ability to learn and understand the more complex structures of language. This theory is supported through neural cognitive research that has identified a gene related to languages as well as several structures of the brain related to and responsible for language.

Linguistic relativity hypothesis

The linguistic relativity hypothesis centers around the notion that people from different cultures or societies and develop language differently than others. Additionally based on the culture or society in individual comes from an intern how they learn language this process also determines how they view the world around them. One clear example of this linguistic relativity hypothesis is the fact that individuals in Alaska have numerous words for the word snow, while individuals in more southern states where does not snow will only have one word. This is because the Alaskan environment and culture is highly connected to the vast amounts of snow it receives each year.

Learning theory approach

The learning theory approach to language development suggest that language is learned for reinforcement and conditioning. This can be seen in early childhood language development when a child is praised for saying simple words such as mamma and dada. When the child receives this positive reinforcement, they are encouraged to repeat the words, thus language development begins. As this process continues, children are further reinforced at home and at school through more complex conversations as well as through school activities such as reading and listening to stories being read to them. One note is that the rules of language are rarely reinforced as basic language is. Because of this the learning theory approach to language development does not apply to learning grammar rules.

Interactionist approach

The interaction this approach to language development is a combination of various language development theories. As such this approach suggests that various factors are involved in language development including genetics and the socialization. Following this theory, psychologists believe that there are innate mechanisms with in the brain responsible for language development. However, these theorists also believe that environment or social learning plays a significant role in initiating the mechanisms for language development. For example, a biological mechanism for language may be present; however, if language is not taught the individual may not learn or utilize that function in the brain.

Teaching and developing bilingual speakers

Bilingual education presents students with the opportunity to learn in both languages they speak. This educational method is not traditionally used in schools; however, some suggest that using this method allows bilingual speakers the opportunity to learn a subject in the native language, while also learning their second language. This is important since some students may struggle with the subject information simply because they are not fluent in English.

Immersion programs require bilingual speakers to learn using only English. This educational method does present the students with more hours hearing and speaking English; however, there may be some loss of subject understanding.

Biological implications for bilingual speakers

Some research suggests that bilingual individuals process information differently. Specifically, they demonstrate more cognitive flexibility as well as greater understanding compared to those who only speak one language. Being able to speak more than one language presents a unique opportunity as these individuals have more cognitive resources in terms of verbal application to pull from, thus increasing their effectiveness in problem solving tasks. The biological organization of the brain as also been shown to be different than those who only speak one language. Specifically, depending on when the second language was learned, different areas of the brain will be activated when engaging in the language.

Processing functions of memory

The first processing function of memory is encoding. Encoding is the brain's process of taking information or input and translating it in to information to be sent to the appropriate areas of the brain. This process begins with sensory memory in which information enters the brain through one or more of the five senses. This information is further encoded using short-term or working memory. Once information is encoded it is then stored either in short or long-term memory depending on the information and the individual's intent for that information. Finally, retrieving information typically refers to information that has been stored in long-term memory that is brought back into short-term or working memory and to become output in the form of the individual's response. For the most part, encoding and storing information is an unconscious process while retrieval may be unconscious or conscience.

Automatically processing information

Encoding is automatically processed due to the brain's ability for parallel processing or multitasking and can apply to various types of information. For example, someone can automatically process information about space or their environment while doing other activities such as cooking. In this case, the individual may automatically process information on temperature or smells of the room the while consciously focusing on measuring ingredients. Information concerning time is also automatically processed. For example, an individual may recall the sequence of events throughout the day; however will not consciously think of these as they are occurring. Frequency of events is also an automatic process. As with sequence of events, an individual may not consciously focus on frequency of events, yet can recall this information at a later time. Finally, well learned information is also automatically processed. This is common with language, for example reading road signs as one drives down the street.

Main errors in word learning

Over extension occurs when one word is used incorrectly to refer to various items. For example, a child may use the word "car" when referring to different vehicles such as a truck.

Under extension occurs when the child uses a general term to refer to one specific item. For example, he may refer to only his mother's car as a "car," yet not use the term car to refer to the neighbors cars.
Idiosyncratic errors occurs when the child references something that is not visible or simply not there.

Over regularization errors occur when a child makes irregular word changes. For example, the past tense of "go," "went," will be changed to "goed" based on what the child has learned about past tense.

Working memory

Working memory, also referred to as short-term memory describes the process of encoding, storing, and retrieving information from short-term memory. The central executive component of working memory serves as the manager of information processing for the phonological loop and the visual sketch pad. The central executive delegates information and resources to the appropriate audio or visual component as well as takes information to be used as output from these components. The phonological loop processes all verbal information while the visual sketch pad processes all visual information. While the phonological loop and the visual sketch pad can work simultaneously, resources must be divided between the two. In other words, in trying to complete a task that requires both audio and visual information processing, one task may receive fewer resources than the other and thus will not be completed as accurately.

Effortful processing

Effortful processing refers to information processing that requires full attention and effort. One element of Effortful Processing is rehearsal or repeating information over again until it is effectively process into long-term memory. Rehearsal is successful when effortful processing is no longer required to retrieve the information rehearsed. Concerning effective rehearsal is the notion of the spacing effect, which refers to rehearsing over a period of time. For example, when studying for spelling test a student will be more effective if he rehearses a few minutes every day of the week rather than rehearsing all it wants the day before the test. This serial

position affect refers to the process of rehearsal in a specific order.

Visual encoding

Visual encoding refers to the use of images in order to process information. For example, if one is to remember a list of words such as book, pencil, and computer, rather than remembering the simply as words they will form images in order to process this list. Upon recall, they will remember the images they processed and successfully recall the list. One component of visual encoding is called the mnemonic. In using a mnemonic, the individual may create a peg of word system in which they combined the things that must be learned into something that is easier to remember such as a song.

Sensory memory

Sensory memory is our ability to process information and remember based on sensory stimuli. For example, a smell of someone's perfume may remind us of our grandmother who were the same perfume. Within the concept of sensory memory there is iconic memory and echoic memory. Iconic memory also referred to as photographic memory is the ability to remember images after seeing them for only a short period of time. For example, George Sperling presented research participants with a three by three grid of letters for a 10^{th} of second. He found that most participants could only recall about half of the letters presented, suggesting that most people's iconic memory is very short. Echoic memory is similar to iconic memory accept that it deals with sound. For example, during a conversation you may ask the individual "What" only to realize a moment later that you actually new or understood what they had said. This phenomenon is echoic memory.

Proactive and retroactive interference

Proactive interference refers to forgetting something that you have already learned after learning something else. An example a proactive interference could be a new phone number in which you learn the new phone number but you may forget your old phone number. Typically proactive interference for retrieval occurs with irrelevant information. Retroactive interference, on the other hand, refers to an interference that causes difficulty in remembering something you learned in the past. An example of retroactive interference is learning something then staying awake for a long period of time. The interference in this example is staying awake.

Chunking and hierarchies

Chunking is a process by which an individual groups information based on some similar characteristic. For example, if an individual was required to remember if a list of numbers 8, 7, 9, 5, 4, 2; they may chunk this information as such 87, 95, 42. By Chunking or grouping information fewer bits or units need to be processed and therefore can be more easily remembered.

Hierarchies are another way to group the information based on similar characteristics in order to make remembering easier. For example, an individual who must remember the following information: plant, flower, dandelion, may create a hierarchy.

Implicit and explicit memory

Implicit memory has also referred to as non declarative memory or it is how we learned how to do something. Implicit memory is in long-term memory function that is processed in various parts of the brain including the cerebellum. Types of implicit or non declarative memory

include motor skills and cognition, how we think about the world, and classical conditioning or learning. On the other hand and explicit memory is also referred to as declarative memory and it deals with how we know something. This part of memory is also a function of long-term memory and the hippocampus of the brain is largely the responsible for explicit memory. Explicit memory will include things such as general knowledge and events that an individual has personally experienced.

George Miller's Magical Number Seven

In an effort to determine the capacity of working or short term memory, George Miller conducted various memory experiments. Through these experiments, participants were required to briefly look at a list of digits and after a short duration of not seeing the digits, they were asked to recall as many as possible. Findings suggested that individuals can remember on average 7 digits with a standard deviation of plus or minus 2 digits. In other words, individuals could remember 5 to 9 digits. Furthering these experiments, participants were taught different memorization strategies, such as chunking, again, the results reveled 7 plus or minus 2; however, with chunking, more information was recalled.

Tip-of-the-tongue phenomenon

The tip-of-the-tongue phenomenon deals with difficulties in retrieving information from long term memory. This concept occurs when one knows the information they are trying to retrieve but for some reason cannot seem to recall. A common example of the tip-of-the-tongue phenomenon is recalling someone's name. Often a retrieval cue is helpful in retrieving this type of information. A retrieval cue is some type of stimulus that help use remember the information we are trying to retrieve. For example, in trying to think of someone's name, we may remember that they had the same name of a relative. Other retrieval cues may involve different senses. For example, different senses may remind us of a childhood memory, our parents, or a special occasion.

Synaptic changes and long-term potentiation

Synaptic changes are the firing of neurons through their synapses, the neurological function of processing information. Long-term potentiation is the foundation of memory and is also referred to as LTP. LTP occurs over a period of time in which synaptic changes occur resulting in the strengthening of neural circuits. The more synaptic changes that occur, the stronger the memory becomes. For example, this process begins the first time one reads a chapter in their psychology text. The reviewing the chapter again and taking notes, more synaptic changes occur, thus increasing the long term storage of information.

Enhancing LTP and long-term memory

Research has found that the protein CREB is positively affects LTP. Specifically, research involving mice and sea slugs have indicated increases in memory after the protein CERB was chemically enhanced through the administration of a drug and teaching the mice a maze task. Those mice in the drug group were able to complete the maze better than those in the non drug group. Additionally, the neurotransmitter Glutamate has also been indicated to improve LTP. In identifying these chemical elements, pharmaceutical companies and researchers have been working with individuals with mild cognitive impairments and mild cases of Alzheimer's in order to develop memory enhancing drugs focusing on the CREB

protein and the Glutamate neurotransmitter.

Constructive processes and schemas

Constructive processes involve the meaning we give to events in recalling certain events from the past. While many bits of information is stored in our long-term memories, when recalling information at a later date, some details may by skewed. It is the constructive processes that fill in the blanks of these memories. Additionally, constructive processes may be influenced by experiences and learned information since the event.

Schemas are how individuals organize information, which in turn influences how future events and information is processed and perceived. Schemas may be developed throughout development and are modified as we learn new things and experience different events in our lives.

Factors that affect LTP in long-term memory storage

Research has indicated that different drugs inhibit LTP best negatively affecting long-term memory storage. Specifically, research on mice has found certain drugs prohibited the production of a necessary enzyme that is used for the production of LTP. The mice in these studies, after receiving various dosages of drugs were unable to learn the maze task. Additionally, mice who had previously learned that means task and were given the drug after learning occurred quickly forgot the maze. This indicates that not only do some drugs completely inhibit memory storage in long term memory but can also erase memory that has not been fully processed and integrated into long-term memory.

Cerebellum

The cerebellum plays a role in the processing and storing of implicit memories. Specifically, for those memories developed during classical conditioning learning techniques. The role of the cerebellum was discovered by exploring the memory of individuals with damaged cerebellums. These individuals were unable to develop stimulus responses when presented via a classical conditioning technique. Researcher found that this was also the case for automatic responses. For example, when these individuals where presented with a puff or air into their eyes, they did not blink, which would have been the naturally occurring and automatic response in an individual with no brain damage.

Cognition and the cognitive psychologist

Cognition refers to the way individuals think about the things they learn and the world around them. A sub-aspect of cognition is referred to as many cognition which choose how individuals think about how they think and learn. The role of the Cognitive Psychologist is to study and explore this notion in individuals. Specifically, the Cognitive Psychologist will determine the way individuals create certain concepts as the learn ad think, regardless of whether these concepts are logical or illogical. Further, Cognitive Psychologist play a role in the development of education curriculum and programs. Cognitive Psychologists may also work in the field of neurocognitive psychology, which delve deeper into the exploration of the human brain.

Algorithms, heuristics, and insight

Algorithms are a set of procedures with a specific step by step process intended to guarantee a specific solution. This type of

problem solving procedure involves trial and error until the solution is found.

Heuristics is a problem solving procedure using a step by step process which is a simpler form of an algorithm. Heuristics are simplified by limiting their combinations or where potential solutions. This problem solving technique is typically chosen in situations where the number of possible solutions is too large to realistically calculate. Insight is a problem solving techniques that does not necessarily use a strategy; however, as elements of the problem to be solved become clearer the individual may have a sudden realization as to the solution.

Representativeness s and Availability Heuristics

Representativeness Heuristics refers to a situation in which an individual will compare how the likelihood of a situation matches their preconceived notions or prototype when determining a solution to a problem. Because individuals are basing the solution on some prototype they often ignore other relevant information than is necessary in deterring the appropriate solution.

Availability Heuristics refers to the concept of finding a solution based on the motion readily available memory rather than facts and other important information provided within the problem. In this case solutions are often wrong because memories may be wrong or that we over as soon as situations are similar.

Concepts and prototypes as the apply to thinking

Concepts are our way of grouping or categorizing the things around us in order to process this information logically and effectively. For example, one may understanding the concept of a car and within this concept or understanding be aware of various models and makes of cars. If the individual sees a model of car they have never seen before, they will still understand that it is a car because of their concept.

Prototypes are a model or example of a concept that allows one to understand similar but unfamiliar objects or concepts. Using the car example, the prototype car may be a basic object with four wheels, and four doors that moves.

Confirmation bias and fixation

Confirmation bias is possibly one of the major obstacles to the problem solving process. With confirmation bias the individual comes to a solution to a problem based on their own preconceived notions rather than considering all the facts or rules necessary to come to the real solution to the problem.

Fixation refers to an individuals and ability to look at a problem from different perspectives. With this problem solving obstacle individuals are so set in their own problem solving strategy that even when their solution is incorrect they continue to fail at finding a more effective strategy.

Overconfidence and belief perseverance

Overconfidence is an individual's personal believes that there are correct about the solution. With overconfidence, this is often an overestimation that the individuals believes in judgments are accurate. Overconfidence may occur because of previously or the problem to be solved is believed to be general knowledge.

Belief perseverance is a phenomenon which occurs when an individual

maintains previously held beliefs in spite of contradictory physical or empirical evidence. Belief perseverance may occur with controversial topics or those that individuals feel very strongly about resulting in subjective belief systems rather than beliefs based on objectivity and solid evidence.

Intuition

Hindsight bias is the phenomenon in which an incorrect solution was determined for a problem and after the correct solution is identified the individual feels that they did know the correct solution or they should have known the correct solution.

Memory construction is often based on the mood and individual as and when they have to find a solution to a problem. When memory construction occurs false memories are often developed and added into determining the solution to a problem.

Self serving bias occurs when an individual's solution to a problem is often based on something that will benefit that individual rather than objective facts.

Sociocultural Level of Analysis

Social psychology

Social psychology is the study of the ways in which group behavior influences individual behavior.

- The goal of this branch of psychology is to understand the nature of human social behavior
- Its focus is what individuals think of one another and how they relate to one another
- Social behavior comprises all the ways people communicate with one another
- It is a process with meaning, and it is conducted within a specific context
- Social behavior has a hierarchy that includes social action, social interaction, and social relations
- Early proponents of social behavior such as John Stuart Mill and Isidore Comte, among others, believed that human social cognition and human behavior could be studied just like other natural sciences

Clear and masked communication

Clear communication occurs when an individual explicitly states the information he or she is trying to convey, and there is no ambiguity as to the meaning of the statement.

- For example, "I am upset because Daniel is not home from the movies yet" is an example of clear communication because there is no question that the individual making the statement is upset at Daniel for not being home
- Masked communication occurs when an individual states the information he or she is trying to convey in a vague and somewhat confusing manner
- For example, "I am upset" is an example of masked communication because there is no indication as to why the person is upset
- As these examples illustrate, clear communication is always more effective in conveying a particular piece of information than masked communication

Families' communication types

The two primary types of communication used by family members are affective communication and instrumental communication.

- Affective communication is communication in which an individual demonstrates his or her feelings through facial expressions, motions, gestures, or by stating his or her feelings outright
- Instrumental communication is when an individual informs another member of the family of a piece of factual information that is necessary to carry out the normal day-to-day functions of the family
- An example of instrumental communication is a mother informing her child where he or she can find his or her socks
- Families that use both types of communication usually function more effectively than families that use instrumental communication more often than affective communication

Behavioral modeling

Behavioral modeling, when related to child development within a family structure, is the manner in which children

model their own behavior after the behavior of their parents and other people with whom they interact. Children learn what behavior is socially acceptable by mimicking the behavior of the people around them.

Heritage

Heritage is anything inherited from one's ancestors, including traditions, customs, or physical characteristics. The family conveys the traditions, customs, and social norms of the previous generation to the generations that follow.

Family members development and education

One of the most important functions a family provides is developing and educating family members.

- Parents and grandparents pass their heritage and teachings of social norms and acceptable behavior to the children of the family through their customs, traditions, and ultimately their actions
- Children learn about their heritage through the traditions of the family and also often learn lessons about the manner in which they are expected to behave by using the behavior of their parents and the rest of the household as a model for how they, too, should behave
- Children also learn about the manner in which the world around them functions through the interactions of the members of the family with the world outside the household
- This allows the child to understand more complex types of social interaction such as what goods the family needs, where the family must go to fulfill those needs, and what is needed to acquire those necessities (e.g., how much money is required to purchase an item)

Role

A role is a collection of social rights, behaviors, and obligations that is assigned to a particular individual. For example, a mother's role might be that of a provider because she is out in the workforce earning an income for the family.

Role confusion

Role confusion occurs when an individual is uncertain of what role or roles he or she should play in a particular situation. For example, a nurse might run into a patient whom she took care of previously while out grocery shopping and be unsure of whether to act in a formal, nurse-to-patient manner or in an informal, friendly manner.

Role strain

Role strain occurs when an individual is placed in a situation in which carrying out the duties of a certain role will prevent the individual from fulfilling his or her obligations of another role. For example, a working mother might be both caregiver and provider. If her child becomes ill, she cannot carry out both roles; she is forced to choose between working or caring for the sick child.

Healthy family roles

There are five major roles that are essential to the functioning of a healthy family. These roles are provision of necessities, development and education, emotional support, management of the family, and satisfaction of the married couple's needs.

- Individuals within the family need to provide necessities by creating income so that the family has access to food, clothing, and shelter
- Family members need to teach not only customs, but also skills that will help the members of the family achieve academically and professionally
- Families must provide emotional support for the family members during times of high stress
- The family needs someone to take a leadership role and handle issues such as managing finances and maintaining the roles essential to the family's survival
- The married couple has its own requirements, including basic necessities, sexual needs, and emotional needs that must be met for the family to continue functioning normally

Marriage

Marriage is a union between two individuals that is often held as a legally binding contract in which the members of the union state their intention to live together and aid each other in maintaining a family.

- Even though couples who simply live together in the same household can constitute a family under the commonly used definition, the institution of marriage offers a level of stability to the family structure that is not present when an unmarried couple makes up the center of the family
- This added stability is primarily a result of the societal, religious, and governmental recognition of the institution of marriage, which creates an expectation that the marriage—and ultimately the family—will remain intact
- Although many married couples eventually separate and divorce, it is more difficult for a member of the marital couple to leave the family than it would be for a member of a couple who has no legal or societal obligation to remain together

Married couple affects

The married couple or, in some cases, the couple living together is the core of the family and therefore has a profound effect on the relationships and well-being of the family.

- If a marital couple is having difficulty in their relationship, and the stress of those difficulties becomes apparent, the rest of the family will most likely exhibit signs of stress
- For example, if the marital couple is consistently seen fighting, or even if they just become withdrawn after a fight, other family members may react to the stress and become withdrawn, upset, or even hostile
- On the other hand, marital couples who are not experiencing marital difficulties and who appear warm and affectionate will foster the same feelings of warmth and affection in the rest of the family

Family structures

The four major types of family structures are nuclear, extended, single-parent, and blended.

- Each of these structures is based on the idea that a family is a group of people who participate in raising the next generation

- A nuclear family is the traditional concept of a family in which a mother, father, and their children live in the same household
- An extended family is an expansion of the nuclear family that includes the mother, father, and their children as well as aunts, uncles, cousins, and grandparents
- A single-parent structure is a family in which one parent is the only one in the home caring for the children
- A blended family, also known as a stepfamily, is one in which a parent marries or remarries when he or she already has his or her own children, and there is a parent, stepparent, and one or more children living in the household

Family

A family is commonly considered a group of individuals related by birth, adoption, or marriage who reside together, usually for the purpose of raising children.

- A family can refer to any group of people who live together in the same household even if they are not related by blood or legal ties
- This means that an unmarried couple who is living together or even a pair of roommates may still be considered a family
- A single individual, though, is the opposite of a family because it is a person who lives alone and therefore does not regularly interact with relatives or other individuals within the household

Family life cycle

There are commonly nine stages in the family life cycle. The first five stages are as follows: the bachelor stage, the newly married couple stage, full nest stage I, full nest stage II, and full nest stage III.

- The bachelor stage is the stage in which the individual is yet to be married, and the family has not yet been established
- The second stage is the newly married couple stage in which two individuals have just married but do not have children
- The third stage is the beginning of the three full nest stages, when the parents are beginning to raise children
- During full nest stage I, the youngest child is under six
- The fourth stage, full nest stage II, is when the youngest child is six or over
- The fifth stage, full nest stage III, is the stage in which an older married couple has independent children

Family structure changes

The typical family structure in the United States has changed dramatically in recent years as the norm moves away from the nuclear family and toward the blended family.

- As more people divorce and remarry, blended families are becoming much more common
- In this family structure, children are cared for by both biological and stepparents
- This increase in the number of blended families, which were unheard of 50 years ago, has resulted in two substructures: simple and complex
- In a simple stepfamily, only one of the individuals marrying has children before the marriage
- In a complex stepfamily, both parents marrying have their own children before the marriage

Family purpose

The primary purpose of a family is to ensure the survival of the family and to nurture the children.

- Families facilitate survival by sharing the work and tasks such as earning a living and taking care of the home
- Family also provides emotional support to one another during stressful times
- The family nurtures the children by offering social and emotional interaction, protecting them from potential danger, and educating them in social norms and customs
- The family also provides the basic necessities required for the basic physical development of the children in the household, including food, clothing, shelter, and play

Family life cycle last four stages

The last four stages of the family life cycle are the empty nest I stage, the empty nest II stage, the solitary survivor in labor force stage, and the retired solitary survivor stage.

- During empty nest I stage, the head of the household is married and still in the labor force, but the couple has no children at home
- Empty nest II stage is the same as empty nest I stage except that the head of the household has retired
- The next stage, solitary survivor in labor force stage, occurs when one member of the couple has passed away, and the survivor must continue to work to support himself and herself
- The final stage, the retired solitary survivor stage, is the same as the solitary survivor in labor force stage except that the survivor has retired, and there are no longer any individuals living in the household who are still in the labor force

Childhood development skills

From approximately six to 10 years of age, children start school and begin moving away from the known world of home and family to the new world of academia, additional adult influences, and peer groups.

- Egocentric thought decreases
- Children learn how to manipulate signs and symbols related to objects
- They learn how to make things and use tools
- They discover how it feels to be productive and how much fun it is to learn something new
- They also learn that actions are reversible
- For most children, this is the first time they receive feedback from people outside the family circle
- If the feedback is constructive and instructive, they develop competence and increase their self-esteem
- If children are consistently unsuccessful and do not learn to appreciate the learning process, they can feel inadequate and develop feelings of inferiority that can stay with them the rest of their lives

Early childhood

Early childhood is the period between approximately three and five years of age.

- During this time, children widen their social interactions and become more involved with and attuned to the people around them
- They are eager to explore their environment, take risks, find

adventure in the backyard, and discover how things work
- Children this age are very creative and expressive
- Their world might have purple trees, an orange sky, and superheroes living behind the garage
- It is the responsibility of the caregivers to encourage initiative and exploration and to help the child learn from mistakes
- If the caretaker offers appropriate praise when earned and is consistent with discipline when needed, the child will become more responsible, follow through on assigned tasks, and develop a healthy, positive self-esteem
- If the child is not allowed to make some decisions for himself or herself and be a little independent, he or she may stop taking the initiative altogether and be easily led by other people

Adolescence

Adolescence starts at about 11 and continues until the child turns 18.

- Children this age learn to apply logic to abstract concepts. In the first few years of this stage, adolescents return to being egocentric because they are trying to figure out who they are and where and how they fit into the world
- They explore new ideas, test established limits both at home and in school, and try to cope with and understand all the physical, hormonal, and emotional changes they are experiencing
- They test different roles, personas, and behaviors as they figure out which identity to embrace
- It is a confusing time but a necessary and critical step in developing a positive sense of self
- Parents, friends, teachers, mentors, peers, and other people in the adolescent's life all have an influence, positive or negative, on the adolescent's choices

Social relations

Social interactions are comprised of social actions that are the foundation for social relations.

- Even though the term is used in all the social sciences, there is no formal, commonly accepted definition for social relations
- It can mean interactions between individuals or groups in the same ethnic or kinship clan, social class, organization, country, gender, or any other grouping of people with a common denominator
- The word "social" infers some kind of association based on mutual dependence and belonging
- The association can be between people who are part of a group, between groups of people, and between an individual and a group of people
- Strictly speaking, social relations do not necessarily refer to an interpersonal relationship between two people
- To have individual relationships, there must be some type of social relations involved. For example, two people may belong to the same clan, work for the same organization, or live in the same country

Social action and social interaction

Social action is any action that is modified by the actions and reactions of other

individuals. There are four kinds of social action:

- Irrational actions are taken to reach a goal, usually without thought to consequences or means
- Instrumental actions are planned, evaluated, and taken after considering means and consequences
- Emotional actions express personal feelings
- Traditional actions are taken simply because they are always done in a certain situation
- Social interaction is a meeting in which the participants attach and interpret meaning to a dynamic situation and react accordingly. There are four types of social interactions:
    - Accidental interactions are unplanned and probably will not reoccur.
    - Repeated interactions are unplanned but will happen occasionally.
    - Regular interactions are unplanned but very common occurrences; they will be noted if missed.
    - Regulated interactions are planned and regulated; they will definitely raise questions if missed.

Child-centered middle school environment

Students in middle school are approximately 10–15 years old and in the sixth (in some districts fifth) through eighth grades.

- A child-centered middle school environment is one in which students are provided an educational experience that is responsive to their needs in a safe, violence- and bully-free environment
- Administrators, teachers, and counselors should understand the physical, psychosocial, and cognitive developmental needs of these adolescents
- Gender and cultural differences, learning styles, and individual interests should be considered when developing a curriculum
- Interdisciplinary team teaching is especially effective with this age group
- Middle school students should be given access and encouraged to explore different ideas and study a variety of academic subjects
- Exploring new ideas and concepts helps adolescents discover their particular talents and interests
- To build their confidence, the curriculum should be designed so that all students have the opportunity do well in several areas

Diversity

Diversity is the quality of having distinct characteristics.

- When used to describe a society, diversity means the cultural differences found within the language, dress, arts, and traditions of the aggregate group
- There can also be differences in how individual groups are organized, their understanding of morality, and the ways in which each group interacts both inside and outside its circle
- Members of an ethnic group usually identify with a shared ancestry and are frequently bound by a common language, cultural heritage, religious belief, and behavior pattern

- Used in a sociological sense, diversity suggests that acknowledging the various ethnicities represented in the aggregate group fosters understanding, improves communication, and eventually leads to acceptance of different viewpoints
- Critics of this idea claim that forcing people together just leads to a breakdown of any existing social cohesion
- Arguments are made on both sides

Educator's diversity strategies

A major goal of every educator should be to recognize that diversity exists and then design curricula and develop programs that address diversity issues.

- Diversity should never be an add-on to the school's established culture
- Policies and practices must be based on the principle that no matter what the child's pre-school experiences, every student has inherent strengths that can and should be used to help him or her succeed
- When the curriculum reflects student diversity, all children benefit
- Children understand that where they came from will not hinder them from reaching their goals
- Another factor in the equation is parents
- Most want their children to do well in school
- Studies have shown that parents' participation in their children's education has a profound effect on children's academic performance and ultimate success
- Schools must make it a priority to provide an environment that invites and encourages parents' active involvement

School population diversity

Educational institutions in the United States are composed of increasingly diverse student populations.

- The percentage of African-American, Hispanic, and Asian students has increased dramatically over the past several years
- When some of these students come to school for the first time, many do not speak English and have had very different pre-school experiences
- From cultural norms to language diversity to socioeconomic status, students come from a variety of home situations
- Some are better prepared for school than others both academically and socially
- It is imperative that educators develop programs and curricula that emphasize that all children are capable of learning and meeting high academic standards
- Each student must understand that he or she has a bright future if he or she studies hard and develops strong relationships with caring adult mentors
- It is the responsibility of educators to provide the tools and the environment necessary for students to achieve

Multicultural educational environment

The following are a few ways the educational community can contribute to an effective multicultural educational environment. This list is by no means comprehensive; it is merely a springboard to invite individual ideas, action, and implementation.

- Teachers can enroll in programs designed to explain how race, ethnicity, language, and socioeconomic status affect student behavior. They should use this information to help students acquire the social skills necessary to interact positively with different cultural groups. The curriculum teachers develop should ensure that every student has the opportunity to meet high academic standards
- Schools should provide a variety of opportunities for students to interact across racial, ethnic, and gender groups in activities that promote positive interactions between diverse groups
- Administrators should create an environment that encourages shared decision making and values collaboration between academic disciplines
- Community leaders should ensure that all public schools are funded equitably without regard to the demographics of the student population or the location of the school

Diversity learning enhances educational experience

One of the main goals of twenty-first-century education is to develop critical thinkers.

- When students are taught with a curriculum that embraces diversity, it enables them to function more effectively in a complex, multicultural society
- To appreciate how past actions affect present circumstances, students need to understand the historical experiences of every cultural group in their society
- America may be a melting pot, but that pot contains the hopes, dreams, history, and struggles of many ethnic groups; each one made unique contributions to the society we have today
- An empowering educational culture that embraces multicultural diversity encourages teachers to use different methods, materials, concepts, and values to reach their students
- Integrating information about and studying the impact of all cultures greatly enhances students' ability to understand, appreciate, and get along with different racial, ethnic, and gender groups

Assessment strategies for young children

Testing children before the third grade, or approximately age eight, is a risky proposition.

- Children at this age are notoriously poor test-takers because they do not understand the testing concept or why the person giving the test does not already know the answers
- Studies have shown that the younger the child who takes a test, the more errors made in interpreting the results
- When planning assessment strategies to evaluate young children, teachers and parents should recognize the limitations of report cards and grades in general
- Because children develop at different rates, their performance is uneven, inconsistent, and variable
- Children should be assessed on general, age-appropriate knowledge gained and skills attained; how much progress they have made in learning to control their behavior; and their overall

improvement in social interactions
- Children should also be encouraged to evaluate their own progress
- Most children this age are realistic about their progress and will ask for help when they need it

Assessing children's academic growth

Parents and teachers want and need to know how children are progressing in learning age-appropriate tasks and acquiring age-appropriate skills.

- If problems are diagnosed early, they can be addressed and, many times, corrected before they become serious roadblocks to development
- One cautionary note: be careful of attaching a good or bad label
- A label tends to follow a child throughout his or her entire educational experience
- Determining children's progress helps in making placement and promotion decisions, aids in the design of curriculum and other programs, and can lead to improvements in instructional methods and classroom management
- Assessments of young children, especially in first and second grades, should always consider four major areas: knowledge, skills, temperament, and feelings
- Adding observations made during informal work and play situations helps minimize possible errors inherent in evaluating young children
- Assessments should include a balance between standardized evaluations and specific progress made by individual students

Ethical behavior

Historically, helping form the moral character of the young members of society was considered the duty of the older generation, particularly parents and teachers.

- Passing on moral values is much more effective if those values are lived, not just spoken
- Educators who take that sacred trust seriously not only provide excellent instruction, they also exhibit pride, professionalism, and commitment to education
- The following are ways educators can practice ethical behavior:
    - Coming to school every day and showing up for assigned classes on time
    - Being well-informed in the subject and properly prepared to present the material
    - Keeping informed of advancements in teaching techniques and assessment methods
    - Communicating with the parents of overachievers, underachievers, and average students
    - Cooperating with colleagues and administrators to ensure the school operates effectively and efficiently
    - Following school and district policies and procedures and offering constructive criticism when changes and upgrades are needed. In other words, educators should be part of the solution, not part of the problem

Elementary school educator's ethics

Ethics is a set of moral principles or values that determines the rules and standards of right and wrong. The Code of

Ethics required by the National Council for Accreditation of Teacher Education (NCATE) is based on a program developed for dental professionals at the University of Minnesota about 25 years ago. The Four-Component Model of Moral Maturity provides elementary school educators with the guidelines to define realistic goals, develop effective teaching strategies, and design equitable assessment methods. The components are as follows:

- Moral sensitivity is being aware of how personal actions affect other people. It involves understanding cause and effect and empathy when dealing with professional situations
- Moral judgment is reaching conclusions about complex human behavior without prejudice or bias
- Moral motivation requires placing professional values over personal considerations
- Moral character is always acting in accordance with one's convictions

Early childhood intervention

Early childhood intervention is the process by which children who are experiencing or showing signs of developmental difficulties are diagnosed and treated early to allow them to continue developing in the best manner possible. Early childhood intervention services usually take place before the child reaches school age because studies indicate that the earlier a child who is experiencing difficulties receives special education, the more effective that education will ultimately be.

Intellectual giftedness

Intellectual giftedness refers to children who are born with a significantly higher than average IQ and who are capable of learning concepts and information much more quickly than other children their age. Even though intellectual giftedness is an asset to the child, the child often requires education that is adjusted for the speed at which the child can learn. Otherwise, the child will become bored, frustrated, isolated, and may begin to underachieve.

Teenage pregnancy risk

The two primary ways that the risk of teenage pregnancy can be reduced are through the promotion of contraceptive use or abstinence and through the promotion of social interaction between teenagers and their parents.

- The best way to reduce the risk of teenage pregnancy is to abstain from intercourse, but the use of a contraceptive, even though it does not guarantee that a teenager will not become pregnant, can greatly reduce the chances of pregnancy when used correctly
- Studies have also shown that teenagers who have regular, open communication with their parents are more likely to wait to have intercourse until later in their lives
- Regardless of what precautions are used, the risk of teenage pregnancy cannot be eliminated completely, as there is always the risk of contraceptives failing or the risk that a teenager may become a rape victim

Teenage pregnancy effects

Teenage pregnancy can be defined as the act of a woman expecting a child prior to her twentieth birthday or, in some areas, prior to her being considered a legal adult.

- Teenage pregnancy can have a significant number of physical, social, economic, and psychological effects
- Studies show that women who become pregnant as teenagers:
  - have a significantly higher chance of giving birth to the child prematurely
  - a higher risk of the child being born at an unhealthy weight
  - a higher risk of complications during pregnancy, especially when the mother is under the age of 15
- It has also been shown that teenage mothers are more likely to drop out of high school and are even more likely never to finish college
- This can make it much more difficult for a teenage mother to find a job, especially if she is the sole caretaker of her child
- Children born to teenage mothers have been shown to be at higher

risk for behavioral problems and often have more difficulty functioning in school

Teenage suicide

There are a number of factors that increase the risk of teenage suicide, but studies indicate that a teenager's history, emotional and physical health, social pressures, and access to the methods necessary to carry out a suicide are the most influential factors.

- If a teenager has attempted suicide, has a history of drug or alcohol abuse, a history of depression or other mental illness, or another family member has committed suicide or been abused, the teenager's risk of suicide increases
- Physical illness, religious or cultural pressures, and other suicides in the community can also lead to an increased risk of suicide among teenagers
- If the teenager has access to guns, knives, drugs, or any other means of taking his or her own life, the teenager may be at heightened risk for suicide.

Teen mother and child

Maintaining a stable and effective support system before and after a child is born is the most important factor for a teenage mother to function and raise her child in a healthy fashion.

- Studies have shown that most of the physical effects on the children of teenage pregnancy are a result of malnutrition and poor prenatal care
- Both of these factors can be greatly reduced or eliminated if the young mother has help from parents or outside resources that teach her what to eat and where to get appropriate care
- Because teenage parents almost always lack the resources and the life experience necessary to both supply and care for the child, a strong support system is essential in helping the mother financially and in raising the child

Diagnosing psychological disorders

Psychologist used various tests and assessments in order to determine whether an individual has a psychology disorder. The first assessment the therapist will conduct is a general observation of the individual. This will include observing how they walk, their facial expression, and how they keep themselves (whether they are clean). Other assessments may include gathering information in the form of an interview to obtain information about the individual's daily life, previous mental health history and family medical and mental health history. Also, and this especially occurs with children in interviews or questionnaires, may be given to other family members, teachers, or other care takers in order to gather information about the individual in various settings.

Diagnosing mental health issues

The medical model of diagnosing mental health issues is based on the notion that there is a physical cause for the mental health disorder. This is often explained in terms of a chemical imbalance that is causing the mental health disorder. As such, treatment in the form of pharmaceuticals will likely be prescribed. In addition, this type of treatment, the individual may be required or suggested to participate in other forms of treatment such as a group therapy or individuals counseling. This additional treatment

would be seen as a supplemental treatment to the medications.

Depression

A major depression is an overwhelming feeling of sadness that extends over a long period of time. Although about one in ten Americans will experience a major depression in any given year, only about one in every three of these will seek treatment. Most cases of depression can be helped with psychotherapy, medication, or both. An individual may be depressed of he or she feels sad or discouraged for a long period, lacks energy, has difficulty concentrating, continually thinks of death or suicide, withdraws from social activities, has no interest in sex, or has a major change in eating or sleeping habits. Some individuals who do not respond to therapy or medication may consider receiving electroconvulsive therapy, which attempts to change the established (and maladaptive) patterns in the patient's brain by the administration of electrical current through electrodes on the scalp.

Phobias

The most common kind of anxiety disorder is a phobia, an irrational and intense fear of some object or situation. About one in ten adults will develop a phobia at some point in life. The individual may recognize that the fear is excessive and irrational but is unable to function because of the fear. Although many prescription medications have been used to treat phobias, none seem to be very effective unless they are accompanied by behavioral therapy. One effective behavioral therapy technique is gradually increasing the level of the feared object or situation to the patient while demonstrating coping strategies. Medical hypnosis therapy has also proved effective in combating phobias.

Obsessive-compulsive disorder

One extreme kind of anxiety disorder is obsessive-compulsive disorder, in which the individual is plagued by a recurring thought he or she cannot escape and may display repetitive, rigidly formalized behavior. Individuals who suffer from OCD are most often plagued by thoughts of violence, contamination (for instance, being concerned that they are infected), or doubt. The most common compulsions among individuals with OCD are hand washing, cleaning, counting, or checking locks. Individuals suffering from OCD probably recognize that their behavior is irrational but feel powerless to stop it. OCD will eventually get in the way of the person's functioning in other areas of life and will require treatment. Though OCD is thought to have biological origins, it can be treated with a combination of medication and behavioral therapy.

Attention deficit hyperactivity disorder

Attention deficit hyperactivity disorder is the diagnosis given to a range of conditions in which the individual has a hard time controlling motion or sustaining attention. Although ADHD is typically thought of as a disorder that affects children, new research suggests that it is not outgrown and that adults may be just as likely to suffer from it.

Schizophrenia

Schizophrenia, one of the most crippling forms of mental illness, exists when an individual loses the unity of his or her mind and suffers impaired function in almost every mental area. An individual suffering from schizophrenia may see or hear things that do not exist, may believe that an external force is putting thoughts into their head or controlling their behavior, or may suffer delusions about their identity. Many schizophrenics will

develop severe anxieties and will become obsessive about protecting themselves. For most individuals, antipsychotic drugs can help to restore mental control and minimize delusional episodes. However, these drugs can cause a person to become apathetic, and many impoverished individuals will lack the resources to receive treatment at all.

Psychotherapy

Psychotherapy refers to a broad spectrum of counseling techniques based on conversation between a trained professional and an individual seeking help. Most mental health professionals are trained in a few different psychotherapeutic styles and can tailor their approach to the patient's needs. Progress in psychotherapy can at times be difficult to measure, and insurance companies have grown increasingly unwilling to pay for long treatments. For this reason, many individuals seek psychotherapy for a specific problem or to correct a specific feeling or behavior. Most people find that the process of talking and listening is therapeutic in itself and allows them to discover solutions to their problems that were unavailable through reflection

Interpersonal therapy

Interpersonal therapy (IPT) was originally developed by doctors performing research on the treatment of major depression. They discovered that many patients were aided by developing an empathetic relationship with a therapist. IPT does not attempt to treat the origins of a psychological disorder; rather, it helps the individual to improve his or her ability to get along with others. This treatment has been most effective for individuals suffering from major depression, difficulties forming lasting relationships, dysthymia (mild depression), or bulimia. Most IPT treatments last from 12 to 16 weeks. During these sessions, the therapist usually talks a great deal more than a therapist practicing psychodynamic psychotherapy.

Psychiatric drug therapy

Psychiatric drugs are those that affect the chemistry of the brain and relieve the symptoms of mental disorder and illness. In recent years, research has produced a generation of extremely safe and effective psychiatric drugs that can help individuals with problems ranging from minor depression to schizophrenia. One of the most common types of drugs is a serotonin boosting medication that is used to treat obsessive compulsive disorder, attention deficit disorder, and depression. Patients should know, however, that it often takes several weeks for psychiatric medications to begin showing results. Also, they should be made aware that these drugs have side effects, some of which are very serious. Psychiatric drugs may continue to be operative after the individual stops taking them.

Suicide

A number of factors can contribute to an individual's decision to take his or her own life. About 95% of individuals who commit suicide have some form of mental illness, most commonly major depression or alcoholism. Individuals who for whatever reason have lost hope that their lives will ever improve are at high risk for suicide. There appears to be a hereditary influence as well: about one of four individuals who try suicide have a family member who committed suicide. Autopsies have shown that suicidal individuals often have a low level of the neurotransmitter serotonin. Finally, it is well documented that individuals who have easy access to firearms are far more likely to commit suicide.

Developmental Psychology

Behaviorist and humanistic psychology

Behaviorist psychology focuses on the mind by observing human behaviors. These psychologists believe that, while one cannot measure or observe a feeling, human actions could reveal an emotion.

Humanistic psychology focuses on the current environment of the individual in determining the reasons for their behaviors. This field of psychology does not feel that looking into the past, as with psychoanalysis, is enough to obtain a clear picture of the individual.

Based on these definitions, both these fields of psychology focus on observing human actions. However, behavioral psychology focuses on objective observations with no consideration for mental processes of the individuals, while humanistic psychology focuses on the individual's potential for growth, by determining what in their environment needs to be changed to improve functioning.

Structuralism

Edward Bradforn Titchener, as student of Wilhelim Wundt, proposed structuralism as a psychological perspective. This was originally a concept from the field of physics. As such, structuralism attempts to learn the nature of something based on its structure. In other words, the scientist can determine how something works by understanding what it is made of and how it is put together. In psychology, introspection, or self-reflection, was a function that Titchener believed was the main activity in determining the structure of the human mind. The notion of introspection, which requires the ability to look inside and analytically verbalize feelings, thoughts, and sensations, was the beginning of modern psychology.

Psychology as a physical science

By the 1960s, psychologists began exploring the physical aspects of the mind in connection to behavior. This was a significant advance from previous perspectives of observation and introspection. Specifically, Cognitive Neuroscience explores how the physical parts of the brain and their functions relate, or in many cases determine mental processes, such as joy, fear, or anger. In addition to drawing these connections between brain function and raw emotions, psychologists have uncovered physical aspects of the brain involved in learning, speech development, memory and behavior. Within this field, psychologists have unlocked key functions of the brain and, in turn, have developed better treatment methods for many mental and emotional disorders as well as new interventions and educational strategies for various aspects of human needs.

Perspectives of modern psychology

Neuroscience examines the connection between the physical brain and mental processes. This subfield of psychology often focuses on examining individuals with brain damage in order to determine the various functions of the brain.

Evolutionary explores the role of natural selection in passing on various genes in terms of mental and behavioral processes.

Behavior genetics explores how genes and environment affect behaviors and mental processes.

Psychodynamics investigates behavior in terms of the subconscious and the unconscious. This field of psychology relies on introspection and psychoanalysis in unlocking the unconscious.

Behavioral explores behaviors through observations and the environment.

Cognitive explores how the brain stores, processes, and retrieves information, with a main focus on working memory.

Social-cultural examines human behavior in relation to society and culture as well as across cultures.

Biological psychological and social cultural influences

Because of the complexities of humans there are three levels of analysis when discussing the field of psychology. Biological influences include the role that natural selection and biology play in determining human behavior and development. These include genetic predispositions that may interact with environmental constraints, influences of hormones and other mechanisms within the brain. Psychological influences include learn behaviors based on observation or modeling as well as cognitive and perceptual processes of the world around us. Finally, social-cultural influences referred to our immediate environment of family, our neighborhoods, our peers, all of which play a role in development. Because of the interaction of these three levels, it is necessary to take each into consideration when discussing any component of psychology.

Jean Piaget's cognitive development theory

Jean Piaget's theory of cognitive development theorizes that children will learn more effectively if they are allowed to actively adapt to the world around them through play and exploration rather than being taught skills and knowledge by others. Piaget's theory suggests that there are four major stages that children will go through as they begin to acquire new skills that will aid their ability to learn and process information independently. The four stages of cognitive development that Piaget identifies are:

- The sensorimotor stage, which spans from ages zero to two
- The preoperational stage, spanning from ages two to seven
- The concrete operational stage for ages seven to 11
- The formal operational stage for ages 11 and up

Piaget's theory is important to the study of child development because it was the first theory that recognized that children can actively and effectively learn on their own rather than being dependent on another person for learning to occur.

Piaget's theory first stage

The first stage of Piaget's theory of cognitive development, the sensorimotor stage, lasts from birth to age two.

- This is the period during which a child uses his or her senses of sight, hearing, and touch to learn about and explore elements of the world
- Using these senses, children are able to discover new ways of solving simple problems such as using their hands to drop a block into a bucket and then remove it from the bucket
- Another example is learning to use their eyes to find an object or person that has been hidden
- As a result, it is also at this stage that a child begins to develop hand-eye coordination and the

ability to reason out a method of achieving goals

Piaget's theory second stage

The second stage of Piaget's theory of cognitive development is the preoperational stage.

- It spans from ages two to seven
- This is the stage in which children begin to use words, symbols, and pictures to describe what they have discovered about particular elements of the world around them
- During this stage, children begin to develop an understanding of language, and they can focus their attention on a particular subject or object
- Piaget theorized that children at this stage have a faulty sense of logic when attempting to understand certain concepts such as volume, mass, and number when some element is changed
- For example, if a liquid is poured into a tall container, and then an equal amount of liquid is poured into a smaller but wider container, the children would believe that the taller container contains more liquid even though this obviously is not the case

Third stage of Piaget's theory

The third stage of Piaget's theory of cognitive development is the concrete operational stage occurring between ages seven and 11.

- It is the stage in which a child's thinking becomes more logical regarding concrete concepts.
- In this stage, children are capable of understanding concepts of mass, volume, and number. For example, they can understand that two containers of different shapes that each have the same amount of liquid poured into them still contain the same amount of liquid despite their differences in appearance
- The child also begins to identify and organize objects according to shape, size, and color
- The child will not be able to understand more abstract concepts such as those found in calculus or algebra, however, until he or she reaches the formal operational stage of development

Fourth stage of Piaget's theory

The fourth and final stage of Piaget's theory of cognitive development, the formal operational stage, starts at age 11 and continues until the end of an individual's life.

- During this stage, an individual understands more abstract concepts and develops a logical way of thinking about those concepts. In other words, an individual begins to understand ideas that are less concrete or absolute and that cannot necessarily be backed up by physical evidence or observation such as morality, advanced mathematics, and a person's state of being
- It is also within this stage of development that individuals can understand all the variables in a problem and are able to determine most, if not all, the possible solutions to a problem rather than just the most obvious solutions
- This stage is never truly completed; it continues throughout a person's life as the individual develops and improves his or her ability to think abstractly

Piaget's theory challenged

Later researchers have challenged Piaget's theory of cognitive development because studies indicate that Piaget may have underestimated the abilities of younger children to learn and understand various concepts.

- Piaget's theory indicates that younger children are unable to understand certain concrete and abstract thoughts early within their development even if another individual teaches the child. However, this notion has been disproved.
- Research shows that young children can be taught how to handle and understand problems that Piaget believed only older children would be able to comprehend
- Researchers have also challenged Piaget's theory because studies indicate that if a younger child is given a task like one an older child might receive, but the difficulty of the task is adjusted to compensate for age, the younger child would actually understand the concept more effectively
- Piaget's theory is still important, though, because it presents the importance of active learning in a child's development
- Notably, Piaget's theory ignores many of the benefits of adult learning

Abraham Maslow's theory

Abraham Maslow theorized that there are five types of human needs that, if arranged in order of importance, form a pyramid.

- Maslow maintained that individuals would not be able to focus on the upper layers of the hierarchy until they were first able to meet the needs at the lower layers
- The first layer of the pyramid represents the physiological needs, which are the basic needs required for an individual's survival such as food, water, breathable air, and sleep
- The second layer of the pyramid represents the safety needs, which are the elements that an individual needs to feel a sense of security such as having a job, good health, and a safe place to live
- The third layer of the pyramid corresponds to the love and belonging needs, which are needed to form social relationships such as those with friends, family, and intimate loved ones

Layers added to Maslow hierarchy

Maslow later added two additional layers above the self-actualization layer of the pyramid. These are the cognitive layer and the aesthetic layer.

- The cognitive layer is the layer that represents an individual's need to acquire and ultimately understand both abstract and concrete knowledge
- The aesthetic layer, which became the final layer in later versions of the pyramid, is the layer that represents the individual's need to discover, create, and experience beauty and art

Maslow later theorized that if an individual was unable to meet the needs of any given layer of the pyramid, those needs could become neurotic needs. Such needs are compulsions that, if satisfied, would not facilitate the individual's health or growth

Fourth and fifth layers of Abraham Maslow's hierarchy

The fourth layer of Maslow's hierarchy of human needs is the esteem layer, which represents the individual's need to respect him or herself and be respected and accepted by others.

- The fifth and top layer of the pyramid is the self-actualization layer
- It represents the individual's need for morality, creativity, and trust
- Maslow theorized that individuals could survive without reaching the higher levels of the pyramid but that would feel a sense of anxiousness if these needs were not met
- Maslow also believed that individuals who reached the higher levels of the pyramid did not receive any tangible benefit from meeting these needs other than a feeling of fulfillment and the motivation to fulfill needs higher on the pyramid

Erikson's psychosocial development theory

Erik Erikson's theory of psychosocial development breaks the process of human development into eight stages necessary for healthy functioning

- The eight stages Erikson identified are infancy, younger years, early childhood, middle childhood, adolescence, early adulthood, middle adulthood, and later adulthood
- During each of these stages, individuals must overcome a developmental obstacle, which Erikson called a crisis, to be able to progress and face the crises of later stages
- If an individual is not able to overcome one of the crises along the way, later crises will be more difficult for him or her to overcome
- Erikson's theory also maintains that individuals who are unable to successfully pass through a particular crisis will likely encounter that same crisis again

First stage of Erikson's theory

The first stage of Erikson's theory of psychosocial development is infancy, which spans from birth to 12 months.

- In this stage, a child is presented with the crisis of trust versus mistrust
- Although everyone struggles with this crisis throughout their lives, a child needs to be able to realize the concept of trust and the elements of certainty
- For example, a child learns that if his or her parents leave the room, they aren't going to abandon the child forever
- If a child is unable to realize the concept of trust because of traumatic life events, such as abandonment, the child may become withdrawn and avoid interaction with the rest of society

Second stage of Erikson's theory

The second stage of Erikson's theory of psychosocial development is the younger year's stage, which covers ages one to three.

- In this stage, a child is faced with the crisis of autonomy versus shame and doubt
- The child is presented with the need to become independent and learn skills such as using the toilet without assistance
- If the child is able to overcome this crisis, he or she will gain the sense of self-pride necessary to

continue fostering the child's growing need for independence
- If, however, the child is unable to overcome this crisis and cannot establish his or her own independence, the child will develop feelings of shame and doubt about his or her ability to function without assistance

Third stage of Erikson's theory

The third stage of Erikson's theory of psychosocial development is the early childhood stage, spanning from ages three to five.

- In this stage, a child is faced with the crisis of initiative versus guilt
- The child is presented with the need to discover the ambition necessary to continue functioning independently
- This stage is strongly linked with the moral development of the child as he or she begins to use make-believe play to explore the kind of person he or she wants to become in the future
- If children are unable to explore their ambitions or if they are expected to function with too much self-control, they will develop feelings of guilt as they begin to see their ambitions, dreams, and goals as unattainable or inappropriate

Fourth stage of Erikson's theory

The fourth stage of Erikson's theory of psychosocial development is the middle childhood stage, which covers ages six to 10.

- In this stage, a child is faced with the crisis of industry versus inferiority and is presented with the need to develop the ability to complete productive tasks such as schoolwork and working in groups
- If children are unable to learn how to work effectively, either alone or in a group, they will develop a sense of inferiority as a result of their inability to complete the tasks set before them that their peers are capable of completing
- For example, if a child is regularly unable to complete their homework because the child does not understand the material while the rest of the child's peers are not having difficulty, this can lead the child to develop a sense of inferiority

Fifth stage of Erikson's theory

The fifth stage of Erikson's theory of psychosocial development is the adolescence stage, which covers ages 11 to 18.

- In this stage, the child is faced with the crisis of identity versus role confusion
- During this stage, the child attempts to find his or her place in society and identify future goals and the skills and values necessary to achieve those goals
- At this stage, the child also becomes more aware of how people perceive him or her and becomes concerned with those perceptions
- If the child is unable to determine what future goals he or she is interested in pursuing, it can lead to confusion about what roles the child will play when he or she reaches adulthood

Sixth stage of Erikson's theory

The sixth stage of Erikson's theory of psychosocial development is the early

adulthood stage, which covers ages 18 to 34.

- In this stage, the young adult is concerned with the crisis of intimacy versus isolation in which an individual needs to begin establishing intimate relationships with others
- If an adult is unable to form intimate relationships with others, perhaps because of disappointing relationships in the past, this person will become more withdrawn and will isolate himself or herself from others
- Isolation can prove to be a perilous problem in the development of a healthy adult, as it prevents the individual from forming lasting relationships
- The lack of social interaction can also lead to severe personality flaws, which may hinder the development of future relationships

Seventh stage of Erikson's theory

The seventh stage of Erikson's theory of psychosocial development is the middle adulthood stage, occurring between the ages of 35 and 60.

- In this stage, an adult becomes aware of the crisis of generativity versus stagnation in which the individual is concerned with continuing his or her genetic line before it is too late
- Generativity refers to the ability to produce offspring and then nurture, guide, and prepare that offspring for future life
- At the same time, however, generativity in this context also refers to any act that gives something of value to the next generation such as teaching children how to read
- If an individual is unable to contribute to the next generation in some form, the individual will feel a sense of failure resulting from stagnation, which is simply a lack of accomplishment

Last stage of Erikson's theory

The last stage of Erikson's eight stages of psychosocial development is the later adulthood stage, which is the period that starts at age 60 and extends to the end of one's life.

- In this stage, an individual is confronted with the crisis of ego integrity versus despair
- During this time, an adult begins to examine the course of his or her life by reflecting on the kind of person that he or she has been
- If the adult feels that he or she has had a meaningful life and has accomplished something during it, this will lead to a strong sense of integrity
- However, if the individual is unhappy with the way he or she has acted, this person will experience despair and will fear death as the absolute end of further achievement

Havinghurst's developmental task concept

The developmental task concept is a theory of human development established by Robert Havinghurst that states that there are certain tasks each individual needs to go through at points during his or her life to continue developing into a happy and successful adult.

- These tasks, separated into three groups by their causes, are tasks resulting from physical maturation, personal causes, and societal pressures

- A child learning to crawl is an example of a task that becomes necessary as the child matures physically
- An individual learning basic first aid because he or she is interested in becoming an EMT is an example of a personal cause
- An example of a task resulting from societal pressure is a child learning to behave appropriately in a store

The first three major age periods identified by Havinghurst in his developmental task concept are infancy and early childhood, middle childhood, and adolescence.

- Infancy and early childhood is the period from ages zero to five, and it consists of tasks such as learning to walk, talk, and eat solid foods as well as learning right from wrong
- Middle childhood is the period of development from age's six to 12 that includes tasks such as learning to get along with others, moral values, and skills and knowledge required for day-to-day living
- Adolescence is the period from ages 13 to 18, and it requires tasks that include learning how to relate with members of the opposite sex, learning the social role of one's gender in society, and preparing for life after childhood

The last three major age periods identified by Havinghurst in his developmental task concept are early adulthood, middle adulthood, and later maturity.

- Early adulthood is the period of life from ages 19 to 29, and it is the age range where tasks such as starting a long-term relationship, finding a career, and starting a family are required
- Middle adulthood is the period from ages 30 to 60 that includes tasks such as finding adult recreational activities, achieving in one's chosen career, and helping one's teenage children become healthy and happy adults
- Later maturity is the period from ages 61 to the end of a person's life
- This period consists of tasks such as adjusting to the death of a spouse, adjusting to the effects of old age, and finding people in one's peer group to interact with.

Health Psychology

Health

Definition of health
Quite simply, health is the state of being sound in mind, body, and spirit. According to the World Health Organization, health is not only the absence of disease, but the presence of physical, mental, and social well-being. When assessing an individual's health, a professional is likely to examine him or her from a physical, psychological, spiritual, social, intellectual, or environmental standpoint. Although every individual has his or her own standard of health, it is common for people to recognize the following characteristics as healthy: an optimistic outlook in life, the ability to relax, a supportive home life, a clean environment, a satisfying job, freedom from pain and illness, and the energy necessary to enjoy life.

Psychological health
According to health professionals, maintaining optimal psychological health is not just a matter of avoiding major disorders or illnesses. In order to achieve excellence in this domain of health, a person has to take active measures to become aware and accept both his or her own feelings and the feelings of others. Achieving optimal psychological health also means developing the ability to express complex emotions, to be independent and not have to rely on anyone else for validation, and to be able to cope efficiently with the normal stress of life. Of course, reaching this state in the psychological domain depends on making progress in the other domains; that is, psychological growth depends on physical, spiritual, social, intellectual, and environmental health.

Physical health
Many health professionals view physical health as a continuum of possible conditions. On the extreme negative end of the continuum is premature death, while at the extreme positive end is optimal wellness. Optimal wellness is defined as the state in which the individual feels and performs at their personal best. Most individuals fall somewhere in between the extremes on the physical wellness continuum. Indeed, health professionals assert that a person will remain somewhere in the middle unless he or she takes active steps to improve his or her physical health. To do this, he or she must eat better, exercise more regularly, avoid dangerous and destructive habits, and protect himself or herself from injury and illness.

Social health
When health professionals refer to social health, they mean the ability of an individual to interact with other people effectively, to develop positive relationships, and to adequately fulfill social roles. Individuals who are socially healthy contribute to the affairs of the community, live peacefully among other people, and are sexually healthy. Social health has major effects on all the other aspects of a person's life. Studies have shown that individuals without strong social ties are more likely to abuse substances, to have heart disease, and even to develop cold infections. Furthermore, individuals who become ill are more likely to recover if they have support from friends and family.

Spiritual health
It is inaccurate to assume that spiritual health means being involved in an organized religion. Many people have a quality spiritual life all by themselves. According to health professionals, an individual has achieved excellent spiritual health if he or she has a defined purpose in life, has learned to experience love, joy,

and peace, and is able to help themselves and others achieve these positive feelings. For many people, spirituality is defined as feeling connected to something greater than themselves or their own personal interests. Many recent studies have indicated that the relaxation and behavioral practices associated with spirituality are conducive to physical and psychological health, as well. Many doctors have even gone so far as to classify a lack of religious practice as a risk factor for physical health.

Substance abuse

Substance abuse is a disorder in which an individual begins to overuse or becomes dependent on a particular drug or a group of drugs that ultimately has a negative impact on his or her health and human development.

- Substance abuse, especially when the individual becomes addicted to or dependent on the drug, can affect the individual's ability to interact both socially and physically
- His or her ability to communicate intelligibly or even to complete relatively simple tasks can be severely hindered
- After an individual has become chemically dependent on a particular drug, his or her body develops a physical need for the drug, and the individual will experience the effects of withdrawal if he or she is unable to meet that need
- Substance abuse not only affects a person by causing health problems, it also severely hinders an individual's ability for social development, as the individual often has difficulty improving social skills because of his or her inability to control behavior, actions, and even basic speech

Illegal drug use on the unborn child

This is a brief summary of the effects of illegal drug use on the unborn child.

- All these drugs contribute to miscarriage, premature birth, and low birth weight
- Babies born addicted can suffer various withdrawal symptoms
- Marijuana smoke contains carbon monoxide that prevents the fetus from getting enough oxygen
- Carbon monoxide in the blood causes developmental delays and behavior and learning problems
- Cocaine can cause severe bleeding, birth defects, and fetal death
- Babies can have genital, kidney, and brain defects
- They may also have learning disabilities in later life
- Heroin can cause breathing problems, hypoglycemia, intracranial hemorrhage, and infant death. When a mother uses dirty needles, babies can be born HIV positive
- PCP and LSD cause poor muscle control, brain damage, and birth defects
- These hallucinogens can cause violent behavior, which can lead to the mother harming herself and the baby
- Methamphetamine causes less oxygen to reach the fetus
- Babies can have genital, kidney, and brain defects, and they may also have learning disabilities later in life

Drug addiction effects

Drug addiction is the prolonged use of and psychological and physiological dependence on a chemical substance that affects the central nervous system.

- Drug addiction is a complex physical and mental disease
- It is characterized by psychological and physiological cravings, which persist even when the person is aware of the serious consequences of the drug's use
- Prolonged use of a controlled substance causes problems with brain function, which can cause aberrant behavior
- Abuse of drugs also causes chemical changes in the body
- A woman who uses drugs while pregnant risks serious damage to her unborn child because the drugs are transferred to the developing fetus
- Nicotine has been connected to premature births, and children of mothers who use alcohol can be born with severe developmental problems
- Research is ongoing to discover the effects of mothers using tobacco and alcohol on the fetus before and during pregnancy and on the child after birth

Alcoholism

The National Council on Alcoholism and Drug Dependence considers alcoholism as a disease that is influenced by social, environmental, and genetic factors. The common features of alcoholism are the inability to control consumption, continued drinking despite negative consequences, and distorted thinking patterns (like irrational denial). It is important to note that alcoholism is not simply the result of a weak will but is a physiological state that requires medical treatment so that it can be controlled. Many individuals may have a problem with alcoholism but not realize it if they are still functioning well overall and only drink in social situations. Alcoholics tend to be those who, even when they aren't drinking, place an undue amount of psychological emphasis on alcohol.

Effects of alcohol

Alcohol has a number of effects on behavior and judgment. It is known to impair sensory perceptions: the eye is less able to adjust to bright lights, and the ear has difficulty distinguishing sounds. The senses of smell and taste are also diminished by excessive consumption of alcohol. Alcohol will decrease sensitivity in general, making it possible for individuals to feel comfortable in extreme temperatures that may be hazardous to their health. Intoxication typically causes an impairment of motor skills, meaning that activities performed with the muscles cannot be done with any precision or coordination. Intoxication usually has a negative effect on sexual performance, even though it may increase interest in sexual activity.

From the moment it is consumed, and even before the individual notices any of the psychological effects, alcohol is at work in the human body. It is almost immediately absorbed into the bloodstream through the walls of the stomach and the upper intestine. Typically, it takes about 15 minutes for the alcohol in a drink to reach the bloodstream and, usually, about 1 hour for the alcohol to reach its peak. Once in the bloodstream, alcohol is carried to the liver, heart, and brain. Although alcohol cannot leave the body until it is metabolized by the liver, it is a diuretic that accelerates the removal of other liquids from the body; thus, alcohol has a dehydrating effect. Alcohol also lowers the temperature of the body.

Alchohol and the brain

When consumed in low volume, alcohol alters the areas of the brain that influence behavior in a way that makes the

individual feel more relaxed and less inhibited. Of course, this is accompanied by deficits in concentration, memory, judgment, and motor control. Heavy drinkers may experience long-term intelligence and memory impairment. This occurs because alcohol depresses the central nervous system and slows down the activity of the neurons in the brain. This dulling of mental reactions increases in proportion to the amount of alcohol consumed and can culminate in unconsciousness, coma, or even death. Although one or two drinks may have a pleasant tranquilizing effect, many more can entirely snuff out central nervous system activity.

Response to alcohol

Several things determine the severity of an individual's response to alcohol. Obviously, the more alcohol consumed, the higher the individual's blood-alcohol concentration will be. Also, since the liver can only process half an ounce of alcohol every hour, heavy drinking results in a higher level of intoxication than moderate drinking. More potent forms of alcohol, like liquor and fortified wine, get into the bloodstream more quickly than less concentrated beverages, like beer, especially if the liquor is accompanied by a carbonated beverage. Heavy individuals tend to get drunk more slowly as they have an excess of water with which to dilute the incoming alcohol. Typically, women tolerate alcohol less well than men because they have less of the stomach enzyme that neutralizes alcohol. Older individuals tend to have less water and so are more affected by alcohol. The effects of alcohol are seen more quickly if it is taken on an empty stomach, if tolerance to it has not been built up, or if it is accompanied by a prescription medication.

Recommended level of alcohol consumption

Alcohol is not entirely bad for the body; in fact, there is consistent evidence that suggests a single drink every day can reduce an individual's risk of heart disease. This is more true for men than for women. The National Institute of Alcohol and Alcohol Abuse suggests that men should have no more than two drinks every day, and women should have no more than one. This amount should be adjusted, depending on an individual's weight or age. Many individuals, including pregnant women, people with ulcers, people on certain prescription medications, or those operating heavy machinery, shouldn't drink at all. The health risks associated with alcohol increase in proportion to the amount of alcohol that is consumed.

Alcohol and the cardiovascular and immune systems

Alcohol is thought to have some positive effects on the cardiovascular system. Light drinkers seem to have healthier hearts, fewer heart attacks, lower cholesterol levels, and, thus, a lower risk for heart disease than those who abstain altogether. In contrast, excessive drinking will weaken the heart muscle, and this is particularly true if alcohol is used in combination with tobacco and cocaine. Chronic alcohol use will inhibit the creation of white blood cells (which help fight infection) and of red blood cells (which carry oxygen around the body). It is dangerous for a person suffering from an infection (like a cold or the flu), to drink alcohol because it will suppress the immune system's ability to fight the infection.

Alcohol and the digestive system

The first stop for alcohol is the stomach. It is partially broken down there, and the

remainder of it is absorbed into the bloodstream through the stomach lining. While in the stomach, alcohol stimulates the release of certain chemicals that tend to irritate the lining; it is for this reason that heavy drinking often causes nausea and chronic drinking may contribute to ulcers. The alcohol in the bloodstream moves on to the liver where, for the most part, it will be converted into fat. If an individual consumes four or five drinks a day for a few weeks, the liver cells will accrue a large amount of fat. Heavy alcohol use may eventually cause white blood cells to attack the liver, which can cause irreparable damage.

Alcohol-related death

Alcohol can kill those who abuse it in various ways. The main cause of death is injury, generally sustained in auto accidents involving drunk driving. In fact, alcohol is involved in at least half of all traffic fatalities (as well as being involved in half of all homicides and a quarter of all suicides). After injury, the second most common cause of death related to alcohol is cirrhosis of the liver and other digestive disease. Health professionals believe that about half the people admitted to the hospital have a health problem related to alcohol. As would be expected, young drinkers are more likely to die from injury and older drinkers more likely to succumb to alcohol-related illness.

Alcohol when consumed with other drugs

The dangers of alcohol may be magnified greatly if it is consumed in combination with other drugs, whether legal or illegal. Indeed, more than half the most frequently prescribed drugs contain one or more ingredients that react with alcohol. In most cases, this is because the ingredient affects the same areas of the brain as alcohol, thus increasing the pharmacological effects. Particularly, the synergistic combination of alcohol and an antidepressant or anti-anxiety medication can be fatal. One commonly used drug that is thought to have negative consequences when taken with alcohol is aspirin. Although many people take aspirin to alleviate the negative consequences of drinking, research has shown that aspirin may diminish the stomach's ability to process alcohol.

Social drinking

Though there are no set standards for the varying degrees of alcohol consumption, there are a few basic patterns of drinking that are agreed upon by health professionals. Light drinking is usually defined as having three or fewer alcoholic beverages every week. Infrequent drinking is having less than one drink a month, but more than one drink in a year. Infrequent drinkers can often be those who rarely drink but, on the occasions when they do, are apt to drink four or more drinks. A moderate drinker is one who has approximately 12 drinks a week but is not impaired in any life domain. Social drinking is not defined by a particular quantity; rather, it is drinking at a level consistent with one's peer group, whether this level is high or low.

Reasons for alcohol consumption

Alcohol has been popular throughout history because it depresses the central nervous system and makes people feel more relaxed. People also often drink in celebration or when meeting with friends because alcohol tends to reduce inhibitions and make conversation easier. People who drink alcohol often report feeling smarter, sexier, or stronger, even if studies indicate the opposite. Alcohol is also used by many people as a way to escape personal problems or a bad mood. It is also true that many people drink because they are swayed by the massive advertising campaigns launched by

brewers; indeed, the effects of alcohol advertising on underage consumers remains a controversial topic. Finally, many people drink in order to emulate people they admire, whether celebrities, family members, or peers.

Interventions

Brief interventions are short, intense training sessions that teach alcoholics the skills they will need to battle their drinking problem. These programs, which typically last about 8 weeks and center on topics like "assertiveness" and "self-esteem," are best suited for individuals who do not have a physical dependence on alcohol. Moderation training, another form of treatment, tries to equip drinkers with the skills to manage their drinking, by showing them ways to reduce consumption and avoid problematic situations. This method is somewhat controversial because critics assert that the only good choice for chronic alcohol abusers is abstinence. However, advocates of moderation training point out that their programs are designed for less severe cases and that their goals are more realistic than those found in other programs.

Detoxification

Whenever an individual with an alcohol problem begins treatment, the first step is detoxification, the gradual removal of alcohol from the system. Most of the time, detoxification does not produce major withdrawal symptoms. However, those who have been drinking heavily for a long period may develop severe symptoms, including seizures and delirium tremens (also known as DTs). Delirium tremens is a condition in which the individual becomes agitated and may have delusions, a rapid heartbeat, sweating, vivid hallucinations, fever, and trembling hands. This condition is most likely to strike those alcoholics who also suffer from malnutrition, depression, or fatigue and usually ceases after a few alcohol-free days.

Treatment of alcoholism

If alcoholism is caught in its early stages, doctors often prescribe antidepressant or anti-anxiety medication. These drugs increase the amount of serotonin in the brain and are believed to reduce painful cravings for alcohol. Doctors also recommend that recovering alcoholics take vitamin supplements to remedy the malnutrition that prolonged alcoholism may cause. For especially severe cases, doctors may prescribe Antabuse (the commercial name for the drug disulfiram), which causes an individual to become nauseous or ill when they consume alcohol. Individuals on this medication must also be careful to avoid foods that have been marinated or cooked in alcohol; indeed, some sensitive individuals may even have an adverse reaction to the alcohol in shaving lotion. Although Antabuse is effective in forcing an individual to stop drinking, it does not treat any of the psychological or social causes of drinking.

Inpatient and outpatient treatment for alcoholism

For a long time, a four-week stay at a psychiatric hospital or residential facility was considered necessary for a recovering alcoholic. This inpatient treatment was usually successful, too: over 70% of those who complete such a treatment remain sober for five years afterward, according to one study. Unfortunately, inpatient treatment is expensive, and insurance companies have been increasingly unwilling to pay for it. So outpatient treatments like group therapy, family therapy, interventions, and organizations like Alcoholics Anonymous have become more popular in recent years. Some studies have

indicated that intensive outpatient treatment can be as effective as inpatient care, especially if the individual continues it for at least a year.

Recovery from alcoholism

Defeating alcoholism is often the most difficult challenge an individual will face in his or her lifetime. Relapse into drinking is common; some studies estimate that 90% of recovering alcoholics will drink again within a year after quitting. The people who tend to be successful at abstaining are those who have something to lose: that is, parents of children and people with important jobs. Almost every recovering alcoholic will experience mood swings and an occasional temptation to drink. More and more, relapse prevention is a part of treatment. Relapse prevention involves giving the individual the information and skills to cope with the temptations of alcohol, as well as providing a support network that the individual can rely on in times of stress. Exercise and a general reduction in stress seem to be the most helpful treatment techniques for creating a permanent life away from alcohol.

Tobacco and nicotine

Smoking or otherwise ingesting tobacco creates an immediate effect on the body and brain. The primary active ingredient in tobacco is nicotine, a colorless, oily compound. Nicotine can be poisonous if it is ingested in a concentrated form. Inhaling cigarette smoke into the lungs causes about 90% of the nicotine to be absorbed into the body. Nicotine stimulates the cerebral cortex, enhancing mood and alertness, but, paradoxically, it can act as a sedative if taken in large doses. At the dose levels found in cigarettes, nicotine triggers the production of adrenaline, thereby increasing blood pressure and speeding up heart rate. Nicotine also decreases hunger, dulls the taste buds, and prevents the creation of urine. The FDA classifies nicotine as a dangerous and addictive drug because it is known to contribute to heart and respiratory disease.

Psychological addiction to tobacco

Tobacco creates in the user certain psychological changes that may become addictive over time. For instance, nicotine is known to stimulate the part of the brain that generates feelings of satisfaction or well-being. Nicotine is also known to temporarily enhance memory, the performance of repetitive tasks, and the tolerance of pain. It is also credited with reducing hunger and anxiety. Individuals suffering from depression may also seek relief through tobacco. Studies have consistently shown that depressed individuals are far more likely than others to develop a smoking habit. Even more troubling, the effects of depression make it much more difficult to quit smoking, so the interdependent relation between tobacco use and depression is likely to continue for a long time.

Drug abuse

A drug is any chemical substance that changes the way a person acts or feels. Drugs may affect a person's mental, physical, or emotional state. Though many drugs are taken to improve the condition of the body or to remedy personal problems, drugs can also undermine health by distorting a person's mind and weakening a person's body. According to the World Health Organization, drug abuse is any excessive drug use that is not approved by the medical profession. The use of some drugs in any quantity is considered abuse; other drugs must be taken in large quantities before they are considered to have been abused. There are health risks involved with the use of any drug, legal or illegal, insofar as they introduce a foreign

substance into the balanced system of physical health.

Drug dependency

A psychological dependence on drugs may begin as a craving for the pleasurable feelings or relief from anxiety that the drug provides. However, this craving can soon turn into a dependency on the drug in order to perform normal mental operations. A physical dependency, on the other hand, is said to occur when the individual requires increasing amounts of the drug to get the desired effect. Many drugs, like marijuana or hallucinogens, do not cause withdrawal symptoms; others, like heroin or cocaine, may be extremely painful to stop using. Individuals with a severe chemical dependency will eventually use a drug like this simply to avoid experiencing the effects of withdrawal. Typically, an individual with a severe dependency will try to stop many times without success.

Non-biological reasons for addiction

Some individuals are at a higher risk of addiction because they lack self-control, have no moral opposition to drugs, have low self-esteem, or are depressed. Research has also shown that individuals who live in isolation or in poverty are more likely to become addicted to drugs. People who associate with drug users are more likely to become users themselves. Drugs that produce a short-lived but intense state of intoxication (cocaine, for instance) are more likely to be addictive, as are those that have especially painful withdrawal symptoms. Most of the people who will experiment with drugs do so during adolescence. Although many have suggested that drugs like alcohol, tobacco, and marijuana lead to use of harder drugs, most research on this subject has been inconclusive.

Relapse prevention

Most substance abusers will relapse several times after kicking the habit. This is important for both the user and the user's support group to know so that they do not become too frustrated at the setbacks on the road to recovery. Some therapists even say that these relapses can strengthen self-understanding and make it more likely that future relapses can be avoided. Over time, substance abusers should be able to recognize the stimuli that make them susceptible to using drugs, and they should learn to avoid these people, places, and situations. It is also important to make the distinction between a minor and a major relapse; often, it is a huge victory for a recovering addict to keep a minor relapse from turning into a major one.

Immunity and stress relationship

There is a well-documented link between an increased level of stress and the diminished activity of the immune system. Whenever a person becomes stressed out, certain chemicals are released by the body in order to organize the response to the stressful event. These chemicals, however, dampen the effectiveness of the immune system. This is evidenced by research that indicates people who have recently suffered a personal loss are more likely to contract an infection. Persistent stress also gradually weakens an individual's response to pathogens. On the other hand, research suggests that a low-stress life, coupled with support from friends and family, can have a bolstering effect on the immune system.

Obesity

Obesity is defined by health professionals as the state weighing 20% or more than the ideal body weight. Mild obesity means the person is between 20% and 40%

higher; moderate obesity means the person is from 41% to 100% heavier than they should be; and severe obesity indicates a body weight more than 100% higher than the ideal. Every segment of American society has cases of obesity, although it is especially high among African American and Mexican American women. Of particular concern is child obesity, which has increased by about 50% in the last 20 years. Obesity in children increases the risk of heart disease, diabetes, and osteoporosis later in life. Obesity is often the result of slow and steady weight gain over a number of years rather than sudden change in lifestyle, so individuals should be on guard against developing obesity.

Obesity related health risks

There are numerous dangers to health associated with obesity. Obese individuals are almost three times as likely as their fellows to have diabetes or high blood pressure. For women, obesity can lead to heart attacks, chronic chest pain, higher blood pressure, ovarian cancer, and breast cancer. For men, obesity may contribute to heart disease and to cancer of the colon, rectum, and prostate. More generally, obesity is often at the root of psychological problems like depression, guilt, and anxiety. However, many studies have shown that the differences in health between obese and non-obese individuals seem to grow smaller with age, raising the question of whether mild or moderate obesity can be condemned entirely.

Causes of obesity

When obese individuals claim they have no control over their weight, they may be somewhat correct. There is a protein in the brain responsible for limiting food intake and signaling satiety; if this gene is defective, obesity can be the result. Obesity may also be caused by the individual's failure to eat properly or get enough exercise. Impoverished people are more likely to be obese, partly because they are not taught about nutrition and because a diet rich in fruits and vegetables can be expensive. Some individuals may be predisposed to obesity by overfeeding during childhood; their fat cells are large and numerous, and this is more likely to contribute to obesity. People who suffer from psychological disorders like depression and chronic anxiety are also more inclined to obesity.

Sexual addiction

Sometimes people may come to rely so heavily on sex for relief from restlessness or low self-esteem that it becomes a physical addiction. Most health professionals consider a person to be addicted to sex when his or her desire to engage in sexual activity crowds out or damages other areas of his or her life. Sex addiction is not limited to any class, gender, or sexual orientation. Oftentimes, individuals with a sexual compulsion have been physically or sexually abused and seek love in repeated sexual encounters. Individuals with this trouble will often spend a great deal of time trying to procure sex and will use sex to hide from larger problems in their life. A person who feels he or she may be addicted to sex should consult a health professional.

Insomnia, narcolepsy, sleep apnea

Sleeping disorders are common in adults. Insomnia is the sleeping disorder in which the individual either cannot fall asleep or has difficulty staying asleep. Of note, it is common to wake up in the middle of the night, but this does not necessarily indicate insomnia.

Narcolepsy occurs when an individual quickly moves from being awake to REM sleep. This is problematic, because this

occurs unexpectedly and can be dangerous.

Sleep apnea is a sleeping disorder in which the individual stops breathing while sleeping. Individuals with this disorder are typically chronic snorers and will be awakened after short periods of not breathing.

Information processing, physiological function, and activation synthesis

Information process dream theory applies dreams in order to help an individual better process or make sense of their waking life. This is accomplished by delving into the dream in order to assess life events and memories.

Physiological function suggests that REM sleep helps develop and increase neural pathways, they increases brain functioning and processing. While this theory offers an explanation for the use of dreams, it does not provide any information to explain what the dreams mean.

Activation synthesis suggests that dreams are formed based on memories that are brought into the sleeping mind via neural connections triggered during REM sleep.

Stages of sleep

Most individuals experience 5 stages of sleep, 1-4 and REM. Stages 1-4 are differentiated by the brain waves that are most active during that stage and include: beta, alpha, theta, and delta. Also associated with these four states of sleep are difference in muscle activity, temperature, and blood pressure. Beta waves are high frequency waves (18-24 cycles/second) and are most prevalent while awake. Alpha waves are slower (8-12 cycles/second) and occur during states of relaxation. Theta waves occur ever 4-7 cycles/second and indicate the transition from alpha, relaxation, to sleep (Stage 1). Stage 2 sleep occurs when the body falls into a deeper sleep and the body and brain continues to slow. Stages 3 and 4 are indicated by very deep sleep and delta waves. The final stage of sleep is referred to as REM sleep, also called rapid eye movement. It is during REM that dreaming occurs.

Manifest content and latent content

Manifest content, according to Freud is the part or the story line of an individual's dreams that they remember. This is the information that is present in the conscious after the individual wakes up from a dream. This may include events from an individual's day or previous experiences.

Latent content is the information in an individual's dream that they do not remember. According to Freud, latent content is the underlying meaning or theme of the dream. From a psychological point of view, the latent content may be revealed to identify problems or issues in an individual's life.

Hypnosis, posts hypnotic suggestions, and disassociation

Hypnosis is a therapeutic technique in which an individual is in a semi-unconscious state; however, is fully alert. While in this stage, one individual, the therapist, can make subtle suggestions to the individual in the hypnotic state.

Post hypnotic suggestions are those subtle suggestion that are made during hypnosis and are intended for the individual to act on when not under hypnosis. Of note, post hypnotic suggestions are never things the individual would not do on their own.

Disassociation occurs when an individual's conscious is split between

two levels of consciousness. During this type of disassociation, an individual may be able to

CDC findings

Drug abuse
The Center for Disease Control maintains that adolescent drug abuse is an ongoing problem that needs to be addressed. Besides the health risks associated with the drugs themselves, the CDC asserts that persistent drug use contributes to failure in school, fights, antisocial behavior, and unintentional injuries. Prolonged drug use can also be responsible for depression and anxiety. The CDC also maintains that drug use contributes to the HIV epidemic, insofar as those who share needles are liable to contract the virus, and drug users in general tend to engage in risky sexual behaviors. The statistics kept by the CDC state that marijuana use among teenagers decreased from 26% to 22% between 1997 and 2003.

Alcohol abuse
The Center for Disease Control not only considers alcohol destructive to adolescent health in itself, but believes that it contributes to other behaviors that are damaging to adolescent health. Specifically, the CDC suggests that alcohol contributes to unintentional injuries, fights, academic problems, and illegal behaviors. Over time, alcohol may lead to liver disease, cancer, cardiovascular disease, neurological damage, depression, anxiety, and antisocial tendencies. The rate of alcohol abuse among adolescents has fluctuated a bit in the past years: whereas 50% of high school students admitted to regular drinking in 1999, only 45% said that they were regular drinkers in 2003. Of these, 28% stated that they engaged in regular heavy drinking.

Unintended pregnancy
According to the CDC, teens who become pregnant immediately decrease their chances for success in life. Teen mothers have a reduced chance of finishing high school, and are more likely to spend their lives in poverty. The good news on this subject is that better contraceptive practices and more responsible behavior by adolescents have led to a reduction in the number of teen pregnancies, abortions, and birth rates over the past decade. However, these rates are still higher in the United States than in other developed countries, and they are especially high among African-Americans and Hispanics. The CDC has approved a number of programs that they say do a good job of educating and encouraging teens to make less risky decisions.

Tobacco
According to the Center for Disease Control, every day about 4000 American teenagers try smoking for the first time. Assuming that conditions remain as they are today, about 6.4 million of today's children will eventually die from a smoking-related illness. The CDC reports that in 2003 22% of high school students smoked cigarettes regularly, and 15% smoked cigars on a regular basis. In addition, about 10% of high school students were users of smokeless tobacco. For the most part, students seem to be more likely to smoke cigarettes if they are from a poor background and if they have parents or friends who are smokers. White males are far more likely to use smokeless tobacco than are any other demographic group.

Sexually transmitted disease
Because they are more likely to engage in risky sexual activity with multiple partners, adolescents are more likely to contract a sexually transmitted disease. The CDC believes that adolescents are particularly at risk if they are frequent drug users and if they do not have access

to contraceptives or to sex education. In order to meet the ongoing needs, the CDC has developed programs to present important information to adolescents so that they can protect themselves, as well as so that they can seek treatment if they do contract an STD. Part of the CDC's mission is to increase the level of parental involvement in the lives of adolescents. The CDC has published a number of statistics indicating that when parents actively supervise their children's lives, the children are less likely to engage in dangerous sexual behavior.

Managing nutrition services

The CDC offers some suggestions for how schools can manage the nutrition services provided to students and staff. First, health education at the high school should include some instruction on basic nutrition. Most high schools benefit from participating in the USDA National School Lunch Program, and many of these participate in the breakfast program as well. Schools should make sure to order the following healthy foods: skim or low-fat milk, fruit juice, vegetables, baked goods that are low in fat, and fresh fruits. In order to best serve students, schools should employ a full-time nutritionist and food service manager. All food-service employees should receive some training in nutrition.

School-provided health services

In order to provide adequate health services, the CDC recommends that every school have a coordinator of health services, a full-time physician, a nurse, and health aides. Schools should have policies in place to deal with students who have HIV/AIDS. Staff should be allowed to administer medication to students, provided students have the appropriate documentation. Moreover, students should be allowed to self-medicate with prescription inhalers and insulin injections as long as they are supervised by staff and have filled out the necessary paperwork. In order to fully serve students, many schools will need to form partnerships with local health agencies, organizations, or health professionals.

Mental health and social services

The Centers for Disease Control has provided some basic guidelines for schools seeking to provide adequate mental health care and social services to students. It is recommended that each school have an employee to oversee mental health and social services; some schools may benefit from having a guidance counselor, psychologist, or social worker. Many states require schools to provide a Student Assistance Program (SAP) for all students. Schools that lack either the population or money for such services should partner with local health agencies. Schools that can provide counseling services to students may benefit from offering assessments as well as family, individual, and group counseling.

Health promotion

The Centers for Disease Control outlines a few ways for schools to promote the health of the faculty and staff. Many schools have an employee in charge of overseeing health promotion for faculty and staff. Most schools allow the faculty and staff to use the exercise facilities maintained for students. Unfortunately, too many schools fail to provide physical examinations to employees. If possible, employees should also receive a tuberculosis test and screening for illegal drugs. Many school districts provide funding for alcohol treatment, HIV testing, nutrition counseling, stress management therapy, and weight management therapy for employees.

Family and community health

The Centers for Disease Control has issued some basic guidelines for schools to incorporate families and the

community into school health programs. First, schools need to communicate their health programs and services to families. It is important for parents to know what materials and services are available to their children. Many schools have a specific employee charged with acting as a liaison between the school and the community. A number of schools benefit from a close working relationship with external health organizations and professionals. Many schools also open up school exercise facilities to members of the community. Schools should have a protocol in place in the event that a health educator needs to contact a student's family immediately.

Amount of exercise

According to the Centers for Disease Control, individuals should engage in a minimum of 30 minutes of moderate exercise at least five days per week. By "moderate," the CDC means any level of activity in which oxygen consumption is increased to between three and six times the amount required during rest. Thirty minutes of moderate physical activity is roughly equivalent to a fast walk of about 2 miles. Fulfilling this exercise requirement does not necessarily mean starting a planned, regimented fitness program; a person can get 30 minutes of exercise simply by playing with a child or pet or by cleaning vigorously. Indeed, it may be better for individuals who are out of shape to get used to exercise gradually by introducing it into their normal lives.

Code of Ethics for the Health Education Profession

Preamble

The preamble to the Coalition of National Health Education Organization's Code of Ethics states that the health education profession is dedicated to promoting individual, family, and community health. Furthermore, it states that health educators should embrace a multicultural perspective and respect the worth of all students. The fundamental values underlying the Code of Ethics are respect for autonomy, promotion of social justice, promotion of good, and avoidance of harm.

Article 1

Health teachers are responsible for educating the general public about good health practices. In order to do this, they must support the rights of individuals to make informed decisions; encourage social policies that promote health; communicate the consequences of health services and programs; act on issues that can damage public health; be honest regarding their qualifications and limitations; protect the dignity and privacy of individuals; and actively work to involve individuals, groups, and communities in the educational process so that health issues are understood by all.

Article 2

Health educators are responsible for their own professional behavior, for the reputation of their profession, and for promoting ethical conduct in the profession. In order to do so, health educators must continuously maintain and expand their professional competence through study and training; join professional organizations; model and encourage nondiscriminatory behavior; encourage critical discourse that protects and enhances the profession; share the processes and results of their work; avoid conflicts of interest; and avoid violating the rights of others.

Article 3

Health educators must recognize the boundaries of their own professional competence and be accountable for their own activities and actions. In order to do this, they must accurately represent their qualifications and the qualifications of

those they recommend; use appropriate standards, theories, and guidelines when carrying out professional duties; accurately represent potential outcomes to employers; anticipate and disclose competing commitments, conflicts of interest, and endorsement of products; openly communicate any job expectations that conflict with professional ethics; and maintain competence in their areas of practice.

Article 4
Health teachers must exercise ethical behavior in the delivery of health education. Health educators need to respect the rights, confidentiality, and worth of all people by adapting effective strategies for a diverse community. In order to do this, health educators must be sensitive to social and cultural diversity and in accordance with the law; stay informed of the latest advances in theory, research, and practice; stay committed to program evaluation and the methods used to achieve results; empower individuals to adopt healthy lifestyles; and communicate the potential outcomes of proposed services, strategies, and decisions to all relevant individuals.

Article 5
Health educators must contribute to the health of the population through research and evaluation and do so in accordance with federal and state law. They should support research practices that do no harm to individuals or the environment; ensure that participation in research is based on informed consent; respect the privacy and dignity of research participants; treat all information received from participants as confidential unless otherwise required by law; take credit only for work they themselves have performed; discuss the results of research or evaluation only with those for whom the service is performed, unless withholding information would jeopardize someone's health or safety; and report the results of research objectively, accurately, and in a timely manner.

Article 6
Health educators who are involved in the training of new health educators are required to provide their students with a quality education that benefits both the profession and the public. Health educators must select students based on merit and on a system of equal opportunity; strive to make the educational environment and culture conducive to overall health; engage in adequate and effective preparation; present up-to-date and appropriate material; give fair feedback to students; state reasonable objectives; conduct fair assessments; provide objective counseling; and provide adequate supervision and meaningful opportunities for professional development.

Laws

Individualized Education Program
The Individuals with Disabilities Education Act mandates that any disabled student will have an Individualized Education Program (IEP) created specifically for him or her. IEPs are created by teams of specialists, including school psychologists, parents, and special education teachers. The point of an IEP is to assess the student's performance and determine appropriate goals and methods for further schooling. Typically, it will include schedule modifications, necessary accommodations for transportation, and a vision statement indicating hopes for the student's future. For many students, an IEP will include the critical health information teachers may need to know in case of an in-class emergency.

Controlled substances law
For the most part, the law of the United States takes a stern view of the growth, use, and distribution of controlled

substances, such as marijuana, cocaine, and heroin. These drugs are illegal in any quantity, and individuals carrying a certain minimum amount can be charged with possession with intent to sell, which carries a much stiffer penalty. Individuals will also receive a much stiffer penalty if they are discovered carrying drugs across state lines. The minimum age for purchasing tobacco products is 18 years of age in most states. Retail carriers can be fined substantially for selling to underage individuals. Moreover, more places are becoming off-limits to smoking every year; recently, the city of New York banned smoking in all of its bars and restaurants.

American disability law

For the most part, American disability law is regulated by the Americans with Disabilities Act of 1990 (ADA). This law prevents discrimination against disabled individuals with respect to housing, employment, education, and access to public services. Interestingly, the ADA includes alcoholism as a disability. The ADA asks that reasonable accommodations be made to provide equal opportunities to disabled individuals. States are not forbidden from passing their own disability laws, so long as they do not contradict the ADA. A number of other acts have been created as spin-offs to the ADA, eg, the Fair Housing Act, the Air Carrier Access Act, and the Individuals with Disabilities Education Act.

Immunization laws

Every state sets specific immunization laws for children seeking to attend public school. Most states require children to be immunized for diphtheria, tetanus, pertussis, influenza, measles, mumps, rubella, polio, and hepatitis B. Some states will also require immunization against chickenpox. Though many schools offer these immunizations on-site, parents can also have them performed elsewhere and then provide documentation. There are no mandatory immunizations for adults, unless they are entering the military service. Individuals seeking to permanently migrate to the United States must receive immunization for every disease which is preventable by vaccine.

Inclusion and Public Law 94-142

A great deal of time is spent trying to equip teachers to handle students labeled "exceptional" for one reason or another. Furthermore, Public Law 94-142 mandates that schools must identify those students that require special treatment, whether for being extremely gifted or because of a disability. Many schools, however, feel that the best way to handle exceptional students is simply to include them in the regular classroom. Advocates of this program assert that specialists can come into the class and help exceptional students as necessary and that otherwise these students will benefit from being in contact with students from a wide range of abilities. However, this approach can overwhelm classroom teachers.

Mainstreaming

United States law indicates that students are to be educated in the least restrictive environment possible; that is, they should be allowed to join the highest level class in which they can participate. For many high-functioning disabled students, this means being "mainstreamed," or put into a class with normally-functioning students. The success or failure of such students often has a great deal to do with the expectations of the teacher; students who are ignored or who are made to feel they do not belong are more likely to have trouble. The AAHPERD states that it is "cruel" to place students in activities they are not equipped to handle, but it is "criminal" to exclude them from those in which they could contribute. The best strategy for teachers is to learn as much as possible about students and their

disabilities before determining their level of participation.

Affirmative action

Affirmative action is the set of programs that have been developed in the United States to try and offset the discrimination of the past. This policy was put into action by various government agencies after the passage of the Civil Rights Act in 1964, and is currently enforced by the Equal Employment Opportunity Commission. Specifically, affirmative action policies allocate jobs and resources to specific groups that were discriminated against in the past, such as minorities and women. In the profession of physical education, this means not only that schools are prohibited from discriminating against formerly-oppressed groups, but that schools are required to hire qualified members of these groups whenever possible. This has led some to charge that affirmative action creates reverse discrimination. This issue has been batted about in the courts for decades, although affirmative action continues to apply.

OSHA

In the United States, work safety is overseen by the Occupational Safety and Health Administration (OSHA), which was created in 1970 by the Occupational Safety and Health Act. The major changes that have been effected by OSHA are placement of guards on all moving parts in industrial operations, regulation of chemical exposure to employees, enforcement of employee dress codes including protective equipment, mandatory disconnection of electrical equipment before repair, and specific requirements governing procedures for working in enclosed spaces. OSHA sets many other guidelines for specific businesses and routinely inspects worksites to ensure that they are safe for employees and visitors.

Types of negligence

Several types of negligence are chargeable offenses. Malfeasance occurs when the teacher has committed some act which is against the law. Misfeasance, on the other hand, occurs when the teacher obeys the law but not well enough to prevent injury. Nonfeasance occurs when a teacher has failed to perform some act which could have prevented an injury to a student. Contributory negligence occurs when the injured student is, in part, to blame for the injury. Finally, comparative (or shared) negligence is said to have occurred when both the injured student and the teacher are to blame. In this latter situation, the student must prove that the teacher was more to blame in order to receive compensation from the teacher.

Lawsuit

No matter how responsible and cautious they are, many physical educators will be charged with negligence for a student injury at some point in their career. In order to avoid having their professional life seriously damaged by such allegations, teachers should make sure that they have liability insurance. This is typically provided by the school district. Often, a good liability insurance policy allows the teacher to settle cases out of court. Teachers should also be sure to keep good records of any accidents, as records are vital to a legal defense. Finally, teachers should create and maintain a comprehensive checklist of safety and emergency care guidelines so that they will be prepared in the event of any injury and can demonstrate an intention to protect students.

Psychology of Human Relationships

Lange's theory of emotion

The James-Lange Theory of emotion suggests that an individual is aware of an emotional response when they experience a physical response to that emotion. For example, an individual will know they are sad when they experience tears, or will know they are angry when they experience an increase in heart rate. This theory is contradictory to the early assumption of emotions that relied on common sense to emotional responses. In other words, one would cry because they experienced a sad event. In other words, according to the James-Lange Theory of emotions the physical response to an event determines how we perceive the event and thus react to it.

Bard's theory of emotion

According to the Cannon-Bard Theory of emotion, an individual experiences, simultaneously, the physical response to an emotion and the perception of the emotion. This theory was developed after finding flaws in the James-Lange Theory of emotion. Specifically, the Cannon-Bard theory notes that each emotion does not have a distinct physical response and therefore, could not be the sole factor in determining what the emotion is. For example, an individual may experience increase heart rate, however, the emotion behind this response could be fear or anger. Likewise crying could signify happiness or sadness. Therefore, the Cannon-Bard theory suggests the subjective experience as another factor in determining the actual emotion being experienced.

Two factor theory of emotion

The two factor theory of emotion was developed by Schacter and Singer in 1962, who found flaws in both James-Lang and Cannon-Bard theories of emotions. The two factor theory of emotion includes the physical response of an emotion as well as the cognitive label an individual gives that response. This theory focus more on the individuals interpretation of the incoming stimuli that evokes the emotion. Therefore, the individual's previous experiences and cognitive schemas could into play in determining whether the physical response of increase heart rate is fear or anger. For example, an individual may notice an increased heart rate; label this as "I must be afraid," then express the emotion of fear.

Nature vs. nurture

The nature vs. nurture issue deals with the influence of biology vs. the influence of one's environment on development. Historically, some philosophers have believed that the mind is a blank slate that requires experience and learning in order to develop. On the other hand, after Darwin proposed his theory of metro selection the idea of nature or biology as a major influence in development and behavior was also proposed. According to Darwin natural selection involves a process in which traits that are effective will be maintained while traits that are ineffective will eventually die out. More recently, psychologists focus on six main research questions related to nature vs. nurture. These questions are related to differences and similarities of humans based on environment and a common biology, respectively; gender differences based on biology or socialization, language learning based on in the processes or experiences; sexual behaviors being either intrinsically or extrinsically motivated; and focusing the

treatment of mental disorders biologically or environmentally.

Cognition

Cognition is the individual's thought process, which consists of schemas. When combined with the physiological responses of an emotions, one's cognition may serve to interpret this response and label it as a certain emotion. However, the concept of the spillover effect has been identified as a barrier to fully processing these physiological effects through one's schema to determine a specific emotion. For example, when one engages in a strenuous activity, their heart rate is likely to increase. If an emotional event immediately precedes the strenuous activity it may be difficult to determine if the physiological response on the increased heart rate is due to the activity or to the emotion and thus, from a cognitive point of view, the emotion could be misread.

Different emotions

Physiological reactions occur via the sympathetic or parasympathetic system. Depending on which system is regulating the physiological response will determine the potential emotion tied to it. For example, the sympathetic system arouses; therefore, dilated pupils, decreased salvation, perspiration, increased breathing rate, and increased heart rate, may indicate emotions including anger, fear, elation. On the other hand the parasympathetic system calms the body; therefore, contracted pupils, increased salvation, dried skin, decreased breathing, and decreased heart rate, may indicate emotions of sadness. Researchers have also found that increased activity in the frontal lobe indicated positive emotions.

Detecting emotion

Nonverbal communication indicated through body language is a primary way to detect emotion in others. For example, the facial muscles work to turn the mouth up in a smile or down in a frown. Likewise, facial muscles around the eyes can also indicate emotion. The tone of an individual's voice can also serve to help one detect emotion. For example, if the speech is rushed, the individual may be happy or excited. Hand gestures or even a lack of hand gestures are a third way to detect emotion in an individual. Of note, with the increased uses of email communications, these nonverbal behaviors are impossible to interpret; rather individuals have begun using emoticons to express their emotions online.

Gender

Some research suggests that women have a greater emotional sensitivity and can; therefore, better read other's nonverbal cues. This has been demonstrated in studies where participants were asked is a photo was of a real or phony romantic couple; women surpassed men in this task. Additionally, women tend to responds with more emotion when asked how they feel about a friend moving away. Further studies on gender tendencies and emotion have revealed that when a gender neutral face is composed to look angry, more people label the face as male.

Fear

Fear is easily learn by observation. For example, if a mother is afraid of spiders and screams and jumps around every time she sees a spider, the small child seeing this behavior will learn that this is a normal reaction to the sight of a spider and thus the fear of spiders is learned. Researchers have demonstrated this

process by examining monkey's and their fear of snakes. Children observed their parents staying away from food in the presence of a snake and thus learned to fear the snake. This observational learning could be considered an instinctual survival skill.

Delving deeper into the biology of learning fear is the amygdala, the brain region responsible for processing fear responses. As learning to fear a specific object occurs, the amygdala begins to create connections to the event and the response, which is information that is stored for later use. In other words, stored until the event occurs again. Additionally, there are individual differences in the amygdala's processing of the fear response that is also related to the level of serotonin in the brain. Specifically, those with more serotonin experience more firing in the amygdala and thus a more intense fear response.

Anger

Anger is the expression of negative emotions that can have various consequences, including but not limited to yelling, or some other physical altercation, hurting other's feelings, later feelings of sadness or regret as well as physiological responses such as increased heart rate, blood pressure, and breathing. In fact, anger that is experienced consistently over long periods of time can result in serious physical illnesses. As such, the notion of catharsis has been developed and determined as a way to release this negative or angry energy. Individuals may experience catharsis though imagery of action, such as yelling in a room by themselves or hitting a pillow. It has been suggested that his release of aggression or anger helps the individual escape these emotions and allow their bodies to return to homeostasis.

Nonverbal expressions of emotion

Nonverbal expressions of emotion will vary from one culture to the next, specifically in terms of the meaning of these expressions. For example, hand gestures that are signs of a job well done, such as a thumbs up sign in the United States, may be interoperated as insulting in other countries. Additional some literature reports that the Chinese express the emotion of surprise by sticking their tongues out. However, there are some common expression of emotions. For example, worldwide, a smile is an expression of happiness. In addition to culture influencing the interpretation of emotional expressions, culture also influences the amount or level of emotion one expresses; some cultures freely express their emotions while other will hold back their emotions.

Happiness

The emotion of happiness is a good positive emotional response that occurs when good things happen or when an individual maintains a positive attitude. Coinciding with the emotion of happiness is the feel good, do good phenomenon, which suggests that individuals are more helpful when they are in a good mood. Additionally, subjective well-being involves the individual's feeling about themselves, aside from physiological responses to events. For example, an individual may be in a generally good mood and happy most days because they enjoy their life and they have high self-esteem.

Wealth and well being

While many suggest that money does not make one happy, research suggests that being financially well off does in fact increase an individual's overall well-being. For example, research has found that those in wealthier countries have

better health care opportunities and overall, experience more life satisfaction then those in poor countries. Likewise, evidence has revealed that individuals are typically happier immediately following an unexpected financial windfall. Looking at the practical implications of having more money, those with money may be able to take more vacation, engage in more entertainment activities, and have a general sense of financial security.

Behavioral medicine and health psychology

Behavioral medicine is the study of an integration of behavior and medical knowledge. Behavioral medicine focuses on the biological and medical aspects to maladaptive behavioral patterns to maintaining health and treating diseases and attempts to diagnose and treat such issues.

Health Psychology is a subfield that contributes to behavioral medicine in terms psychological processes and events. Further, health psychology focuses on the overall holistic approach to an individual's health that, unlike the medical model alone, included an individual's mental health and the connections mental health has on an individual's physical health and well-being.

Stress

Stress is a mental and physiological response to stimuli that may be threatening. The level of stress an individual experiences will depend on how they perceive and respond to the threatening stimuli. General adaption syndrome was proposed by Hans Selye to explain the responses to various threatening stimuli. According to general adaption syndrome, the stress response occurs in three phases. First is the Alarm reaction, which includes the activation of the sympathetic nervous system. During this initial phase the heart rate and breathing many increase. The next phase is referred to as the resistance phase, in which physiological reactions will remain (e.g., increased heart rate) in addition to an increase in the level of hormones excreted throughout the bloodstream. Finally, phase three is exhaustion in which the body stops reacting to the stressful stimuli and is susceptible to illness.

There are three main categories of events that cause stress including catastrophic events, significant life changes, and daily hassles. Catastrophic events include large-scale situations such as natural disasters. These events effect large numbers of people who are able to provide each other with support and resources to handle the event. However, research has shown that, following large scale events, people are more likely to experience physical symptoms of illness. Significant life changes includes situations such as the loss of a loved one, marriage, and moving far away. These situations being on stress largely because of unknown factors involved with the life change; however, often elicit less tress then catastrophic events. Finally, daily hassles also increase stress and may include situations such as sitting in traffic or an unlikable coworker. For many individuals, these daily hassles do not produce enough stress to result in illness.

Stress and the heart

Since the stress response involves increased heart rate, experiencing too much stress can have negative effects on the heart. For example, extreme levels of stress may result in coronary heart disease. Coronary heart disease occurs when the arteries leading to the heart and responsible for providing the heart with nourishment become clogged. In fact, this illness is a leading cause of death in many

countries. Other factors can increase the risk of coronary heart disease including family history, hypertension, obesity, and smoking. Of note, behaviors such as smoking or excessive eating may also be coping mechanisms for dealing with stressful events, thus placing an individual at further risk for the disease.

Stress and blood type

Researchers, Friedman and Rosenman, found evidence for blood type as an indicator of personality type. Specifically, these researchers suggested that those with Type A blood are often more aggressive, competitive, and prone to becoming angry. On the other hand, those with Type B blood are more relaxed and easy going. These characteristics have implications concerning the effects of stress on the physical health of the individual. Specifically, those with Type A blood may response to stress more negatively, thus increasing their risk for further illness as a result of the stress; whereas, those with Type B blood may be able to handle stress in a more relaxed way.

Coping

There are various way to deal with a stressful event. Two of the most common ways include problem focused and emotion focused coping. With problem focused coping, the individual will attempt to elevate the stressful situation by looking at and handling the problem. Specifically, the goal of problem focused coping is to change the stressor, how the stressor is responded to or the environment in which the stressor occurs. For example, if a coworker caused stress, a problem focused solution may by to learn better communications skills in order to deal with the coworker. Emotion focused coping involves focusing on one's emotional needs. This is often achieved by ignoring the stressor all together. With the difficult coworker, taking an emotion focused coping strategy an individual may ignore or not speak to the coworker at all in order to deal with the situation.

Biofeedback, relaxation, and meditation

Biofeedback is a measurement of physiological changes in the body by electronically recording neuroimpulses during an activity. Using biofeedback one is able to amplify and record subtle changes in breathing, heart rate, blood pressure, and muscle tension. Biofeedback measurements are used in determining the exact response of the body during stressful events.

Meditation is the practice of clamming the body and mind and has been found to have healing or restorative benefits. During medication, the individual will practice controlled breathing as they relax the body and mind. Meditation is a way to cope with stressful events as this practice provides the opportunity for relaxation and reflection.

Social supports

Humans are social creatures, as such, having a positive support group will significantly increase one's chances of dealing with stressors successfully. A support group may be able to offer a variety of support in the face of stress. For example, in a catastrophic event, a support system may be able to provide food and shelter. For life changing events, a support system may be able to provide advice and encouragement and for daily hassles, they may serve as a sounding board for the individual to vent frustrations. Research has found that in the face of a stressor, women whose husbands were close by experienced less stress than women whose husbands were not available. Additionally, individuals with positive support systems are less

likely to experience the physical effects o major stressful events including illness and death.

Adaption level phenomenon

Adaption level phenomenon relies on our previous experiences of certain stimuli. Specifically, the adaption level phenomenon suggests that an individual will form judgments on stimuli, including sights and sounds, based on these previous experiences.

Relative deprivation also relies on the notion of judgments. However, with relative deprivation, an individual compares him or herself with those around him or her and will determine that they are in a worse condition or situation then those to whom are compared. This concept is similar to "keeping up with the Jones'" in that an individual will strive for and compare themselves to someone else, yet never, or feel they never attain the desired status.

Psychophysiological illnesses

Psychophysiological illnesses were historically referred to at psychosomatic and held a negative connotation that the individual was not really ill, rather was attention seeking. However, research on stress and the body has, more recently, suggested otherwise and psychophysiological illnesses are more identified as those illnesses that are induced by stressful situations, as psychophysiological literally means "mind-body." Psychophysiological illnesses include ulcers, headaches, high blood pressure, and heart disease. These illnesses are the result of increase hormones in the body as the brain's response to stressful events. Following this period of increased hormone release, the body is susceptible to illness and thus these illnesses occur.

Psychoneuroimmunology

Psychoneuroimmunology is the study of various factors including psychology, neural processes, and the endocrine system; specifically in how these elements work together during and in response to stressful events. This is a growing line of research as more evidence becomes available for the connection between stress and the immune systems. An important factor in this line of research is the strength at which the immune system reacts. An immune system that reacts too strongly will benefit the individual in fighting off outside infections; however, this overreaction may also cause the body to attack itself. Conversely, an immune system that under reacts may not be able to fight off outside infections. This has implications to the stress response as the body is more vulnerable to infection following a stressful event.

Family techniques to resolve conflict

A family can successfully resolve a conflict by following steps very similar to those of the basic problem-solving model.

- First, the family needs to attempt to identify the problem, making sure to maintain open communication while remaining objective and minimizing hostility
- After the problem is identified, the family must strive to recognize the various positions that each member has regarding the conflict while again attempting to minimize hostility
- After each person involved in the conflict has made his or her position clear, the family must move toward a compromise that will work for everyone
- Each step of the conflict resolution process requires that the people involved in the conflict

remain as patient and as understanding as possible, which can often be extremely difficult when a solution or compromise cannot be determined immediately

Classical conditioning

Classical conditioning is a process of learning that involves the uses of associations. When two events are presented together in a pattern several times and over a period of time, eventually the presence of one stimulus leads to the anticipation of the second. Classical conditioning often occurs unconsciously and may result in negative or positive behaviors. For example, if a family eats dinner in front of the television every night, the children will associate eating with watching TV. As such, they may become hungry when in front of the TV even if it is not diner time. This example demonstrates a negative and unhealthy behavior pattern.

Operant and classical conditioning

Both operant and classical conditioning are behavior modification techniques that use the association of two stimuli. With classical conditioning associations between two events occurring in a sequence are emphasized and yield an involuntary response. For example, a ring of the bell followed by food, as in Pavlov's experiments. Operant conditioning involves a behavioral component and reinforcements that yield a voluntary response and a learned behavior. For example, if a child is misbehaving, the parent may offer a reward for good behavior. Following each good behavior, the child receives a reward and eventually learns the behavior. Similarly, negative behaviors may be reinforces through operant conditioning. For example, if a child receives attention when he has a tantrum, even if the attention is negative (e.g., parent yelling), the child will learn that the negative behaviors will get attention, something that is desirable to the child.

Fixed-ration, variable-rate, fixed-interval, and variable-interval schedules

Fixed-ratio schedule. The reinforcement is provided after a fixed number of desired behaviors. For example, a reward may be received after an individual displays the desired behavior every day for one week.

Variable-rate schedules. Reinforcements are administered at random. For example, the reward for good behavior may be given immediately at one point in time, after two instances of the behaviors at one point in time, and after five instances of the behaviors at another point in time.

Fixed-interval schedules. This schedule offers the reward after a fixed period of time, regardless of the number of instances of the behavior. For example, the individual me receive a reward every two weeks. In this type of schedule, the desired behavior increases as the time for reward nears.

Variable-interval schedules. With this schedule, the reward may come at any time and produces a slow and steady response to the anticipated reward.

Practical applications of conditioning

Conditioning techniques demonstrate that behavioral conditioning has some universal elements and can provide insight into the way humans learn various behavioral patterns. Furthermore, because conditioning may be an involuntary of voluntary response to a stimuli, psychologists can use these techniques in developing interventions for various issues. For example,

conditioning can be applied to fields such as psychotherapy, which attempts to increase or decrease a certain response or behavior over time. More specifically, conditioning may be used with a Behavioral Therapy approach to reduce negative behaviors, in which the negative behavior may receive a negative or no reinforcement and the positive behaviors would receive the positive reinforcement.

Pavlov's dog experiments

Ivan Pavlov identified an interested learning process nearly by accident by taking notice of his dog's behaviors. Initially, Pavlov noticed that a dog would salivate if he put food in its mouth. This salivating behavior was the unconditioned response because it occurred naturally, with no manipulation or conditioning from Pavlov. The food was placed the 2) unconditioned stimulus. Pavlov then presented the dog with food while ringing a bell. After a few repetitions of ringing the bell, the dog began to salivate upon hearing the tone, without the presence of any food. Therefore, Pavlov called this salivation the conditioned response, and the tone the conditioned stimulus.

Mirror neurons

Mirror neurons assist in cognitive imitations and are found in the prefrontal cortex of the brain. These neurons fire upon taking and action and upon seeing an action from someone else (e.g., someone throws a ball). These neurons play a large role in learning as they assist with the learning technique of modeling. For example, for children learning to talk, they are able to mimic the actions of adults (e.g., lips moving). As the mirror neuron are fired the action in imprinted in the brain and the mirror neurons allow the child is able to repeat or copy the lip movements until they learn a new word.

Albert Bandura's Bobo Doll

Albert Bandura experimented with observational learning, which is a form of learning based on observing others and imitating them. In his experiment, he studied whether frustrated young children would imitate the aggressive behaviors they observed an adult taking on an inflated Bobo doll. Bandura found that children who observed aggressive adult behavior were more likely to do the same when they were frustrated. This translates to theories of pro-social and anti-social models. Pro-social models state that children who observe peaceful, helping behaviors are likely to repeat them in their own behaviors. Similarly, children who are exposed to violent, aggressive behavior on television and in their communities are likely to respond with the same tendencies in their own behavior.

Cognitive map and latent learning.

A cognitive map is a visio spatial representation developed through learning. These cognitive maps according to Skinner are typically developed based on the law of the fact which suggests that any behavior that is rewarded is more likely to reoccur the behaviors that are not rewarded as such behaviors can be shaped until these mental representations are developed through practice and reinforcement.

Latent learning occurs by learning through experience rather than reward based learning. However, unlike an immediate rewards based learning, latent learning is not demonstrated unless there is some sort of intrinsic or extrinsic motivation to demonstrate the behavior.

Punishment as a tool for learning behaviors

Punishment must be delivered immediately following the undesirable behavior in order to be most effective. When delivered as such punishment can be effective particularly when a behavior is risky or life threatening. In such instances of punishment immediately following the first instance of this negative behavior is intended to stop future incidents. On the other hand some cons of punishment as a tool for learning behaviors include punishment being delivered infrequently or not immediately after the initial behavior. When this occurs individuals become confused on what behaviors acceptable and what is not. Another con of punishment is physical punishment which of teaching a desirable behavior made teach aggression. Additionally physical punishment may be delivered inappropriately and result in physical abuse.

Processes involved in classical conditioning

Acquisition is also referred to as initial learning and defines the relationship between the stimulus and the response. According to Pavlov the time elapsed between a stimulus and the desired response should be relatively short in order for acquisition to occur.

Extinction occurs when a condition stimulus is no longer present this no longer signals the unconditioned stimulus and as a result of there is a reduction in response.

Spontaneous recovery is the phenomenon of a conditioned response even when the stimulus is not present.

Generalization occurs when the responses is elicited because of the presence of the stimulus that is similar but not exactly the condition stimulus.

Discrimination can also be referred to as a distinction of condition stimuli and is the ability to respond to one stimulus but not another.

Stimulus generalization and stimulus discrimination

Stimulus generalization is the notion that once a stimulus is conditioned, other stimuli that are similar to the original will elicit the same response. For example, if a child is conditioned be afraid of a furry white mouse, he may generalize this fear to other white furry creatures. Note, that this fear would not necessarily be elicited to all furry creatures as the commonality is the color.

Stimulus discrimination is the ability to identify the difference between to stimuli and therefore while one may elicit a response the other would not. For example, if the child in the above example demonstrate stimulus discrimination, he may show fear for the white furry mouse but not a white furry stuffed doll.

Behavior modification

Goals and target behaviors. The first step is to identify those behaviors that are currently not being expressed by following behavior modification will be expressed. For example if a child is misbehaving in school that identified and target behavior would be to decrease misbehaving and increase positive behaviors and school.

Data collecting. The second step of behavior modification includes determining how to collect data concerning the behavior in order to determine if the intervention is effective. For example in the classroom the teacher may record the number of times a child

leaves his seat with the intention that by the end of the intervention this number is fewer than it was at the beginning of the intervention.

Selecting strategy. This will be the intervention implemented to change the behavior.

Implement the program. This final step involves the corporation of the individual and others to implement the intervention and work toward the goals specified in the plan.

Social aspects of observational learning

Observational learning is a social process in that learning occurs by observing the environment around you as well as the people around you. This type of learning is also called modeling. In children, this type of learning is critical as they observe their parents, older siblings, and other close to them and mimic the behaviors they see. This type of learning is a highly social form as children learn the values and norms of their society. In cases were deviant behaviors are formed some may look to the family unit in order to determine whether these deviant behaviors are a result of negative or ineffective modeling. Additionally, this social learning is further developed when the child sees another engaging in a behavior and either getting rewarded or punished for the particular behavior.

Relational and analytical style of learning

The relational style of learning focuses on learning information from a human and social perspective. Individuals with a relational style often see the whole picture and are easily able to demonstrate improvisational or intuitive thinking patterns. These individuals also are good with processing and retrieving verbally presented materials, are task-oriented for non-academic topics, and influenced by authority figures. Of note, this style of learning is incongruent with traditional educational methods. On the other hand, the analytical style of learning focuses on details rather than the whole picture. These individuals demonstrate a very structured process of thinking and can better relate to the impersonal aspects of material. These individuals are superior at processing and retrieving abstract information, are task-oriented for academic topics, and are typically not influenced by others. The analytical style of learning is congruent with traditional educational methods.

Media's role in learning maladaptive behaviors

Some point to violence in the media as an explanation for the development of mal adaptive behaviors. It is suggested that the glamorization of violence in the media serves as a positive reinforcement for such behaviors. According to some studies conducted in the mid and late 1990, it is possible that the age of 18 years they will have witnesses 800,000 murders and 800,000 or more violent acts on the television. This is a potentially growing problem as this type of observational learning also desensitizes children from the severity of violent acts; resulting in a lack of understanding of the consequences of these actions.

Maturationist theory

The maturationist theory of learning was proposed by Arnold Gessell who believed that learning occurs in genetically predetermined stages. Learning in this way is automatic and predictable. As such one would pinpoint when a child would learn different types of information. The primary purpose of this theory served parents and educators dealing with kindergarten aged children. In assisting

with the learning process using this theory is it suggested that parents and teachers work with the children in developing the foundational information needed to enter school (e.g., practicing the alphabet). According to Gessell, children should not be placed in kindergarten simply based on age, rather children should wait until they have acquired the necessary foundations for entrance into kindergarten.

Nature versus nurture concept

The concept of nature versus nurture is the idea that of all a person's traits, some result from his or her genetic heritage, and some result from his or her environment.

- In this context, nature refers to any trait that an individual is born with, or has acquired through genes
- Nurture may be seen as the opposite of nature; it refers to any trait that an individual learns from the environment
- Nurture often refers specifically to the environment created by the parents of the child, but it can refer to any environmental condition that affects the development of the child
- The concept of nature versus nurture is important because it shows that individuals inherit some of their traits from their parents, but they also develop many of their traits from their environment

Attachment bond

Scientists firmly believe that infants must form a secure attachment bond with their primary caregivers in the early years to have a healthy social orientation throughout their entire lives.

- Studies confirm that establishing a secure attachment bond is an accurate predictor of the ability to form successful relationships later in life
- This bond is critical in the child's moral development and in learning to interact appropriately in a social setting
- Researchers believe that failure to form a secure attachment bond with the primary caregivers is the most consistent cause of antisocial behavior in childhood because the child did not develop a conscience
- Conversely, children who did form a healthy attachment bond are more likely to follow family rules and therefore will also comply with rules imposed by outside authority figures and institutions, including teachers and schools

Three parenting styles

Most researchers agree there are three parenting styles: authoritarian, permissive, and authoritative.

- Authoritarian parents are controlling, demanding, cold, hostile, and uncommunicative. This style of parenting produces children who have difficulty making decisions, often develop antisocial tendencies, and frequently have trouble making and sustaining relationships
- Permissive parents tend to be loving but distant, and they usually establish few guidelines about anything. They want to communicate with their children, but frequently do not do so effectively. Their children have difficulty developing self-regulating skills and seem to flounder when confronted with too many choices

- Authoritative parents are loving, controlling, communicate effectively, and set high expectations. This parenting style produces positive children with higher moral reasoning ability and who are able to form stronger relationships

Self-control

Some researchers consider self-control, or self-discipline, one of the two most critical building blocks of character. The other is empathy. Between the ages of about five and seven, children should learn to resist temptation, suppress impulses, and delay gratification. The primary caregivers, including parents, babysitters, and teachers, should help children develop self-regulation:

- Providing situational management, which protects children from their impulsive actions
- Helping children learn to control emotional outbursts by soothing them until they calm down
- Consistently teaching coping skills when children are confronted with a difficult or unfamiliar situation
- Explaining the possible consequences if children say or do certain things
- Showing self-control when dealing with children in challenging situations
- Children are highly influenced by and learn from the behavior of those with whom they interact on a regular basis
- For this reason, it is important for children to have good role models to imitate and emulate

Child's temperament and their development

The American Heritage College Dictionary defines temperament as "the manner of thinking, behaving, or reacting typical of a specific person."

- Studies have shown, and casual observation confirms, that a child's temperament will have a direct influence on how he or she behaves in a given situation or reacts to a particular stimuli
- For example, if a child has a short attention span, he or she will be challenged in any learning environment that requires him or her to sit still and focus for long periods of time
- If a child is shy or easily intimidated by adults, he or she will have a difficult time relating to the teacher, which will have a direct impact on his or her educational experiences
- As children age, they will exert more control over their environmental choices, which will affect their interactions
- As a result, children usually choose people with whom they are comfortable and situations they perceive to be nonthreatening

Familial roles changes

Fifty years ago, women were the primary caretakers of the family's children, and they were in charge of maintaining the household while men worked to provide for the family.

- This has changed, however, because of the drastic increase in the number of women entering the workforce since that time
- This is partially because it has become more difficult for families to subsist on one income alone

- Both members of the marital couple are often forced to work to provide for the family, which can make it difficult when trying to balance the responsibilities of caretaker and provider
- Men, who were once the primary providers for the family, are still out in the workforce, but their spouses have joined them, and both individuals have to find ways to make the time to care for the family's children

Siblings influence

Studies have shown that siblings influence one another's development in some areas, most notably in developing aggressive behavior and acquiring conflict resolution skills.

- Scientists believe, but have not conclusively proven, that firstborn children influence the social development and gender identity of later-born children
- The overall emotional climate of the family and the different approach parents take with each child has a strong influence on the relationship between the siblings as well as the power one sibling may hold over another
- Researchers are interested in learning why siblings develop differently even though they are exposed to the same environmental dynamics
- The theory is that each child experiences the same factors and stimuli differently based on his or her relationship to the parents, siblings, and other family members such as grandparents, aunts, uncles, and cousins
- By establishing the nature, extent, and impact of various familial influences, scientists hope to better understand childhood development

Conflict resolution

A child's ability to resolve conflicts with his or her peers strongly influences his or her acceptance into or rejection from the group.

- Learning to deal with conflict in a positive manner is critical to developing healthy friendships and has a huge impact on social acceptance
- Elementary school children with self-control are better able to find solutions that consider both sides in a dispute, which is the way conflicts should be resolved
- Social acceptance in elementary school is a fairly accurate predictor of how successful a person will be in college and in his or her professional life
- Researchers followed two groups of 8-year-olds into their mid-40s
- People whose peers rated their social behavior acceptable in elementary school were more successful than those who had social difficulties
- A compelling reason to deal with aggressive behavior early in life is that, if left unchecked, it can have serious academic and professional consequences later in life

Importance of friends

Between the ages of three and five, a child begins to understand that the other children in the sandbox are different from one another and from him or her.

- Children realize they like some better than others, even though they do not really know or care to understand why

- When children start school, one of their most important social tasks is making friends
- They are psychologically ready to develop more complex relationships, and they move their focus from family to friends
- School-age children begin spending more time with people outside the family circle
- They start confiding in peers and sharing their fears, frustrations, and pleasures with friends
- Groups form, and sometimes evolve into cliques, based on many things from appearance and personality to athletics and other extracurricular activities
- Peer pressure increases and may include dressing, talking, walking, and acting alike; listening to the same music; and visiting the same Internet sites

Sense of effort

As a growing human being develops, he or she will learn how to gauge the degree of effort or force that is required to perform a given task. Anyone who has ever been swatted in the nose by an infant will recognize that children are not always aware of the effort necessary to get someone's attention. As this sense of required effort develops, one will be able to determine whether a given movement requires fast or slow performance, and whether the force behind it must be strong or weak. A slightly more complicated case arises when an individual is somehow constrained. Free movements, in which the only resistance is air and the limitations of the human body, will always require the same scale of effort; constrained motion, however, requires an accurate assessment of the strength of the constraint.

Open-loop motor control theory

The theory of motor control known as open-loop control asserts that movements are made according to a preexisting motor program, a set of muscle commands laid out before the movement is begun. These movements are performed without any adjustment based on feedback, the sensory information transmitted to the brain. Open-loop motor control theory seems to explain many of the common movements that individuals make unconsciously, and there is excellent research evidence to suggest that animals often perform tasks in a way similar to the open-loop model. However, many scientists maintain that open-loop theory is only accurate in situations where the movement is too short for there to be any meaningful feedback.

There are three general criticisms that have been made of the closed-loop theory of motor control. First, some scientists suggest that if a perceptual trace must be developed for every possible movement of which a human is capable, then the volume of these perceptual traces would quickly grow larger than the space available for their storage. Another criticism of the theory is that it has no formula for how movements will be performed for the first time; indeed, closed-loop theory really only applies to movements for which the individual has already developed a perceptual trace. Finally, some scientists insist that many movements are too brief for feedback to play a significant role in their execution, and therefore these would seem to be performed without the assistance of any perceptual trace.

Closed-loop motor control theory

The closed-loop theory of motor control requires that there be two different states of memory in order for a body to be able to correct its mistakes. One of these is a program of movement that is remembered by the body and is called a memory trace. This memory trace is responsible for initiating a particular movement. The state of memory which carries more responsibility for learning and controlling movement is called the perceptual trace. The perceptual trace is basically a standard of correctness: if the feedback resulting from a motion initiated by the memory trace indicates a departure from the perceptual trace, a change in the movement is ordered. In this model, the quality of a movement is only as high as the quality of the perceptual trace.

Individual differences research

A whole field of motor learning research, known as individual differences research, is concerned with charting the various

behavioral abilities of different people. In this field, individual differences are defined as stable, enduring differences among people that contribute to permanent differences in performance. Identifying advantages in motor learning requires not only observing repeated superiority in the performance of a task but in determining what particular ability accounts for the disparity in performance. For instance, it is not enough for a scientist to watch one person consistently make more successful free throws than another; in order to conclude that the first person has superior motor skill, the scientist must isolate the particular ability that is superior and collect data in support of the hypothesis.

Other factors affecting motor performance

It is the job of a physical educator to remind students that natural ability is only one of the factors that contribute to motor performance. Some individuals perform well because they have been given more opportunities to learn than an average person. Individuals with an active temperament seek out opportunities and tend to have better motor performance. Body type contributes to motor performance, also, in that healthy, flexible people are more able to take advantage of their natural abilities. A child who is raised in a family or community that supports athletic endeavor is more likely to develop good motor skills. Finally, motivation, competitiveness, and vigor cannot be underestimated as factors affecting motor performance. No individual can be successful at the highest level of competition simply by relying on his or her natural ability.

General motor ability myth

In the early days of motor ability research, it was thought that all the abilities called into play in performing a task were part of the same ability, known as general motor ability. This idea became popular at the same time as the notion of the intelligence quotient, which claimed to be able to give a universal assessment of cognitive ability. Besides being convenient, the idea of a general motor ability seemed to be borne out in most cases. Subsequent research, however, has indicated that the motor abilities of an individual may vary widely between tasks. For instance, individuals with great muscular strength are often inflexible and incapable of performing precise tasks quickly. Indeed, recent tests have shown that there is a great degree of variability even within the category of balance.

Body awareness

In order to successfully develop and implement basic motor patterns, the human body has to have an awareness of its own dimensions and potentials. For instance, the body must be aware of its current orientation: not only its location and position, but also the range of motions that are possible from its current position. For instance, one develops an intuitive understanding that it is difficult to jump from a sitting position. The body, as it matures, will also develop a sense of balance in its various parts, so that wild movements can be made with the limbs without throwing the entire trunk off balance. Similarly the body will develop the ability to automatically transfer weight for the best performance of a given movement.

Relationships with people and objects

The full development of motor skills requires the ability to assess and adjust to the various relationships that affect motion. These can be classified as either relationships with people or with objects. In relationships with people, an individual

needs to be able to determine whether his motion is to be matching or contrasting. For example, a child on a see-saw has to determine that he cannot make the same pushing motion at the same time as his partner. One also has to determine whether one is leading or following another and adjust movements accordingly. As for the relationships with objects, it is essential to be able to know the orientation of the object in relation to oneself, as well as to be able to determine whether one will need to go around, through, over, or under the object.

Motor ability assessments

Figure eight run and balance beam

In the assessment of motor ability known as the figure eight run, subjects are required to run around a small course that demands making several quick turns. This test is timed to determine an individual's degree of speed and agility. In the balance beam test, subjects are required to perform a few different movements (for instance, standing on one foot, raising arms above the head, or standing on the toes) while traversing a beam two inches wide and twelve feet long. Subjects are timed and awarded points based on the number of movements they are able to perform on the balance beam. There are a few other clinical tests designed to measure balance, but most of these require expensive equipment and are unsuitable for the classroom.

Vertical jump and bar snap

It has been difficult for scientists to create tests of motor ability that are general enough to measure something other than the performance of the specific activity of the test. The vertical jump test measures leg power by requiring the subject to jump straight into the air from a stationary position. The individual's score is measured as the difference between the individual's standing reach and the highest point touched during three trial jumps. The bar snap exercise measures agility, power, and coordination. In this exercise, the legs are lifted and swung forward as far as possible while the subject is holding onto an overhead horizontal bar. The bar snap exercise is considered to be quite challenging. It is therefore not appropriate for everyone.

Speed and reaction time

Speed is one of the easier aspects of motor ability to measure. Typically, an individual's speed is tested by timing a fifty- or hundred-yard sprint. Some measures of speed seek to eliminate differences caused by acceleration and only measure time once the individual has reached top speed. In order to measure reaction time, special equipment must be purchased, allowing the measurement of time to the hundredth of a second. Scientists use a number of different movements as gauges of reaction time, ranging from a simple motion of the hand to a full-body response. There are extensive records of male and female motor skill norms so that physical educators can determine how students compare to the general population.

Speed development

In order to train for running distances of up to two miles, athletes need to train the anaerobic fast-twitch muscle fibers. This is most easily done by interval training, in which distances of between 100 and 400 yards are run as quickly as possible, with a brief period of rest in between. In order to train for sports that require a burst of speed along with cardiovascular endurance, such as soccer or basketball, it is good to run continuously, occasionally breaking into a sprint. Most fitness professionals believe that training at distances slightly greater than those required for competition is the best way to prepare. Also, many athletes report

positive benefits from assisted intervals, in which running is done downhill. Theoretically, this will teach the muscles to work more quickly than usual.

Gender, conditioning, and the development of motor skill

Research has consistently shown that there are basic differences in the motor performance of men and women. However, these differences have been discovered to be based on differences in conditioning and body structure rather than on innate differences in ability. Girls tend to have far fewer opportunities to develop motor skills than do boys. This phenomenon is blamed on a number of different factors, from sexism in society that discourages girls from playing sports to socialization that encourages girls to engage in more sedentary activities. In any case, female and male athletes who have the same number of motor experiences are found to develop at much the same rate. This information is especially valuable for physical educators who may have to confront the false assumption that girls are not meant to play sports.

Coordinative structures and motor control

The concept of coordinative structures suggests that some motor programs can group together seemingly independent parts of the body for the easier performance of certain tasks. Formerly, theorists assumed that there must be particular commands for each independent muscle group when an action is to be performed. Although this more–recently understood feature of the motor system may relieve the body of some administrative stress, it can be problematic as well, as anyone knows who has tried to improve a bad golf swing. Scientific research has shown, however, that with practice individuals can develop the ability to uncouple their coordinated structures and restore independent control.

Characteristics of skilled movement

Sheridan asserted that four characteristics of skilled movement must be accounted for by any theory that professes to describe motor control. First, a skilled movement will display some flexibility of movement. In other words, there must be the ability to accomplish the same task with a variety of different muscles and bones. Second, a skilled movement must have a degree of uniqueness because it is physically impossible for any two movements to be exactly alike. Third, a skilled movement must display some consistency, i.e., the individual will perform it in a similar way in a variety of situations. Fourth, a skilled movement will have some degree of mutability, i.e., the individual will be able to make small adjustments during its performance.

Gender, body structure, and motor performance

Research into the differences in motor performance between men and women has revealed that most of the advantages claimed by either gender are the result of differences in body structure. Men, for instance, tend to have more muscle mass in their upper body, and so they are likely to develop superior performance in skills like throwing or striking. Women, on the other hand, are noted for having a lower center of gravity and therefore balance, and so they may be better than men in the performance of certain movements. Both genders are limited in motor performance by their flexibility, skeletal size, body composition, and overall level of fitness. It has been frequently observed that the difference in motor performance between the best and the worst man is much

greater than the difference between the average man and woman.

Dynamic systems theory

The dynamic systems theory of motor control is also referred to as the ecological theory or action systems theory. It posits that there is a dynamic (constantly changing) relationship between the individual and the environment. Within this relationship, the individual perceives various things and reacts to them either reflexively or voluntarily. Movements are the result of the integrated interaction of many smaller systems of biological, muscular, skeletal, neurological, and cardiorespiratory agents. This integration is known in dynamic systems theory as self-organization. This theory allows for the fact that minute adjustments are made constantly during the performance of a movement.

Reflex theory

The reflex theory of motor control states that movements are the result of rapid, automatic responses to stimuli in the individual's environment. According to this model, once the reflexes in the spinal cord are stimulated by the sensory receptors in the various parts of the body, the reflexes process the information and stimulate a muscular response. Over time, an individual becomes conditioned to respond in a similar way to common stimuli, and the individual's reactions become faster and more precise. This theory of motor control accounts for the consistency of movement, but it does not seem to make room for voluntary control of movement. Also, it does not allow for the minute adjustments that individuals seem to be able to make during the performance of a movement.

Ecological theory

The ecological theory of motor learning is based on the dynamic systems theory of motor control. It asserts that movement is the result of an interaction between the individual and the environment. This interaction is in large part based on the individual's sensory and perceptual skills. According to the ecological theory of motor learning, individuals are constantly scanning their environment, looking for ways to improve their performance of movements. Over time, individuals become better able to isolate the important information in the immediate environment and respond precisely and appropriately to it.

Schema theory

The schema theory was developed in part as a reaction to the closed-loop theory's inability to describe how new actions are performed, how motor programs are stored, and how feedback can be a part of even the shortest movements. As with closed-loop theory, there are two distinct memory states in schemata theory. These are called schemata (the plural of schema), and are abstract versions of commonly-performed movements. According to the schema theory, the body takes common actions and develops a motor program of the general features of common actions. Then, the body is able to use that abstracted program to perform any similar action. Also, the body will call up an appropriate program when it is called upon to perform a new action.

According to schema theory, performance of a given movement enables the body to make an abstract motor program of that movement so that it will be able to perform similar movements in the future. This is known as a generalizable motor program, and is composed of the invariant features of the movement: that

is, the aspects of force and timing which do not vary in other performances of the motion. These features are scaled (or, in scientific terms, parameterized) so that they can be applied to different cases. These specific requirements are covered in the motor program as variant features, such as which muscles are to be used.

In schema theory, the body has four sources from which it can gain information about how best to perform movements. The first source of information is called the initial conditions, and is the current status of the individual: his or her posture, position of limbs, etc. The response specifications identify the unique requirements of the response, for instance which direction it will take, which limbs will be involved, etc. During the performance of this response, the body will receive the sensory consequences, giving it an idea of the status of the movement. Finally, the response outcome will give the individual a sense of the end result of the movement. All of these sources of information are used by the two schemata: the recall schema, which organizes the specific programs needed for a response; and the recognition schema, which evaluates the outcome and makes any adjustments.

Information-processing theory

According to the information-processing theory of motor learning, an individual receives information in the form of stimuli from the outside world, selects a response, and then executes that response. During the reception of information, the individual must determine the nature of the stimulus. This will be more or less difficult depending on the familiarity of the stimulus, the number of competing stimuli, and the individual's personal characteristics. In the next phase, the individual determines what response, if any, is required. Then, the individual organizes the appropriate motor response. The resulting movement is known as the output. One of the criticisms of the information-processing theory is that it fails to account for the role of memory or anticipation in motor performance.

Hierarchical model

One theoretical model that scientists use to explain motor control is the hierarchical model. According to this model, there is a higher level in the motor system that adjusts according to feedback and a lower level that performs the commands of the higher. The lower level, like a low ranking soldier in battle, continues to execute a set of directions until the upper level gives a different order. This model is a hybrid of open-loop and closed-loop theory because it allows for both automatic and modifiable movements. Some studies have indicated that when learning a new task individuals begin by using a closed-loop motor control and gradually move to a more hierarchical style.

Inverted-U principle

Researchers have spent a great deal of time trying to determine how arousal and anxiety affect motor performance. One of the principles that have emerged from this research is known as the inverted–U principle. It asserts that an individual's performance will increase along with arousal level for a while, but if arousal continues to increase, then performance will begin to decline. The principle gets its name from the shape it takes when represented on a graph. The range of arousal in which an individual performs best is known as the zone of optimal functioning. Different individuals have different zones of optimal functioning depending on their trait anxiety: that is, their general disposition to consider situations as dangerous or threatening.

Reaction time

An individual's reaction time (RT) is the time observed between the presentation of a stimulus and the occurrence of the person's response. RT is especially important for the information-processing school of motor learning because it provides a direct measure of the time taken by a complete processing and response event. The number of stimuli presented is one of the common factors that influence RT: the fewer stimuli, the shorter RT is likely to be. RT will also tend to be shorter if there is good compatibility between stimulus and response, i.e., the desired response is appropriate to the situation and uncomplicated. Finally, RT is generally much shorter if the desired response is one that has been practiced and performed many times in the past.

Spatial and temporal anticipation

Researchers into motor performance have classified anticipation as being either spatial or temporal. When a person can predict what is likely to happen in a given situation, it is known as spatial anticipation. For example, if you are driving and the car in front of you brakes in advance of an intersection, you may suspect that the driver is going to turn. This is spatial anticipation. Temporal anticipation, on the other hand, occurs when an individual can predict when something is going to happen or the length of time that something will take to happen. This kind of information is useful in many kinds of settings, from gauging the speed of an oncoming object to anticipating the appearance of a certain stimulus. Most researchers, however, think that motor reaction is more dramatically improved by spatial anticipation than by temporal anticipation.

Hick's Law

Hick's Law was developed during the study of choice reaction time while investigating the amount of time it takes an individual to respond to an unanticipated stimulus. Basically, Hick's Law declares that choice reaction time will increase in proportion to the number of choices made available. This law, which seems a bit obvious on the surface, has become a fundamental principle of the study of motor performance because it has been able to establish such a clear predictive measure for reaction time. In fact, subsequent studies have shown that reaction time seems to increase by the same amount every time the number of choices is doubled. This law has found applications in everything from basketball to military tactics.

Cooperative games

Many teachers find that cooperative games are a positive way to build teamwork among students while still developing motor skills and strategy concepts. There are five basic components that are emphasized by a cooperative game: fun, cooperation, equality, participation, and trust. A good cooperative game must be enjoyable, or else students will not want to continue. It must also require students to have faith in one another. and the active participation of all students. The goal of a cooperative game is to generate enthusiasm for physical activity, even among students who are normally reticent about joining in.

Competitive games

A competitive game is any one in which players or teams vie to defeat one another. Competitive games can be a great motivator in physical education class, as long as the competition is seen as a chance for everyone to test their skills

and improve, rather than as a chance for superior athletes to embarrass others. In order to keep the games fun for all students, teachers should make a point of assessing student abilities and ensuring that no unfair matchups arise. Also, teachers should stress that competition is a way to find the areas in which each person needs to improve

Invasion games

Basics of invasion games

Invasion games are any team games in which players have to penetrate the territory of an opponent, and either enter a goal themselves or put a ball of some kind into a goal. Invasion games are a good way for students to get an appreciation for different strategies of attack and defense, to develop teamwork skills, and to improve whatever particular skills are required by the game. Some examples of invasion games are soccer, football, basketball, hockey, lacrosse, and Ultimate Frisbee. Invasion games force students to use both their mind and body in order to outwit and outmaneuver their opponents. For this reason, invasion games have been cited as beneficial to coordination, reflexes, and problem-solving skills.

Tactics

When teaching students to participate in invasion-style games, it is important to ensure that they understand the basic rules, strategies, and tactics of the given game. To this end, students should be taught when to pass and when to maintain control of the ball (passing, of course, should be done when one is defended). Also, students should begin to consider which places on the field are the easiest from which to score, and which places are the easiest from which an opponent can score. In most games that have a small goal at one end of the field, it is easiest to score from the middle of the field at that end. Students should also learn about different attack and defense formations, and the various merits of each. Finally, students should learn about the different roles of the members of the team; for example, the midfielders' responsibility to distribute the ball.

Developmental of technical skills

One of the objectives of teaching an invasion game is to improve certain skills, like passing, receiving, or shooting a ball. In order to accomplish this objective, teachers should give direct instruction to students on the techniques used in the game in question (for instance, teaching the bounce and chest passes in basketball), including the demonstration of how to position the body to best advantage. Students should also learn how to shield the ball from defenders, and how to quickly change speed or direction while maintaining control of a ball. In the end, students will have successfully met the skills objective if they can perform with accuracy, understand the basic skills for each game, and know how to keep score in each game.

Evaluation of a student's progress

When students have learned and understand the basic strategies of an invasion game, they should be capable of playing the game in a number of different formations and with teams of various sizes. They should also be able to determine the appropriate strategy for a given game situation; for example, they should know when to pursue a risky attack towards the end of a losing game). Students should also demonstrate the basic principles of defense, by marking opponents closely and keeping the ball away from dangerous areas. Advanced students will be able to look at a game and determine which areas need improvement, and what strategies might be more effective. These students will be able to describe the particular advantages of good players and will know the best

tactics to take advantage of their team's talents.

Individual psychology

Unfortunately, there are some aspects of a physical education class which may affect student participation and which cannot be changed. For one thing, sometimes there may be spectators at a class activity, and this may discourage some students from participating. Most research has shown that the presence of an audience only increases participation among those students who feel they are skilled at the activity. Another external factor that may influence participation is competition. Despite a teacher's most diligent efforts to make an activity non-competitive, sometimes students will compare themselves to one another, and those students who feel their performance is inferior may be discouraged from participation.

There are a few changes a physical educator can make to the classroom environment that will influence and encourage student participation. For one thing, he can institute a token rewards system, whereby students earn something by participating. These rewards might be food, candy, certain privileges, or just recognition. Setting goals for a class or for an individual student is also a good way to increase participation. Oftentimes, students will respond positively to an explicit goal, especially if it is one they believe they can attain. A teacher may also influence participation by creating an atmosphere of encouragement in the classroom. If the teacher is constantly exhorting students to achieve, more students are likely to want to participate.

Perceptual differences

Studies have shown that differences in the quality of an individual's perception may directly affect the quality of the performance of certain tasks. One study assessed the effects of four kinds of visual perception: static visual acuity (perception of stationary objects), dynamic visual acuity (perception of moving objects), size constancy (perception of objects of different sizes), and depth perception. The study determined that for basketball players only static visual acuity was related to success in shooting free throws. For shooting a field goal at any other time, the only relevant visual perception was dynamic visual acuity. It was noted that inequalities among an individual's perceptual abilities were quite normal. For this reason, researchers have concluded that differences in perceptual ability may underlie inconsistencies in the performance of seemingly similar tasks.

Ability patterns

As research has mounted suggesting that individuals may have an immensely detailed repertoire of abilities, it has become necessary for physical educators to refine their position on individual performance. Educators expect that individuals will display somewhat consistent patterns of performance: that is, their ability in a certain task will probably be consistent with their abilities in similar tasks. However, an individual's pattern of abilities is not the only factor that contributes to performance. Skill, motivation, and practice will also contribute to the performance of motor tasks in physical education class. Indeed, the most recent research in this field suggests that mood can be one of the prime determinants of success or failure in athletic competition.

Ability grouping

Many teachers, faced with a diverse class, resort to grouping students according to some variable. Most teachers are familiar

enough with the law and with basic courtesy to know that it is inappropriate to divide students according to gender, ethnicity, or socioeconomic status. Nevertheless, many teachers persist in grouping students according to ability, despite consistent research suggesting that this practice is destructive. For one thing, ability grouping tends to reinforce differences in expectation levels and in the treatment of students. When this practice is used, the high-performing students tend to improve, while low-performing students only get worse. The only successful ability grouping occurs when students receive equal attention and have the opportunity to change groups based on their performance.

Educator adjustment

It is important for physical educators to be aware that students will have different levels of ability for different tasks and to take this into account when guiding their students. It is not appropriate to set the same performance goals for every student. On the other hand, individuals should not be allowed to focus solely on those activities in which they excel. Rather, physical educators should strive to help students become self-aware and to work conscientiously on those areas of performance in which they have less natural ability. By maintaining a positive attitude while new skills are being acquired, educators can encourage students to improve their all-around performance.

Class participation

Some personal factors that discourage students from participating in physical education class are virtually impossible to change. One of the major factors that discourages participation is anxiety; students who are temperamentally prone to worrying about performance or obsessing over possible negative consequences of participation are more likely to stay on the sidelines. Some individuals have a higher level of stress during competitive activities, and they are more likely to avoid competitive situations. Often, these individuals perceive competitive situations as being more threatening then they really are. The good news for individuals who suffer from competition-related anxiety is that it seems to decrease with more exposure to athletic competition.

There are a number of personal factors that teachers can try to change in students in order to increase their class participation. It has been consistently shown, for instance, that a student's level of participation is directly tied to his or her impression of the incentives; in other words, if the student feels that he or she will gain something from participation, then he or she is more likely to join in. Part of successful motivation is persuading reluctant students that they have something to gain by participating. Students will also be more likely to participate if they have a natural affinity for the activity. This is a bit more difficult for a teacher to create, but many studies have shown that repeated exposure to an activity is likely to result in the development of appreciation for that activity.

Group environment

When physical educators refer to group environment as a factor influencing the performance of a team, they mean the situational, physical, or geographical conditions that surround the group. These conditions may be either objective or subjective: a large audience, for instance, is only influential if the team perceives the audience to be large. Perhaps the classic example of environment as an influence on group dynamics is the so-called "home-field advantage." Research has shown that

such an advantage does exist, and that it is virtually the same for every competitive sport. The reason for home-field advantage is believed to have something to do with the adverse psychological phenomena associated with playing in front of an unfriendly crowd.

Group composition

In physical education, a group or team is defined as a collection of individuals who share a goal, have a structured way of interacting, have a shared identity, and consider themselves to be a group. One of the factors that influences the performance of such a group is the group composition: that is, the characteristics of the various people who make up the group. The characteristics might include the ages, sizes, aptitudes, skill levels, and genders of the members of the group. Many studies have shown that a beneficial arrangement of players on a team may influence success more than simply a high average skill level among the members.

Group structure

The performance of a group is heavily influenced by the group structure, which is the position, status, and responsibility of each group member, and the standards for behavior (norms) held by the members of the group. The importance assigned to various group members is based on two factors: task dependence and propinquity. Task dependence is the degree to which a player must relate to the others during the course of a game. A catcher, for instance, is much more central to the action in a baseball game than is a left fielder. Propinquity is the extent to which a player has knowledge of and is seen to be a part of the action. For players in varying positions of responsibility, there will be varying chances for reward or recognition for good performance.

Cooperation

When physical educators refer to group cohesion as a factor influencing the performance of teams, they mean the degree to which a team can remain united and cooperate in pursuit of a common goal. There may be different reasons for group cohesion: in some cases, individuals with little social connection may all feel drawn to the common goal, while in other cases a group of close associates may feel loyal to one another without especially valuing the stated goal. In physical activities, cohesion and cooperation determine success. Interestingly, though, studies have shown that it is much more common for success to lead to cohesion than vice versa. Basically, winning teams tend to create better environments for cooperation and mutual advancement.

There are a few basic group processes that every team must perform: communication, the establishment of collective goals, the performance of various group tasks, analysis of success or failure, and the development of a collective identity. The degree to which the team is able to perform these tasks efficiently and positively will determine the achievement of the group. Recent research has centered on the existence of collective goals: that is, aspirations of the group that exceed any personal ambitions. In successful teams, there is often the willingness to put the welfare of the team first. Another determinant of team success is the degree to which team members recognize their own role in the performance of group processes and tailor their actions to be the most efficient within the context of that particular team. Sometimes, for instance, it is necessary for a would-be leader to step back and let someone else lead if that is what is best for the team.

Competition

When considering whether or not to make class activities competitive, teachers should consider a number of factors. For one thing, in competitive activities the level of participation is often uneven throughout the class, since successful players tend to play more and be involved in more games. On the other hand, surveys have shown that most students want to participate in competitive events, even if they do not expect to win. The personal investment of competition, along with the social training provided by winning and losing, can be a great advantage of competition. On the whole, most secondary physical education teachers seem to find that the most popular activities are those that combine recreation and competition.

Recreation versus competition

One of the perennial issues facing physical educators is whether activities should be promoted as forms of recreation or as competition. If competition is to be the dominant feature, then activities must have explicit rules, a formal way of keeping score, and identifiable winners and losers. When students are taught activities for competition, the emphasis will be on practicing specific skills, and avoiding mistakes as much as possible. When sports are taught as recreation, participation is the most important factor for students. Each student should get an equal amount of experience and performance time, regardless of his or her skill level. Although score is typically not kept in strictly recreational activities, students may receive certificates for good sportsmanship or diligent participation.

Specialization and generalization

One of the issues that has been consistently debated in physical education over the past few decades is the question of whether professional education should include specialized training, for instance driver education or health and safety education. Some educators feel that these subjects are naturally within the domain of physical education, and as such should be included in the curriculum. Others, however, worry that teachers will not be able to treat any one subject adequately if so many diverse topics are to be covered. At present the general consensus is that the primary responsibility of physical education is to develop physical activity in sport and exercise, and that other topics relating to the human body should not interfere with this mission.

Personal-social development

There are a few different conceptual models of how teachers can motivate students to participate in physical education. The personal-social development model asserts that students can be motivated by the incentive to improve their lives through cooperation and personal responsibility. This model is particularly popular among those theorists who envision physical education as merely a component of a total education. They claim that students will be motivated by the idea that physical activity can enhance all of the other areas of their lives. Personal-social models of development may center on self-esteem (participation will make students feel better about themselves), moral education (participation will teach students how to behave morally), and responsibility (participation will encourage students to take charge of other areas of their lives).

Participation

Recent research has indicated that a major factor in the success or failure of students is how they perceive the

expectations of their teacher. Indeed, teacher expectations are a sort of "self-fulfilling prophecy": students tend to perform at the level at which they are expected to perform. Teachers form expectations from a number of sources, both static (gender, race, age) and dynamic (behavioral patterns, past performance). Subsequently, a teacher will pay more or less attention to a student depending on whether or not he or she believes that attention will be worthwhile. Even if expectations are not spoken , they are perceived by students, who are likely to perform in a manner consistent with expectations.

Skill discrepancy

When teachers organize students for competitive activities, they need to strive for fairness and impartiality. It is important that every student feels that he or she has a chance to succeed. For this reason, it is a bad idea to organize one-on-one competitions in areas where the differences in skill are extreme. For the most part, team sports are the best way to combine players of different abilities, as being part of a team gives everyone a role and a chance to contribute. Furthermore, many times team sports have the effect of minimizing the differences in talent that may exist in a class. In other words, the best players on the team will have to depend on the worst, and vice versa. If this skill discrepancy is managed successfully by the teacher, it can be an excellent social skill-building exercise.

Creation of fair teams

When dividing students into teams, a physical educator should strive for heterogeneity; that is, teams should be composed of students of varying genders, ages, and skill levels, if possible. There are a couple of ways to create heterogeneous teams. One way is to select two students of similar skill level and have those students select teammates. However, rather than conducting this process in front of the other students, and risking hurt feelings for those students chosen last, the teacher should have the two captains pick their teams in private. Another way to ensure heterogeneous teams is to write the names of the students down in groups according to skill level, and then pick the names at random. In this way, each team can be assured of having the same number of players from each respective skill group.

Competition and gender

For many years, female physical educators were discouraged by the extreme competitiveness of most men's athletic programs. For this reason, many women advocated non-competitive activities like dance and aerobics. Although many women still endorse this policy, there has been a recent trend towards competition in women's physical education. Specifically, the increase in popularity of such sports as soccer, basketball, and softball has led many women into the arena of competition. In many high schools, this trend has been credited with drawing more attention to female athletic excellence, and dispelling some stereotypes about the ability of women to compete at a high level. However, many female physical educators still decry what they see as an over-emphasis on winning and losing that excludes many girls from participating.

Practice Test

Practice Questions

1. Though he was schooled in physiology, _____was the first person to develop a psychology lab, in Leipzig, Germany.
   a. Sigmund Freud
   b. William James
   c. Ivan Pavlov
   d. Edward Titchener
   e. Wilhelm Wundt

2. This pioneer was known as the first to develop a psychology laboratory in the United States. His name was:
   a. Sigmund Freud
   b. William James
   c. Ivan Pavlov
   d. Edward Titchener
   e. Wilhelm Wundt

3. These early scientists were concerned about the study of mental processes. They relied on a technique known as introspection to examine mental experiences. These individuals were called:
   a. Functionalists
   b. Psychodynamic theorists
   c. Structuralists
   d. All of the above
   e. None of the above

4. Psychologists today utilize which approach to understand human behavior?
   a. Behaviorist
   b. Humanistic
   c. Psychodynamic
   d. All of the above
   e. None of the above

5. Sigmund Freud is associated with which of the following approaches?
   a. Behaviorist
   b. Humanistic
   c. Psychodynamic
   d. All of the above
   e. None of the above

6. “Self-actualization” is a term associated with the _____ approach to understanding human behavior.

a. Behaviorist
b. Humanistic
c. Psychodynamic
d. All of the above
e. None of the above

7. When participants in an experimental group act differently because they know they are getting a special treatment, this is known as:

a. A blind study
b. A double-blind study
c. The placebo effect
d. All of the above
e. None of the above

8. Which of these types of study would lend itself to studying only one person?

a. Case study
b. Correlational
c. Descriptive
d. Experimental
e. Survey

9. _____ is the study of how the different parts of the body interact with one another and how this communication affects behavior.

a. Behavioral neuroscience
b. Behaviorism
c. Humanism
d. All of the above are correct
e. None of the above is correct

10. A type of neuron that interacts or communicates with other neurons is referred to as:

a. Afferent
b. Association
c. Efferent
d. Motor
e. Sensory

11. Serotonin is a neurotransmitter that affects:

a. Arousal
b. Mood
c. Sleep
d. All of the above
e. None of the above

12. Which division of the nervous system controls voluntary skeletal muscle movements?
    a. Autonomic
    b. Parasympathetic
    c. Peripheral
    d. Somatic
    e. Sympathetic

13. A patient is suffering from diabetes. The patient's blood sugar is elevated. Which division of the nervous system raises the blood sugar level?
    a. Autonomic
    b. Parasympathetic
    c. Peripheral
    d. Somatic
    e. Sympathetic

14. Which subsystem of the nervous system regulates internal organs and glands?
    a. Autonomic
    b. Parasympathetic
    c. Peripheral
    d. Somatic
    e. Sympathetic

15. What part of the brain deals with the functioning of memory?
    a. Amygdala
    b. Hippocampus
    c. Hypothalamus
    d. Reticular formation
    e. Thalamus

16. _____ is the act of mentally developing a picture of one's outside environment.
    a. Just noticeable difference (JND)
    b. Perception
    c. Sensation
    d. Sensory adaption
    e. Signal detection theory

17. Psychophysics is the part of psychology that deals with_____.
    a. Just noticeable difference (JND)
    b. Perception
    c. Sensation
    d. Sensory adaption
    e. Signal detection theory

18. When my perception of the couch in my living room diminishes to the point where I barely pay any attention to it, I am experiencing:
    a. Just noticeable difference (JND)
    b. Perception
    c. Sensation
    d. Sensory adaption
    e. Signal detection theory

19. _____ is dependent upon an individual's expectations, past experiences, and motivation.

a. Just noticeable difference (JND)
b. Perception
c. Sensation
d. Sensory adaption
e. Signal detection theory

20. Margaux listened to two CD players in a department store. She noticed that the first CD player sounded slightly clearer than the second CD player. The difference in sound that Margaux noticed is called:

a. Just noticeable difference (JND)
b. Perception
c. Sensation
d. Sensory adaption
e. Signal detection theory

21. People often misjudge how far an approaching train is from them. They usually think it is farther away than it is. This is because the farther away parallel objects such as train tracks are, the closer they appear to be to one another, distorting the distance perception. This is an occurrence of:

a. Difference threshold
b. Interposition
c. Linear perspective
d. Motion parallax
e. Weber's law

22. The train tracks seemed to be moving as I drove by the stationary train. Which of the following terms would explain this?

a. Difference threshold
b. Interposition
c. Linear perspective
d. Motion parallax
e. Weber's law

23. What prevents a person from physically acting out his dreams?

a. The brain stem prevents the transference of messages originating in the motor cortex
b. The occipital lobes do not function during "s" sleep state
c. The parietal lobes are in a temporary immobile state during REM sleep
d. All of the above
e. None of the above

24. The dream state is usually characterized by:

a. Alpha waves
b. Delta waves
c. Hypnogogic sensation
d. REM
e. Slow-wave sleep

25. Which sleep disorder causes a person to involuntarily fall into sudden sleep modes throughout the day?

a. Activation-synthesis theory
b. Insomnia
c. Narcolepsy
d. REM rebound
e. Sleep apnea

26. According to Sigmund Freud, repressed sexual or aggressive desires that manifest themselves in dreams are referred to as:

a. Activation-synthesis theory
b. Dissociation
c. Latent content
d. Manifest content
e. REM rebound

27. Margie is under hypnosis, but she is fully conscious of all activities. This is known as a split in consciousness or _____.

a. Activation-synthesis theory
b. Dissociation
c. Latent content
d. Manifest content
e. REM rebound

The following questions relate to how learning takes place in organisms. Use the following concepts to answer questions 28–35.

a. Classical conditioning
b. Observational learning
c. Operant conditioning
d. All of the above
e. None of the above

28. Associative learning can be summed up as:

29. A person who learns by connecting two stimuli is a product of:

30. A neutral stimulus is part of which learning procedure?

31. An unconditioned stimulus that gets an unconditioned response is an aspect of:

32. Reinforcement is characteristic of which learning procedure?

33. In which type of learning does "negative" indicate that a stimulus has been removed?

34. Learning the consequences of behavior by watching what happens to others is considered what type of learning procedure?

35. Which of the following does NOT require that a stimulus be directly introduced or removed?

36. Habituation is an example of:
    a. Associative learning
    b. Expectation
    c. Instrumental conditioning
    d. Non-associative learning
    e. Sensitization

37. A researcher, Dr. Maggie George, started with the following hypothesis: Most bilingual students are Hispanic. Dr. George sought out information to prove her supposition while ignoring data that would disprove her hypothesis. She was engaging in what is known as:
    a. The availability heuristic
    b. Confirmation bias
    c. Functional fixedness
    d. Rehearsal
    e. The representativeness heuristic

38. The inability to utilize old items in new ways is known as:
    a. The availability heuristic
    b. Confirmation bias
    c. Functional fixedness
    d. Rehearsal
    e. The representativeness heuristic

39. _____ means that a person will choose the most vivid or most recent memory based on the ability the person has to quickly recall the information. It will be the first thing that comes to the person's mind.
    a. The availability heuristic
    b. Confirmation bias
    c. Functional fixedness
    d. Rehearsal
    e. The representativeness heuristic

40. A two-word pattern where kids generally voice a noun and a verb together is part of:
    a. The babbling stage
    b. The concrete operations stage
    c. Conservation
    d. The formal operations stage
    e. Telegraphic speech

41. Who is known for his belief that children possess a language acquisition device?
    a. Alfred Binet
    b. Noam Chomsky
    c. William James
    d. B. F. Skinner
    e. Charles Spearman

42. Which of these concepts is NOT an example of a mnemonic strategy?
    a. Acrostics
    b. Attention
    c. Automaticity
    d. Chunking
    e. Rehearsal

43. Permanent memories are kept in:
    a. Long-term memory
    b. Sensory memory
    c. Short-term memory
    d. Working memory
    e. All of the above

44. The first person to create an intelligence test was:
    a. Alfred Binet
    b. Noam Chomsky
    c. William James
    d. B. F. Skinner
    e. Charles Spearman

45. _____ is recognized for coining the term "g" for general intelligence.
    a. Alfred Binet
    b. Noam Chomsky
    c. William James
    d. B. F. Skinner
    e. Charles Spearman

46. Motivation can be influenced by biological as well as social-psychological factors such as:
    a. Achievement
    b. Affiliation
    c. Hunger
    d. All of the above
    e. None of the above is correct

47. Factors that motivate hunger are:
    a. Achievement and affiliation
    b. Achievement and reproduction
    c. Glucose and insulin
    d. All of the above
    e. None of the above

48. What part of the brain is said to increase hunger?
    a. Amygdala
    b. Hippocampus
    c. Lateral hypothalamus
    d. Thalamus
    e. Ventromedial hypothalamus

Use the following choices to answer questions 49 - 52.

a. Cannon-Bard theory
b. Excitation transfer
c. James-Lange theory
d. The set point
e. Two-factor theory

49. Each person has a weight that the body works to maintain. This is known as:

50. _____ states that arousal and a subjective emotional experience will occur at the same time when a person thinks that a stimulus can affect his well-being.

51. A pounding heartbeat that causes a person to experience fear is an example of:

52. The belief that what we call each emotion is what makes emotions different from one another is known as _____. This concept says that the physiological arousal is the same regardless of which emotion one experiences.

53. Which type of research method lends itself to researchers making inferences about how people develop over a period of time?

a. Cross-sectional
b. Cross-sequential
c. Longitudinal
d. All of the above
e. None of the above

54. What type of research method would be utilized to track different people at varying age levels over a long period of time?

a. Cross-sectional
b. Cross-sequential
c. Longitudinal
d. All of the above
e. None of the above

55. A researcher wants to study a group of 25-year-old participants for 10 years. What type of research method would the researcher be using?

a. Cross-sectional
b. Cross-sequential
c. Longitudinal
d. All of the above
e. None of the above

56. Which of the following is a stage in Piaget's theory of cognitive development?

a. Autonomy vs. doubt and shame
b. Identity vs. role confusion
c. Trust vs. mistrust
d. All of the above
e. None of the above

57. Which of these terms is part of Piaget's theory of cognitive development?
    a. Assimilation
    b. Conservation
    c. Object permanence
    d. All of the above
    e. None of the above

58. The sensorimotor stage in Piaget's theory of cognitive development is characterized by a lack of:
    a. Assimilation
    b. Conservation
    c. Object permanence
    d. All of the above
    e. None of the above

59. A child between the ages of 1 and 3 years will experience this crisis in Erikson's theory of psychosocial development.
    a. Autonomy vs. doubt and shame
    b. Identity vs. role confusion
    c. Trust vs. mistrust
    d. All of the above
    e. None of the above

60. Which of these stages in Erikson's theory of psychosocial development is characterized by generativity?
    a. Autonomy vs. doubt and shame
    b. Identity vs. role confusion
    c. Trust vs. mistrust
    d. All of the above
    e. None of the above

61. Which of the following stages is indicative of what a child desires to accomplish versus what a child is allowed to do?
    a. Autonomy vs. doubt and shame
    b. Identity vs. role confusion
    c. Trust vs. mistrust
    d. All of the above
    e. None of the above

62. Which theorist believed that a person's actions are motivated by unconscious needs?
    a. Carl Jung
    b. Karen Horney
    c. Sigmund Freud
    d. All of the above
    e. None of the above

63. In his theory of psychoanalysis, _____ is known for his development of the following personality components: the id, ego, and superego.
    a. Carl Jung
    b. Karen Horney
    c. Sigmund Freud
    d. All of the above
    e. None of the above

64. Which personality component(s) operate(s) in accordance with the pleasure principle?
    a. Ego
    b. Id
    c. Superego
    d. All of the above
    e. None of the above

65. The Oedipus complex is a part of which stage in Freud's psychosexual stages?
    a. Anal stage
    b. Oral stage
    c. Phallic stage
    d. All of the above
    e. None of the above

66. Johnny love's soccer and wants to join the soccer team. Though he does not particularly like football, his parents press him to join the football team. Johnny ends up joining the football team in order to please his parents. This is an example of:
    a. Conditions of worth
    b. Ideal self
    c. Morality principle
    d. Reality principle
    e. Self-actualization

67. Reciprocal determinism is part of the _____ approach to personality.
    a. Humanistic
    b. Individual-difference
    c. Psychosocial
    d. Social cognitive
    e. None of the above is correct

68. Which of the following is NOT one of the Big Five personality traits?
    a. Aggression
    b. Conscientiousness
    c. Extroversion
    d. Neuroticism
    e. Openness

69. Which branch of psychology focuses on psychological disorders?
    a. Abnormal psychology
    b. Behavioral neuroscience
    c. Developmental psychology
    d. All of the above
    e. None of the above

70. The child stared at Jesse because he walked to the water fountain, drank some water, walked back to the same spot he was previously in, walked back to the water fountain, and drank some more water. Jesse did this at least three times. Jesse is probably suffering from:
    a. Anxiety disorder
    b. Generalized anxiety disorder
    c. Obsessive-compulsive disorder
    d. Panic disorder
    e. Phobia

71. People who have _____ typically suffer from depression, mania, or both.
    a. Conversion disorder
    b. Dissociative dissonance
    c. Mood disorder
    d. Personality disorder
    e. Somatoform disorder

72. Ralph left his job in the middle of the day without letting anyone know that he was leaving. He traveled a few hours, but he couldn't remember his past. Ralph became confused about who he was. He eventually took on a new identity. Ralph more than likely experienced:
    a. Dissociative amnesia
    b. Dissociative fugue
    c. Dissociative identity
    d. Panic disorder
    e. Psychosis

73. This type of schizophrenia is characterized by delusions of grandeur or delusions of persecution. It is known as:
    a. Catatonic
    b. Disorganized
    c. Echolalia
    d. Paranoid
    e. Undifferentiated

74. Jack has all the physical symptoms of a disease, but he does not have the disease. Jack has which of the following types of disorder?
    a. Anxiety
    b. Dissociative
    c. Mood
    d. Personality
    e. Somatoform

75. Jane is the type of person who does not trust people. She is very suspicious of those around her. Jane is suffering from which of the following?

a. Antisocial personality
b. Borderline personality disorder
c. Narcissistic personality
d. Paranoid personality
e. Paranoid schizophrenia

76. The _____ approach to abnormal behavior suggests that abnormal behavior is due to a person's consistently thinking in an abnormal manner.

a. Cognitive
b. Learning or behavioral
c. Medical
d. Psychoanalytic
e. Social

77. Jesse struggled with depression one summer. His mother began to bring him breakfast in bed every day to cheer him up. Jesse began sleeping in even longer. When he did get up, he kept completely to himself. The more Jesse withdrew, the more his mother showered him with attention and gifts. This explanation of abnormal behavior comes from which of the following perspectives?

a. Cognitive approach
b. Learning or behavioral approach
c. Medical approach
d. Psychoanalytic approach
e. Social approach

78. Psychological approaches deal with which of the following therapies?

a. Behavior modification
b. Cognitive therapies
c. Humanistic therapies
d. All of the above
e. None of the above

Use the following answer choices for questions 79 - 84.

a. Behavior modification
b. Biological therapies
c. Cognitive therapies
d. Humanistic therapies
e. Psychoanalysis

79. Catharsis occurs when energy that was once used to repress memories becomes available because the repressed memory has been brought to consciousness and dealt with. Which approach describes this term?

80. Free association is a therapeutic technique used in:

81. "Active learning" is a term introduced by Carl Rogers in which therapies?

82. According to_____, the way a person thinks is the culprit for abnormal behavior.

83. Systematic desensitization is a technique used in_____.

84. Which approach depends on drugs or surgery to change how the brain functions?

85. Which of the following is an area in social psychology?
    a. Social cognition
    b. Social influence
    c. Social relationships
    d. All of the above
    e. None of the above

86. How information about other people is processed is known as:
    a. Social cognition
    b. Social influence
    c. Social relationships
    d. All of the above
    e. None of the above

87. Jamia does not believe in abortion. She has the attitude that abortion is murder. Jamia gets pregnant and has an abortion. She experiences a great deal of anxiety about the abortion. Jamia now spends most of her time explaining that there are times when women are forced to get an abortion even when they do not want to. She desperately wants to feel good about the decision she has made. Jamia's situation is an example of:
    a. Attribution theory
    b. Actor-observer difference
    c. Cognitive dissonance theory
    d. Fundamental attribution error
    e. Situation attribution

88. _____ was responsible for doing a phony learning study in which teachers were told to administer an electrical shock to students every time a student gave a wrong answer.
    a. Solomon Asch
    b. Kitty Genovese
    c. Karen Horney
    d. Stanley Milgram
    e. Carl Rogers

89. Sarah asked her friend to babysit while her boyfriend took her on a romantic date. Her friend promised that she would babysit. Sarah then told her friend that she would be gone for a week on this romantic date. Sarah used a technique called:
    a. Door-in-the-face
    b. Foot-in-the-door
    c. Low-balling
    d. The minimax principle
    e. Social-exchange theory

90. _____ was a woman who was raped and killed in 1964 while thirty-eight witnesses watched. The witnesses did not call the police until after the killer was gone.
a. Virginia E. Johnson
b. Kitty Genovese
c. Karen Horney
d. Lana Brock
e. Jane Jacobs

91. If helping someone will benefit more than it will hurt a person, that person will most likely render assistance. This is known as:
a. Door-in-the-face
b. Foot-in-the-door
c. Low-balling
d. The minimax principle
e. Social-exchange theory

92. A test that looks as though it is measuring what it is supposed to measure has:
a. Content validity
b. Construct validity
c. Cronbach's alpha
d. Internal consistency
e. Predictive validity

93. Which of the following is referred to as a descriptive statistic?
a. Mean
b. Mode
c. Standard deviation
d. All of the above
e. None of the above

94. The entire membership of any group or entity is called the:
a. Population
b. Sample
c. Subject
d. Subset
e. Unit of analysis

Answers and Explanations

1. E: Wilhelm Wundt. Wilhelm Wundt was a pioneer in creating the first psychology laboratory, in Leipzig, Germany. As a structuralist, Wundt wanted to study from a scientific perspective how individuals sense and perceive their surroundings. This started a controversy over what the scope of psychology should be and how the study of psychology should look.

2. D: Edward Titchener. Edward Titchener was a pioneer known for developing the first psychology laboratory in the United States. Titchener and Wundt were both structuralists who studied the basic elements of mental processes. Both of these pioneers stressed the importance of consistency in research. They were concerned with the significance of research that could be replicated and measured accurately.

3. C: Structuralists. Structuralists were concerned with the examination of mental processes. They relied on a technique known as introspection to study the basic elements of mental experiences. Introspection consists of being able to consciously address one's thoughts and emotions. Because of its subjectivity, it does not lend itself to children or animals, because they would not be able to reflect introspectively. For this reason, this method of studying mental experiences quickly fell by the wayside.

4. D: All of the above. The behavioral, psychodynamic, and humanistic, as well as the cognitive and biological, approaches to human behavior are all part of psychology today, probably because of its philosophical roots. Generally, psychologists deal with the structure and functions of human behavior.

5. C: Psychodynamic. The psychodynamic approach deals with the idea that a person's behavior, thoughts, and emotions come from society's restrictions on the manifestation of a person's innate drives. Freud believed that sexual and aggressive drives are the most significant in human beings. Since society limits both drives, Freud believed that people struggle with meeting their personal needs versus displeasing others. According to Freud, a person's personality is reliant on how these issues are solved during the first two years or so of childhood.

6. B: Humanistic. The humanistic approach to understanding human behavior is driven by the idea that a person has a need to reach self-actualization, which includes the proclivity to seek after the highest possible growth and development that is attainable. In this approach, each individual has his or her own distinctive needs, desires, talents, skills, etc. According to the humanistic approach, a person who is well adjusted must be free to express his or her own uniqueness.

7. C: The placebo effect. The placebo effect is seen when participants in an experimental group act differently because they know they are getting a special treatment. To get an accurate measure of how much a group is affected by the placebo effect, control group participants are told that they are being given a special treatment when in fact they are not. It is considered a blind study when participants do not know whether they are receiving the

special treatment. Likewise, in a double-blind study, neither researchers nor participants know who is getting the special treatment.

8. A: Case study. A case study lends itself to studying only one person or entity, such as a school, at a time. The case study is an in-depth research effort that focuses on the person or organization, finding out as much information about the subject as possible from different sources. Freud utilized this type of research to build his theory of psychoanalysis. He did a sequence of case studies.

9. A: Behavioral neuroscience. Behavioral neuroscience is the study of how the different parts of the body interact with one another and how this communication affects behavior. It deals mostly with the nervous system, which consists of brain structures, neurotransmitters, and neurons that are organized in a way that creates a pathway for information to move freely from one part of the body to another.

10. B: Association. Association neurons, also called interneurons, interact or communicate with other neurons or nerve cells. Data are transferred to the spinal cord and brain from body tissues and sense organs. This is done by sensory organs or afferent neurons. Motor or efferent neurons transmit information from the spinal cord and brain back to the body tissues and sense organs.

11. D: All of the above. Sleep, mood, and arousal are all affected by serotonin. Serotonin is a neurotransmitter that regulates these activities in the brain depending on how much serotonin the brain is receiving. People who suffer from some forms of depression are said to have low levels of serotonin.

12. D: Somatic. The somatic nervous system does two things. One, it transfers data to the central nervous system from the sense organs, muscles, and skin. This allows a person to feel pain, pressure, and temperature. Two, it sends information to the skeletal muscles from the central nervous system. This causes voluntary physical reactions. The somatic nervous system is a division of the peripheral nervous system.

13. E: Sympathetic. The sympathetic nervous system is responsible for elevating blood sugar levels. Its job is to get a person ready to act by making him or her cognizant of something that is scary, exciting, or disturbing. The sympathetic nervous system does this by not only elevating blood sugar, but making the heart beat faster, minimizing digestion, and widening the arteries as well as stimulating sweat glands. Additionally, the sympathetic nervous system is one of the divisions of the autonomic nervous system. The other division of the autonomic nervous system is the parasympathetic nervous system.

14. A: Autonomic. The autonomic nervous system is responsible for regulating a person's internal organs and glands, including some muscles. Generally, the autonomic nervous system works involuntarily, though it can work voluntarily. It consists of two divisions which control opposite functions. The two divisions of the autonomic nervous system are the sympathetic nervous system and the parasympathetic nervous system. The sympathetic nervous system is responsible for getting a person excited or alarmed, whereas the parasympathetic nervous system is responsible for what happens to a person in a state of relaxation, such as slowing down a person's heart rate, breathing, and digestion.

15. B: Hippocampus. The hippocampus deals with the functioning of a person's memory. It is important to note that the brain is made up of a bunch of groups of neurons called neural networks. These neural networks have similar but unique jobs. Even though the networks or groups of neurons each have their own function, the groups often physically run through other parts of the brain. The hippocampus is a part of the limbic system.

16. B: Perception. Perception is the mental development of a picture of one's environment.

17. C: Sensation. Psychophysics is the part of psychology that deals with sensation. Sensation is the capacity one has to sense stimuli through the various senses.

18. D: Sensory adaptation. A person experiences sensory adaptation when her awareness of a table in the kitchen diminishes to the point where she gives almost no thought to it. When people see certain items all the time, they stop taking note of them, diminishing sensitivity to these items. In order for attention to stimulus to remain constant, the stimulus must change in some way.

19. E: Signal detection theory. Signal detection theory is dependent upon an individual's expectations, past experiences, and motivation. These psychological factors determine a person's capacity to give attention to stimulus.

20. A: Just noticeable difference (JND). Just noticeable difference is also known as the difference threshold. It is the noticeable difference that a person senses between two similar stimuli.

21. C: Linear perspective. Linear perspective is a type of depth perception in which only one eye is required. Our depth perception cues us to the distance between ourselves and visible objects. When we need only one eye to perceive distance, this is known as a monocular cue. Likewise, when two eyes are used to perceive distance, this is called a binocular cue. The monocular cue in linear perspective is that we perceive parallel lines as converging as they lie farther away.

22. D: Motion parallax. Motion parallax is also known as relative motion. It is a monocular cue that causes stable objects to appear to be in motion when a person is in motion. Objects closer to the fixation point (the thing the person is looking at) appear to be moving backward. The closer the object is to the fixation point, the faster the object would seem to be moving. Things that are farther from the fixation point will appear to be moving with the person at a slower pace as the object gets farther away.

23. A: The brain stem prevents the transference of messages originating in the motor cortex. This prevents people from acting out their dreams. The body becomes basically paralyzed when the brain stem does not allow messages from the motor cortex to reach the brain. The brain stem is located where the spinal cord connects to the skull. It regulates the heartbeat and breathing. It has the capacity to stop messages from getting to other parts of the brain.

24. D: REM. The dream state is generally characterized by rapid eye movement (REM). This state of sleep is also referred to as paradoxical sleep because the person sleeping seems to be in a relaxed state, yet cortical activity is extensive. REM sleep is typically about ten minutes during the first cycle of sleep. REM sleep tends to get longer each time a sleeper passes through this stage in a cycle.

25. C: Narcolepsy. Narcolepsy is a sleep disorder in which a person involuntarily falls into sudden sleep modes throughout the day. Insomnia is another sleep disorder in which a person is consistently unable to fall asleep or stay asleep. Likewise, sleep apnea is a sleeping disorder in which a person intermittently stops breathing while sleeping. This can happen as many as one hundred times a night. Each episode causes the sleeper not to get enough oxygen, which wakes the person up enough to gasp for more oxygen.

26. C: Latent content. Latent content, according to Sigmund Freud, is repressed sexual or aggressive desires that manifest in dreams. The manifest content of dreams, according to Freud, consists of the actual pictures that the dreamer sees. Activation-synthesis theory suggests that dreamers make up dreams based on random pictures that were generated by the brain during sleep time. According to activation-synthesis theory, the construction of dreams is an attempt on the part of the dreamer to make sense out of the random pictures. When people miss dreaming for a length of time, they typically engage in what is known as "REM rebound," where they experience longer REM sleep periods at a later time.

27. B: Dissociation. Dissociation occurs when a hypnotized person is still aware of all activities while under hypnosis. This is often called a split in consciousness. Hypnosis is said to be a relaxed state that is characterized by the ability to accept suggestions. There is no known research that proves that a hypnotized person would do something contrary to the person's nature.

28. D: All of the above. Classical conditioning, observational learning, and operant conditioning are all techniques used to produce associative learning. Classical conditioning is a procedure whereby learning takes place by connecting two stimuli, while operant conditioning is a procedure that associates a stimulus with a response in order to stop or cause a behavior. Observational learning is where operant behavior can be learned indirectly by watching what happens to the person being conditioned.

29. A: Classical conditioning. Classical conditioning occurs when a person learns by associating a conditioned stimulus to an unconditioned stimulus. An unconditioned stimulus gets a certain response. The goal of classical conditioning is to get the same response from a neutral stimulus that an unconditioned stimulus gets. The neutral stimulus then becomes a conditioned stimulus.

30. A: Classical conditioning. A neutral stimulus is the stimulus that is paired with the unconditioned stimulus to get the same response caused by the unconditioned stimulus. When the same response is obtained, the neutral stimulus becomes the conditioned stimulus.

31. A: Classical conditioning. Prior to classical conditioning, the unconditional stimulus produces an unconditioned response. This response happens without any prompting or conditioning.

32. C: Operant conditioning. Operant conditioning is characterized by reinforcement as well as punishment. Operant conditioning is a technique used to connect the stimulus to the response in order to stop or cause a behavior. Reinforcement is the application or removal of a stimulus in order to get a desired behavior.

33. C: Operant conditioning. In operant conditioning, designations of "negative" or "positive" indicate what is going on with the stimulus. "Negative" means that a stimulus has been removed, while "positive" means that a stimulus has been added. Positive and negative reinforcements and punishments are applied and removed in order to increase or decrease behavior.

34. B: Observational learning. Observational learning occurs when a person learns the consequences of behavior by watching what happens to someone else. The person or persons being observed are referred to as model(s).

35. B: Observational learning. Classical conditioning requires the introduction of a stimulus, while operant conditioning requires the introduction or removal of a stimulus. Observational learning results from watching the consequences that happen to another person.

36. D: Non-associative learning. Non-associative learning occurs when a single stimulus is repeatedly offered or seen causing a lasting change in behavior. Habituation is an example of non-associative learning. It happens when a single stimulus being repeatedly seen or offered causes a person to respond less and less to the stimulus.

37. B: Confirmation bias. Confirmation bias describes a person's tendency to look for information that supports a bias or belief while ignoring data that would not support the bias or belief. This is considered an error in judgment that can serve as a block in resolving issues or problems because of faulty thinking. It is an error in how a person thinks and solves problems.

38. C: Functional fixedness. Functional fixedness is about a person's inability to go beyond what is known about the use of an item. In other words, a person with functional fixedness could not perceive using a shoe to kill a fly because shoes are made to be worn. He would be fixed on the traditional use of the shoe, unable to see other uses. Functional fixedness is another error in judgment which can serve as a block to resolving issues or problems because of faulty thinking. It is an error in how a person thinks and solves problems.

39. A: The availability heuristic. The availability heuristic is a shortcut to solving problems. A heuristic is basically a way to solve a problem using some type of technique. Heuristics can help or impede a person's ability to resolve problems or issues. The availability heuristic is one of these techniques that may or may not be helpful. It occurs when a person determines the likelihood of an occurrence by what is in the forefront of the person's mind.

40. E: Telegraphic speech. Telegraphic speech usually begins with a child voicing just one word and then moves on to the child articulating a word along with gestures to convey meaning. A child might say "toy" while trying to pick up a toy to indicate "give me my toy." The one-word stage generally starts at around one year of age. A two-word pattern where kids generally voice a noun and a verb together is also part of telegraphic speech. This stage typically begins at around eighteen months. Children in the two-word stage may say things like baby cry, doggie like or mommy eat. After a while, a child in the two-word stage will begin to combine an adjective with a noun such as bad boy.

41. B: Noam Chomsky. Noam Chomsky is known for his belief that children possess a language acquisition device. A language acquisition device is said to be universal, and it is a

part of a child's mental system. This language acquisition device serves as a guide to interpreting and using language for specific purposes.

42. B: Attention. Attention is not a mnemonic strategy. It is the conscious sense of something in our external environment. Mnemonic strategies are used to help people learn, store, and retrieve data. This means that mnemonic devices help get information in the long-term memory as well as maintaining information in the short-term memory. Acrostics, automaticity, chunking, and rehearsal are all examples of mnemonic strategies. Acrostics such as "please excuse my dear aunt Sally" are used to help students remember important concepts. The aforementioned is utilized to remember the order of operations in mathematics. Automaticity is learning something until it becomes second nature, like driving a car. Chunking is the act of categorizing information in one unit, such as FBI, instead of each word separately. Rehearsal is simply learning something by constantly repeating it.

43. A: Long-term memory. Permanent memories are kept in long-term memory. Sensory memory is awareness for a few seconds of what the senses pick up. Short-term memory is also known as working memory. It is where memory is kept for a short period of time allowing perception of information. The data in the working memory needs to be transferred to the long-term memory in order for it to permanently retained.

44. A: Alfred Binet. Alfred Binet is credited with being the first person to create an intelligence test. This intelligence test was a group of questions about topics studied in French schools. The test scores were basically compared with other test scores of test takers the same age in order to yield a norm for each age. As such, a mental age was determined by the score the student received. A 7-year-old student, for instance, who scored the same as the average 11 year old would be said to have a mental age of 11. This form of calculating intelligence is still used in intelligence quotient (IQ) tests today. IQ tests are norm-referenced tests.

45. E: Charles Spearman. Charles Spearman coined the letter "g" to stand for general intelligence. General intelligence is essentially the belief that underlies IQ tests that render one test score. It assumes that there is only one skill that gives a person the means to solve many different problems.

46. E: All of the above. Motivation can be influenced by biological and social-psychological factors such as achievement, affiliation, and hunger.

47. C: Glucose and insulin. Glucose and insulin are both biological products that motivate hunger. Glucose is a blood sugar that gives the body energy. People are likely to be hungry when the glucose level in the body is low. A low glucose level indicates that a person has not eaten in a while. When glucose is high in the blood, it causes insulin to be released. Insulin is a hormone found in the pancreas. Insulin changes glucose into fat. This removes it from the blood stream.

48. C: Lateral hypothalamus. Lateral hypothalamus, consisting of both sides of the hypothalamus, increases hunger. When it is stimulated, it can cause a person to eat even the person is full. If the lateral hypothalamus is damaged, it can cause a starving person not to eat.

49. D: The set point. The set point is the weight that the body works to maintain. Each person has a different set point. Once a person's weight gets lower than the set point, the person will experience hunger, causing the person to eat more and do less activity. The person will begin to feel lethargic. This causes the person to gain weight. When a person's weight gets higher than his set point, hunger will decrease while energy increases. This will cause a person to lose weight. There are also social-psychological factors that contribute to and regulate hunger and eating.

50. A: Cannon-Bard theory. The Cannon-Bard theory of emotion states that arousal and a subjective emotional experience will occur at the same time when a person thinks that a stimulus can affect his well-being. An example would be a person experiencing an elevated heart rate while realizing that he is angry because his neighbor let a dangerous dog run rampant in the neighborhood.

51. C: James-Lange theory. In the James-Lange theory, the stimulus causes a physiological arousal, which causes an emotion. If the physiological arousal were absent, there would be no accompanying emotion.

52. E: Two-factor theory. The belief that what we call each emotion is what makes emotions different from one another is known as the two-factor theory of emotion. This concept says that the physiological arousal is the same regardless of which emotion one experiences. The same physiological change can cause love and anger alike, depending on what the individual decides to call it or how the person responds to the physiological change.

53. D: All of the above. Cross-sectional, cross-sequential, and longitudinal studies all allow researchers to make inferences about how people develop or change over time. Cross-sectional studies basically compare information or views from different age groups at a certain point in time. For instance, a researcher may compare the views of 15-year-old participants, 25-year-old participants, and 35-year-old participants. The problems with this type of research are that it tracks different people without knowing whether changes are due to age, environment, or other circumstantial factors. Researchers resolve this issue by doing longitudinal studies where the same cohort is studied for a long period of time. Cross-sequential studies have combined cross-sectional and longitudinal studies to track people of different ages over a long period of time.

54. B: Cross-sequential. Cross-sequential studies are a type of research method utilized to track different people at varying age levels over a long period of time. It is a combination of the cross-sectional and longitudinal research methods.

55. C: Longitudinal. Longitudinal studies track a group of people who are the same age for a long period of time. Research on a group of 25-year-old participants for 10 years is an example of a longitudinal study.

56. E: None of the above. None of these are stages in Piaget's theory of cognitive development. They are all stages in Erikson's theory of psychosocial development. According to Erikson's theory, some type of tension must exist in order for change to take place. Erikson's theory of psychosocial development has eight stages, in which a person struggles through crises to determine her character.

57. D: All of the above: assimilation, conservation, and object permanence. All of these terms are part of Piaget's theory of cognitive development. Assimilation is the process of joining new information with old information in order to make sense out of the new information. Conservation is the understanding that just because the form of something changes does not mean that its quantity changes. Object permanence is the ability to understand that items still exist even though the person may not see or sense them.

58. C: Object permanence. Object permanence is the ability to understand that items still exist even though the person may not see or sense them. The sensorimotor stage in Piaget's theory of cognitive development is characterized by a lack of object permanence.

59. A: Autonomy vs. doubt and shame. Autonomy vs. doubt and shame is a stage in Erikson's theory of psychosocial development. It is a crisis that occurs when a child is between the ages of 1 and 3 years.

60. E: None of the above. Generativity vs. stagnation is the seventh stage in Erikson's theory of psychosocial development. It generally happens around the ages of 36–55. The crisis in this stage is whether to be altruistic or selfish, since one's children are no longer at home. Will the person share his life's knowledge, wisdom, and experience with younger people or will the person concentrate on his own physical and mental capabilities?

61. D: All of the above: autonomy vs. doubt and shame, identity vs. role confusion, and trust vs. mistrust. All of these stages are indicative of what a child desires to accomplish versus what a child is allowed to do. The two other stages in Erikson's theory of psychosocial development that are indicative of this are initiative vs. guilt and industry vs. inferiority.

62. D: All of the above: Carl Jung, Karen Horney, and Sigmund Freud. These theorists all agreed that a person's actions are motivated by unconscious needs to please others and still meet her own needs.

63. C: Sigmund Freud. In his theory of psychoanalysis, Sigmund Freud developed a theory of personality components known as the id, the ego, and the superego. These components describe the unique thoughts, emotions, and actions of an individual. The id is the biological portion of personality; the ego is the rational aspect of personality; and the superego is essentially the social portion of personality.

64. B: id. The id is one of three components of personality in Sigmund Freud's theory of psychoanalysis. It is the component that deals with the biological aspect of personality. The id operates in accordance with the pleasure principle. The pleasure principle basically says that a person will do what makes him feel good at any given point in time.

65. C: Phallic stage. The Oedipus complex is a part of the phallic stage in Freud's psychosexual stages. The phallic stage begins at about 4 years of age, according to Freud. What happens during this stage depends on whether the child is a boy or a girl. If the child is a boy, he will experience the Oedipus complex. This is where the boy becomes sexually attracted to his mother and fears that his father may cut off the boy's penis to get rid of the competition. The boy begins to feel castration anxiety. Girls, on the other hand, experience penis envy when they realize that they do not have a penis. Girls will then begin to desire their fathers.

66. A: Conditions of worth. Basically, conditions of worth are an imposition by parents and others put on children to do what the parents or others want in order to be valued. This causes the child to give up her true self in order to please the person imposing these conditions of worth.

67. D: Social cognitive. Reciprocal determinism is part of the social cognitive approach to personality. Reciprocal determinism is the idea that a person's thoughts, actions, and environment basically work together to determine a person's behavior.

68. A: Aggression. The Big Five personality traits are agreeableness, conscientiousness, extroversion, neuroticism, and openness. This classification system is an attempt to collapse the many different traits pertaining to personality into a few foundational traits that describe consistent behavior.

69. A: Abnormal psychology. Abnormal psychology is the branch of psychology that focuses on psychological disorders. There are many psychological therapies that deal with psychological disorders, including, behavior modification, cognitive therapies, humanistic therapies, and psychoanalysis.

70. C: Obsessive-compulsive disorder (OCD). When people are compelled to repeat behaviors, it is a compulsion that they cannot control. Compulsions can manifest themselves in any form, including constantly checking doors, repeatedly washing hands, or constantly brushing the teeth. Obsessions are also a part of OCD. Obsessive behaviors can include a preoccupation with germ, impending doom, or cleanliness.

71. C: Mood disorders. People with mood disorders typically struggle with depression, mania, or both. A person with a major depressive disorder will experience sadness, hopelessness, and discouragement. Each feeling will last for at least 14 days. People with this type of disorder usually lose interest in anything enjoyable. Bipolar disorders cause people to alternate opposite mood swings, such as going from depression to excitement, which leads to taking risky chances. This excessive enthusiasm is called mania.

72. B: Dissociative fugue. Dissociative fugue occurs when a person suddenly adventures away from home or work, does not remember his past, and becomes confused about his identity. He will sometimes take on a new identity. Dissociative amnesia occurs when a person experiences a stressful event, causing him to forget information or pieces of information. It can be brought on by other factors as well. Dissociative identity disorder is another name for multiple personalities. A person with dissociative identity disorder will have at least two separate personalities. One personality is not necessarily aware of the other.

73. D: Paranoid schizophrenia. People often get schizophrenia mixed up with multiple personalities. People with schizophrenia suffer from delusions and hallucinations, while a person with multiple personalities has at least two separate personalities. Paranoid schizophrenia is characterized by delusions of grandeur or delusions of persecution. A person suffering from delusions of grandeur will believe that he is an influential or famous person. Someone struggling with delusions of persecution will think that people are out to get him and want to harm him. Typically, a person who has delusions of persecution will hear voices that perpetuate his delusions, such as "you are being watched."

74. E: Somatoform. Somatoform disorders occur when a person has all the physical symptoms of a disease, but he does not medically have the disease. Conversion disorder is a type of somatoform disorder in which the motor or sensory abilities are somehow impaired, but the impairment is due to psychological issues rather than neurological problems. Another somatoform disorder is hypochondriasis, where a person is so afraid of or preoccupied with having an illness that no one can convince him otherwise (not even a doctor). It is important to note that a person with hypochondriasis does not have any real physical problems.

75. D: Paranoid personality. Paranoid personality is characterized by distrust and suspicion. A person who has a paranoid personality does not suffer from delusions, but this person will be distrustful and suspicious. A person with paranoid schizophrenia does, however, suffer from delusions of grandeur or of persecution. Borderline personality disorder is where a person is incapable of keeping relationships and has mood swings in emotions and self-image. An antisocial personality lacks a conscience, is impulsive, and ignores the rights of others. Narcissistic personalities are incapable of showing empathy for others. They will stop at nothing to be recognized or praised, even if the notoriety is negative. These personalities are consumed with fantasies of recognition of successes or accomplishments.

76. A: Cognitive. The cognitive approach to abnormal behavior suggests that abnormal behavior is due to a person's consistently thinking in an abnormal manner. For instance, a person who is depressed may think that her success is controlled by someone or something other than herself. The same person will insist that her failures are because of her own inadequacies.

77. B: Learning or behavioral approach. The learning or behavioral approach suggests that abnormal behavior is a learned behavior that has been classically or operantly conditioned in some way. Jesse's example shows how someone can teach a person how to behave abnormally. Jesse was operantly conditioned by his mother, who was only trying to help him. She did not understand that she was reinforcing abnormal behavior by rewarding him.

78. D: All of the above: behavior modification, cognitive therapies, and humanistic therapies. Psychological approaches deal with psychoanalysis as well. A psychological approach is one of two ways to deal with psychological disorders. The other way is through medical approaches, which use drugs or surgery to treat patients. Psychological therapies depend on some type of building of a relationship between client and therapist.

79. E: Psychoanalysis. Psychoanalysis describes catharsis as a term used in this approach. Energy that was once used to repress memories that have returned to consciousness can through catharsis be used to deal with this problem in a healthy manner.
80. E: Psychoanalysis. Free association occurs when a psychoanalyst guides a client into a deep state of relaxation with instructions to say the first thing about an incident of memory that comes to mind. This is often done to help clients retrieve painful memories or dreams.

81. D: Humanistic therapies. "Active learning" is a term introduced by humanist Carl Rogers to provide client-centered therapy. The term "client," as opposed to "patient," is generally utilized when dealing with psychological disorders. Active learning is a process by which a therapist repeats what the client says in the form of a paraphrase. The therapist asks the client to expound on her statements and make assertions clear. Additionally, the therapist

engaging in active listening restates what he thinks the client has been saying about her feelings.

82. C: Cognitive therapies. Cognitive therapies deal with the way a person thinks in relation to abnormal behavior. Because actions are driven by thoughts, thinking in an abnormal manner leads to abnormal behavior. Cognitive therapies basically try to change the way a person thinks so that he can view the world in a healthy, rational manner.

83. A: Behavior modification. Behavior modification uses classical and operant conditioning in order to alter abnormal behavior. Systematic desensitization is a technique used in behavior modification. Relaxation procedures are often leaned before a systematic desensitization program begins. A client is slowly desensitized by replacing anxiety with relaxation. The therapist simulates a subtle fear-arousing scenario just to have the client relax during the scenario. Step by step, the therapist will increase the dosage of fear, each time having the client relax during the situation. The fear-arousing scenario will gradually mimic the original situation that caused the fear, until the client can relax during the same situation that originally caused the fear.

84. B: Biological therapies. Biological therapies or medical therapies depend on drugs or surgery to change how the brain functions.

85. D: All of the above: social cognition, social influence, and social relationships. These are all areas in social psychology. Social psychology deals with how a person's actions are swayed by others.

86. A: Social cognition. How information about other people is processed is known as social cognition. Attribution theory gives two types of explanations that people tend to use to describe how other people behave. The concepts in the theory do not denote rational or logical thinking on the part of the person doing the attributing. Dispositional or internal attributions deal with explanations that have something to do with internal factors such as maturity, intelligence, and personality. An example of dispositional attribution would be a person's attributing his neighbor's quick response to the neighbor's wisdom. When a person's behavior is attributed to external sources, this is called situational or external attribution. An example of external attribution is where a person notices that a neighbor has arrived home at the precise time a UPS driver is delivering a package. The person attributes luck to the neighbor's getting home just in time to receive the package.

87. C: Cognitive dissonance theory. Cognitive dissonance theory says that a person may do that which is the opposite of her belief or attitudes in order to explain away her behavior and thus feel better about it. For instance, Jamia got an abortion despite a strong belief/attitude against it.

88. D: Stanley Milgram. Stanley Milgram was responsible for doing a phony learning study in which teachers were told to shock students ever time a wrong answer was given. The teachers were told that each shock would be progressively worse. If a teacher tried to decline participation, the authority would insist that the teacher continue. Even though no electrical shocks were actually given, the students and teachers believed that the shocks were being given. Students began to complain of physical symptoms as the supposed shocks increased. Sixty-three percent of the teachers delivered shocks until the end. This experiment was done to show the level of obedience to authority.

89. C: Low-balling. Low-balling occurs when someone gets a person to agree to or commit to something before all the information is given about what will be required to fulfill the agreement or commitment. Sarah asked her friend to babysit while she went out on a date with her boyfriend, and Sarah's friend agreed; of course, Sarah didn't tell her at the time that the date would last a week.

90. B: Kitty Genovese. This incident actually happened in Queens, New York. The more witnesses there are, the less likely it is that someone will call for help in situations like this one, due to diffusion of responsibility. This diffusion leads to what is called the bystander effect.

91. E: Social-exchange theory. According to this theory, a person's goal in life is to get as many rewards as possible while not having to pay the costs. This is called the minimax principle.

92. A: Content validity. Content or face validity refers to the ability of a test to look like it is measuring what it is supposed to measure. For instance, face validity is usually used for driver's tests. This test of validity would not be used in psychological tests.

93. D: All of the above. Mean, mode, and standard deviation are descriptive statistics. The mean is the average, the mode is the score that is obtained the most, and standard deviation is how the scores are dispersed in relation to the mean in a set of data.

94. A: Population. In research, a population is the entire membership of any group or entity. An example might be Black Americans. The population in this case would have to include every single Black American. None could be left out in order for it to be a population.

Constructed Response

Your assignment is to design a scientific learning center in detail using the following criteria:

- Scientific learning centers are designated areas in the classroom where students participate in specific activities to acquire certain learning skills or knowledge
- When used in a classroom, these centers can be an effective method for fostering independent or small group work
- Students typically work in these learning centers without direct instruction from the teacher
- They may receive instructions from the teacher, but all work accomplished in the centers is self-directed
- Generally, the activities are structured
- The centers may be separate from one another, or it may be required that work be completed in one center before students are allowed to proceed to the next
- Students can work in these centers in small groups, pairs, or individually, depending on the task

Secret Key #1 - Time is Your Greatest Enemy

Pace Yourself

Wear a watch. At the beginning of the test, check the time (or start a chronometer on your watch to count the minutes), and check the time after every few questions to make sure you are "on schedule."

If you are forced to speed up, do it efficiently. Usually one or more answer choices can be eliminated without too much difficulty. Above all, don't panic. Don't speed up and just begin guessing at random choices. By pacing yourself, and continually monitoring your progress against your watch, you will always know exactly how far ahead or behind you are with your available time. If you find that you are one minute behind on the test, don't skip one question without spending any time on it, just to catch back up. Take 15 fewer seconds on the next four questions, and after four questions you'll have caught back up. Once you catch back up, you can continue working each problem at your normal pace.

Furthermore, don't dwell on the problems that you were rushed on. If a problem was taking up too much time and you made a hurried guess, it must be difficult. The difficult questions are the ones you are most likely to miss anyway, so it isn't a big loss. It is better to end with more time than you need than to run out of time.

Lastly, sometimes it is beneficial to slow down if you are constantly getting ahead of time. You are always more likely to catch a careless mistake by working more slowly than quickly, and among very high-scoring test takers (those who are likely to have lots of time left over), careless errors affect the score more than mastery of material.

Secret Key #2 - Guessing is not Guesswork

You probably know that guessing is a good idea - unlike other standardized tests, there is no penalty for getting a wrong answer. Even if you have no idea about a question, you still have a 20-25% chance of getting it right.

Most test takers do not understand the impact that proper guessing can have on their score. Unless you score extremely high, guessing will significantly contribute to your final score.

Monkeys Take the Test

What most test takers don't realize is that to insure that 20-25% chance, you have to guess randomly. If you put 20 monkeys in a room to take this test, assuming they answered once per question and behaved themselves, on average they would get 20-25% of the questions correct. Put 20 test takers in the room, and the average will be much lower among guessed

questions. Why?

1. The test writers intentionally write deceptive answer choices that "look" right. A test taker has no idea about a question, so picks the "best looking" answer, which is often wrong. The monkey has no idea what looks good and what doesn't, so will consistently be lucky about 20-25% of the time.
2. Test takers will eliminate answer choices from the guessing pool based on a hunch or intuition. Simple but correct answers often get excluded, leaving a 0% chance of being correct. The monkey has no clue, and often gets lucky with the best choice.

This is why the process of elimination endorsed by most test courses is flawed and detrimental to your performance- test takers don't guess, they make an ignorant stab in the dark that is usually worse than random.

$5 Challenge

Let me introduce one of the most valuable ideas of this course- the $5 challenge:

You only mark your "best guess" if you are willing to bet $5 on it.
You only eliminate choices from guessing if you are willing to bet $5 on it.

Why $5? Five dollars is an amount of money that is small yet not insignificant, and can really add up fast (20 questions could cost you $100). Likewise, each answer choice on one question of the test will have a small impact on your overall score, but it can really add up to a lot of points in the end.

The process of elimination IS valuable. The following shows your chance of guessing it right:

If you eliminate wrong answer choices until only this many remain:	Chance of getting it correct:
1	100%
2	50%
3	33%

However, if you accidentally eliminate the right answer or go on a hunch for an incorrect answer, your chances drop dramatically: to 0%. By guessing among all the answer choices, you are GUARANTEED to have a shot at the right answer.

That's why the $5 test is so valuable- if you give up the advantage and safety of a pure guess, it had better be worth the risk.

What we still haven't covered is how to be sure that whatever guess you make is truly random. Here's the easiest way:

Always pick the first answer choice among those remaining.

Such a technique means that you have decided, **before you see a single test question**, exactly how you are going to guess- and since the order of choices tells you nothing about which one is correct, this guessing technique is perfectly random.

This section is not meant to scare you away from making educated guesses or eliminating choices- you just need to define when a choice is worth eliminating. The $5 test, along with a pre-defined random guessing strategy, is the best way to make sure you reap all of the benefits of guessing.

Secret Key #3 - Practice Smarter, Not Harder

Many test takers delay the test preparation process because they dread the awful amounts of practice time they think necessary to succeed on the test. We have refined an effective method that will take you only a fraction of the time.

There are a number of "obstacles" in your way to succeed. Among these are answering questions, finishing in time, and mastering test-taking strategies. All must be executed on the day of the test at peak performance, or your score will suffer. The test is a mental marathon that has a large impact on your future.

Just like a marathon runner, it is important to work your way up to the full challenge. So first you just worry about questions, and then time, and finally strategy:

Success Strategy

1. Find a good source for practice tests.
2. If you are willing to make a larger time investment, consider using more than one study guide- often the different approaches of multiple authors will help you "get" difficult concepts.
3. Take a practice test with no time constraints, with all study helps "open book." Take your time with questions and focus on applying strategies.
4. Take a practice test with time constraints, with all guides "open book."
5. Take a final practice test with no open material and time limits

If you have time to take more practice tests, just repeat step 5. By gradually exposing yourself to the full rigors of the test environment, you will condition your mind to the stress of test day and maximize your success.

Secret Key #4 - Prepare, Don't Procrastinate

Let me state an obvious fact: if you take the test three times, you will get three different scores. This is due to the way you feel on test day, the level of preparedness you have, and, despite the test writers' claims to the contrary, some tests WILL be easier for you than others.

Since your future depends so much on your score, you should maximize your chances of success. In order to maximize the likelihood of success, you've got to prepare in advance. This means taking practice tests and spending time learning the information and test taking strategies you will need to succeed.

Never take the test as a "practice" test, expecting that you can just take it again if you need to. Feel free to take sample tests on your own, but when you go to take the official test, be prepared, be focused, and do your best the first time!

Secret Key #5 - Test Yourself

Everyone knows that time is money. There is no need to spend too much of your time or too little of your time preparing for the test. You should only spend as much of your precious time preparing as is necessary for you to get the score you need.

Once you have taken a practice test under real conditions of time constraints, then you will know if you are ready for the test or not.
If you have scored extremely high the first time that you take the practice test, then there is not much point in spending countless hours studying. You are already there.

Benchmark your abilities by retaking practice tests and seeing how much you have improved. Once you score high enough to guarantee success, then you are ready.

If you have scored well below where you need, then knuckle down and begin studying in earnest. Check your improvement regularly through the use of practice tests under real conditions. Above all, don't worry, panic, or give up. The key is perseverance!

Then, when you go to take the test, remain confident and remember how well you did on the practice tests. If you can score high enough on a practice test, then you can do the same on the real thing.

General Strategies

The most important thing you can do is to ignore your fears and jump into the test immediately- do not be overwhelmed by any strange-sounding terms. You have to jump into the test like jumping into a pool- all at once is the easiest way.

Make Predictions

As you read and understand the question, try to guess what the answer will be. Remember that several of the answer choices are wrong, and once you begin reading them, your mind will immediately become cluttered with answer choices designed to throw you off. Your mind is typically the most focused immediately after you have read the question and digested its contents. If you can, try to predict what the correct answer will be. You may be surprised at what you can predict.
Quickly scan the choices and see if your prediction is in the listed answer choices. If it is,

then you can be quite confident that you have the right answer. It still won't hurt to check the other answer choices, but most of the time, you've got it!

Answer the Question

It may seem obvious to only pick answer choices that answer the question, but the test writers can create some excellent answer choices that are wrong. Don't pick an answer just because it sounds right, or you believe it to be true. It MUST answer the question. Once you've made your selection, always go back and check it against the question and make sure that you didn't misread the question, and the answer choice does answer the question posed.

Benchmark

After you read the first answer choice, decide if you think it sounds correct or not. If it doesn't, move on to the next answer choice. If it does, mentally mark that answer choice. This doesn't mean that you've definitely selected it as your answer choice, it just means that it's the best you've seen thus far. Go ahead and read the next choice. If the next choice is worse than the one you've already selected, keep going to the next answer choice. If the next choice is better than the choice you've already selected, mentally mark the new answer choice as your best guess.

The first answer choice that you select becomes your standard. Every other answer choice must be benchmarked against that standard. That choice is correct until proven otherwise by another answer choice beating it out. Once you've decided that no other answer choice seems as good, do one final check to ensure that your answer choice answers the question posed.

Valid Information

Don't discount any of the information provided in the question. Every piece of information may be necessary to determine the correct answer. None of the information in the question is there to throw you off (while the answer choices will certainly have information to throw you off). If two seemingly unrelated topics are discussed, don't ignore either. You can be confident there is a relationship, or it wouldn't be included in the question, and you are probably going to have to determine what is that relationship to find the answer.

Avoid "Fact Traps"

Don't get distracted by a choice that is factually true. Your search is for the answer that answers the question. Stay focused and don't fall for an answer that is true but incorrect. Always go back to the question and make sure you're choosing an answer that actually answers the question and is not just a true statement. An answer can be factually correct, but it MUST answer the question asked. Additionally, two answers can both be seemingly correct, so be sure to read all of the answer choices, and make sure that you get the one that BEST answers the question.

Milk the Question

Some of the questions may throw you completely off. They might deal with a subject you have not been exposed to, or one that you haven't reviewed in years. While your lack of knowledge about the subject will be a hindrance, the question itself can give you many clues that will help you find the correct answer. Read the question carefully and look for clues. Watch particularly for adjectives and nouns describing difficult terms or words that you

don't recognize. Regardless of if you completely understand a word or not, replacing it with a synonym either provided or one you more familiar with may help you to understand what the questions are asking. Rather than wracking your mind about specific detailed information concerning a difficult term or word, try to use mental substitutes that are easier to understand.

The Trap of Familiarity

Don't just choose a word because you recognize it. On difficult questions, you may not recognize a number of words in the answer choices. The test writers don't put "make-believe" words on the test; so don't think that just because you only recognize all the words in one answer choice means that answer choice must be correct. If you only recognize words in one answer choice, then focus on that one. Is it correct? Try your best to determine if it is correct. If it is, that is great, but if it doesn't, eliminate it. Each word and answer choice you eliminate increases your chances of getting the question correct, even if you then have to guess among the unfamiliar choices.

Eliminate Answers

Eliminate choices as soon as you realize they are wrong. But be careful! Make sure you consider all of the possible answer choices. Just because one appears right, doesn't mean that the next one won't be even better! The test writers will usually put more than one good answer choice for every question, so read all of them. Don't worry if you are stuck between two that seem right. By getting down to just two remaining possible choices, your odds are now 50/50. Rather than wasting too much time, play the odds. You are guessing, but guessing wisely, because you've been able to knock out some of the answer choices that you know are wrong. If you are eliminating choices and realize that the last answer choice you are left with is also obviously wrong, don't panic. Start over and consider each choice again. There may easily be something that you missed the first time and will realize on the second pass.

Tough Questions

If you are stumped on a problem or it appears too hard or too difficult, don't waste time. Move on! Remember though, if you can quickly check for obviously incorrect answer choices, your chances of guessing correctly are greatly improved. Before you completely give up, at least try to knock out a couple of possible answers. Eliminate what you can and then guess at the remaining answer choices before moving on.

Brainstorm

If you get stuck on a difficult question, spend a few seconds quickly brainstorming. Run through the complete list of possible answer choices. Look at each choice and ask yourself, "Could this answer the question satisfactorily?" Go through each answer choice and consider it independently of the other. By systematically going through all possibilities, you may find something that you would otherwise overlook. Remember that when you get stuck, it's important to try to keep moving.

Read Carefully

Understand the problem. Read the question and answer choices carefully. Don't miss the question because you misread the terms. You have plenty of time to read each question thoroughly and make sure you understand what is being asked. Yet a happy medium must be attained, so don't waste too much time. You must read carefully, but efficiently.

Face Value

When in doubt, use common sense. Always accept the situation in the problem at face value. Don't read too much into it. These problems will not require you to make huge leaps of logic. The test writers aren't trying to throw you off with a cheap trick. If you have to go beyond creativity and make a leap of logic in order to have an answer choice answer the question, then you should look at the other answer choices. Don't overcomplicate the problem by creating theoretical relationships or explanations that will warp time or space. These are normal problems rooted in reality. It's just that the applicable relationship or explanation may not be readily apparent and you have to figure things out. Use your common sense to interpret anything that isn't clear.

Prefixes

If you're having trouble with a word in the question or answer choices, try dissecting it. Take advantage of every clue that the word might include. Prefixes and suffixes can be a huge help. Usually they allow you to determine a basic meaning. Pre- means before, post- means after, pro - is positive, de- is negative. From these prefixes and suffixes, you can get an idea of the general meaning of the word and try to put it into context. Beware though of any traps. Just because con is the opposite of pro, doesn't necessarily mean congress is the opposite of progress!

Hedge Phrases

Watch out for critical "hedge" phrases, such as likely, may, can, will often, sometimes, often, almost, mostly, usually, generally, rarely, sometimes. Question writers insert these hedge phrases to cover every possibility. Often an answer choice will be wrong simply because it leaves no room for exception. Avoid answer choices that have definitive words like "exactly," and "always".

Switchback Words

Stay alert for "switchbacks". These are the words and phrases frequently used to alert you to shifts in thought. The most common switchback word is "but". Others include although, however, nevertheless, on the other hand, even though, while, in spite of, despite, regardless of.

New Information

Correct answer choices will rarely have completely new information included. Answer choices typically are straightforward reflections of the material asked about and will directly relate to the question. If a new piece of information is included in an answer choice that doesn't even seem to relate to the topic being asked about, then that answer choice is likely incorrect. All of the information needed to answer the question is usually provided for you, and so you should not have to make guesses that are unsupported or choose answer choices that require unknown information that cannot be reasoned on its own.

Time Management

On technical questions, don't get lost on the technical terms. Don't spend too much time on any one question. If you don't know what a term means, then since you don't have a dictionary, odds are you aren't going to get much further. You should immediately recognize terms as whether or not you know them. If you don't, work with the other clues that you have, the other answer choices and terms provided, but don't waste too much time

trying to figure out a difficult term.

Contextual Clues

Look for contextual clues. An answer can be right but not correct. The contextual clues will help you find the answer that is most right and is correct. Understand the context in which a phrase or statement is made. This will help you make important distinctions.

Don't Panic

Panicking will not answer any questions for you. Therefore, it isn't helpful. When you first see the question, if your mind goes blank, take a deep breath. Force yourself to mechanically go through the steps of solving the problem and using the strategies you've learned.

Pace Yourself

Don't get clock fever. It's easy to be overwhelmed when you're looking at a page full of questions, your mind is full of random thoughts and feeling confused, and the clock is ticking down faster than you would like. Calm down and maintain the pace that you have set for yourself. As long as you are on track by monitoring your pace, you are guaranteed to have enough time for yourself. When you get to the last few minutes of the test, it may seem like you won't have enough time left, but if you only have as many questions as you should have left at that point, then you're right on track!

Answer Selection

The best way to pick an answer choice is to eliminate all of those that are wrong, until only one is left and confirm that is the correct answer. Sometimes though, an answer choice may immediately look right. Be careful! Take a second to make sure that the other choices are not equally obvious. Don't make a hasty mistake. There are only two times that you should stop before checking other answers. First is when you are positive that the answer choice you have selected is correct. Second is when time is almost out and you have to make a quick guess!

Check Your Work

Since you will probably not know every term listed and the answer to every question, it is important that you get credit for the ones that you do know. Don't miss any questions through careless mistakes. If at all possible, try to take a second to look back over your answer selection and make sure you've selected the correct answer choice and haven't made a costly careless mistake (such as marking an answer choice that you didn't mean to mark). This quick double check should more than pay for itself in caught mistakes for the time it costs.

Beware of Directly Quoted Answers

Sometimes an answer choice will repeat word for word a portion of the question or reference section. However, beware of such exact duplication – it may be a trap! More than likely, the correct choice will paraphrase or summarize a point, rather than being exactly the same wording.

Slang

Scientific sounding answers are better than slang ones. An answer choice that begins "To compare the outcomes…" is much more likely to be correct than one that begins "Because some people insisted…"

Extreme Statements

Avoid wild answers that throw out highly controversial ideas that are proclaimed as established fact. An answer choice that states the "process should used in certain situations, if…" is much more likely to be correct than one that states the "process should be discontinued completely." The first is a calm rational statement and doesn't even make a definitive, uncompromising stance, using a hedge word "if" to provide wiggle room, whereas the second choice is a radical idea and far more extreme.

Answer Choice Families

When you have two or more answer choices that are direct opposites or parallels, one of them is usually the correct answer. For instance, if one answer choice states "x increases" and another answer choice states "x decreases" or "y increases," then those two or three answer choices are very similar in construction and fall into the same family of answer choices. A family of answer choices is when two or three answer choices are very similar in construction, and yet often have a directly opposite meaning. Usually the correct answer choice will be in that family of answer choices. The "odd man out" or answer choice that doesn't seem to fit the parallel construction of the other answer choices is more likely to be incorrect.

Special Report: What is Test Anxiety and How to Overcome It?

The very nature of tests caters to some level of anxiety, nervousness or tension, just as we feel for any important event that occurs in our lives. A little bit of anxiety or nervousness can be a good thing. It helps us with motivation, and makes achievement just that much sweeter. However, too much anxiety can be a problem; especially if it hinders our ability to function and perform.

"Test anxiety," is the term that refers to the emotional reactions that some test-takers experience when faced with a test or exam. Having a fear of testing and exams is based upon a rational fear, since the test-taker's performance can shape the course of an academic career. Nevertheless, experiencing excessive fear of examinations will only interfere with the test-takers ability to perform, and his/her chances to be successful.

There are a large variety of causes that can contribute to the development and sensation of test anxiety. These include, but are not limited to lack of performance and worrying about issues surrounding the test.

Lack of Preparation

Lack of preparation can be identified by the following behaviors or situations:

Not scheduling enough time to study, and therefore cramming the night before the test or exam
Managing time poorly, to create the sensation that there is not enough time to do everything
Failing to organize the text information in advance, so that the study material consists of the entire text and not simply the pertinent information
Poor overall studying habits

Worrying, on the other hand, can be related to both the test taker, or many other factors around him/her that will be affected by the results of the test. These include worrying about:

Previous performances on similar exams, or exams in general
How friends and other students are achieving
The negative consequences that will result from a poor grade or failure

There are three primary elements to test anxiety. Physical components, which involve the same typical bodily reactions as those to acute anxiety (to be discussed below). Emotional factors have to do with fear or panic. Mental or cognitive issues concerning attention spans and memory abilities.

Physical Signals

There are many different symptoms of test anxiety, and these are not limited to mental and emotional strain. Frequently there are a range of physical signals that will let a test taker know that he/she is suffering from test anxiety. These bodily changes can include the following:

Perspiring
Sweaty palms
Wet, trembling hands
Nausea
Dry mouth
A knot in the stomach
Headache
Faintness
Muscle tension
Aching shoulders, back and neck
Rapid heart beat
Feeling too hot/cold

To recognize the sensation of test anxiety, a test-taker should monitor him/herself for the following sensations:

The physical distress symptoms as listed above
Emotional sensitivity, expressing emotional feelings such as the need to cry or laugh too much, or a sensation of anger or helplessness
A decreased ability to think, causing the test-taker to blank out or have racing thoughts that are hard to organize or control.

Though most students will feel some level of anxiety when faced with a test or exam, the majority can cope with that anxiety and maintain it at a manageable level. However, those who cannot are faced with a very real and very serious condition, which can and should be controlled for the immeasurable benefit of this sufferer.

Naturally, these sensations lead to negative results for the testing experience. The most common effects of test anxiety have to do with nervousness and mental blocking.

Nervousness

Nervousness can appear in several different levels:

The test-takers difficulty, or even inability to read and understand the questions on the test
The difficulty or inability to organize thoughts to a coherent form
The difficulty or inability to recall key words and concepts relating to the testing questions (especially essays)
The receipt of poor grades on a test, though the test material was well known by the test taker

Conversely, a person may also experience mental blocking, which involves:

Blanking out on test questions
Only remembering the correct answers to the questions when the test has already finished.

Fortunately for test anxiety sufferers, beating these feelings, to a large degree, has to do with proper preparation. When a test taker has a feeling of preparedness, then anxiety will be dramatically lessened.

The first step to resolving anxiety issues is to distinguish which of the two types of anxiety are being suffered. If the anxiety is a direct result of a lack of preparation, this should be considered a normal reaction, and the anxiety level (as opposed to the test results) shouldn't be anything to worry about. However, if, when adequately prepared, the test-taker still panics, blanks out, or seems to overreact, this is not a fully rational reaction. While this can be considered normal too, there are many ways to combat and overcome these effects.

Remember that anxiety cannot be entirely eliminated, however, there are ways to minimize it, to make the anxiety easier to manage. Preparation is one of the best ways to minimize test anxiety. Therefore the following techniques are wise in order to best fight off any anxiety that may want to build.

To begin with, try to avoid cramming before a test, whenever it is possible. By trying to memorize an entire term's worth of information in one day, you'll be shocking your system, and not giving yourself a very good chance to absorb the information. This is an easy path to anxiety, so for those who suffer from test anxiety, cramming should not even be considered an option.

Instead of cramming, work throughout the semester to combine all of the material which is presented throughout the semester, and work on it gradually as the course goes by, making sure to master the main concepts first, leaving minor details for a week or so before the test.

To study for the upcoming exam, be sure to pose questions that may be on the examination, to gauge the ability to answer them by integrating the ideas from your texts, notes and lectures, as well as any supplementary readings.

If it is truly impossible to cover all of the information that was covered in that particular term, concentrate on the most important portions, that can be covered very well. Learn these concepts as best as possible, so that when the test comes, a goal can be made to use these concepts as presentations of your knowledge.

In addition to study habits, changes in attitude are critical to beating a struggle with test anxiety. In fact, an improvement of the perspective over the entire test-taking experience can actually help a test taker to enjoy studying and therefore improve the overall experience. Be certain not to overemphasize the significance of the grade - know that the result of the test is neither a reflection of self worth, nor is it a measure of intelligence; one grade will not predict a person's future success.

To improve an overall testing outlook, the following steps should be tried:

Keeping in mind that the most reasonable expectation for taking a test is to expect to try to demonstrate as much of what you know as you possibly can.
Reminding ourselves that a test is only one test; this is not the only one, and there will be others.
The thought of thinking of oneself in an irrational, all-or-nothing term should be avoided at all costs.
A reward should be designated for after the test, so there's something to look forward to. Whether it be going to a movie, going out to eat, or simply visiting friends, schedule it in advance, and do it no matter what result is expected on the exam.

Test-takers should also keep in mind that the basics are some of the most important things, even beyond anti-anxiety techniques and studying. Never neglect the basic social, emotional and biological needs, in order to try to absorb information. In order to best achieve, these three factors must be held as just as important as the studying itself.

Study Steps

Remember the following important steps for studying:

Maintain healthy nutrition and exercise habits. Continue both your recreational activities and social pass times. These both contribute to your physical and emotional well being.
Be certain to get a good amount of sleep, especially the night before the test, because when you're overtired you are not able to perform to the best of your best ability.
Keep the studying pace to a moderate level by taking breaks when they are needed, and varying the work whenever possible, to keep the mind fresh instead of getting bored.
When enough studying has been done that all the material that can be learned has been learned, and the test taker is prepared for the test, stop studying and do something relaxing such as listening to music, watching a movie, or taking a warm bubble bath.

There are also many other techniques to minimize the uneasiness or apprehension that is experienced along with test anxiety before, during, or even after the examination. In fact, there are a great deal of things that can be done to stop anxiety from interfering with

lifestyle and performance. Again, remember that anxiety will not be eliminated entirely, and it shouldn't be. Otherwise that "up" feeling for exams would not exist, and most of us depend on that sensation to perform better than usual. However, this anxiety has to be at a level that is manageable.

Of course, as we have just discussed, being prepared for the exam is half the battle right away. Attending all classes, finding out what knowledge will be expected on the exam, and knowing the exam schedules are easy steps to lowering anxiety. Keeping up with work will remove the need to cram, and efficient study habits will eliminate wasted time. Studying should be done in an ideal location for concentration, so that it is simple to become interested in the material and give it complete attention. A method such as SQ3R (Survey, Question, Read, Recite, Review) is a wonderful key to follow to make sure that the study habits are as effective as possible, especially in the case of learning from a textbook. Flashcards are great techniques for memorization. Learning to take good notes will mean that notes will be full of useful information, so that less sifting will need to be done to seek out what is pertinent for studying. Reviewing notes after class and then again on occasion will keep the information fresh in the mind. From notes that have been taken summary sheets and outlines can be made for simpler reviewing.

A study group can also be a very motivational and helpful place to study, as there will be a sharing of ideas, all of the minds can work together, to make sure that everyone understands, and the studying will be made more interesting because it will be a social occasion.

Basically, though, as long as the test-taker remains organized and self confident, with efficient study habits, less time will need to be spent studying, and higher grades will be achieved.

To become self confident, there are many useful steps. The first of these is "self talk." It has been shown through extensive research, that self-talk for students who suffer from test anxiety, should be well monitored, in order to make sure that it contributes to self confidence as opposed to sinking the student. Frequently the self talk of test-anxious students is negative or self-defeating, thinking that everyone else is smarter and faster, that they always mess up, and that if they don't do well, they'll fail the entire course. It is important to decreasing anxiety that awareness is made of self talk. Try writing any negative self thoughts and then disputing them with a positive statement instead. Begin self-encouragement as though it was a friend speaking. Repeat positive statements to help reprogram the mind to believing in successes instead of failures.

Helpful Techniques

Other extremely helpful techniques include:

Self-visualization of doing well and reaching goals
While aiming for an "A" level of understanding, don't try to "overprotect" by setting your expectations lower. This will only convince the mind to stop studying in order to meet the lower expectations.
Don't make comparisons with the results or habits of other students. These are individual factors, and different things work for different people, causing different results.
Strive to become an expert in learning what works well, and what can be done in order to improve. Consider collecting this data in a journal.
Create rewards for after studying instead of doing things before studying that will only turn into avoidance behaviors.
Make a practice of relaxing - by using methods such as progressive relaxation, self-hypnosis, guided imagery, etc - in order to make relaxation an automatic sensation.
Work on creating a state of relaxed concentration so that concentrating will take on the focus of the mind, so that none will be wasted on worrying.
Take good care of the physical self by eating well and getting enough sleep.
Plan in time for exercise and stick to this plan.

Beyond these techniques, there are other methods to be used before, during and after the test that will help the test-taker perform well in addition to overcoming anxiety.

Before the exam comes the academic preparation. This involves establishing a study schedule and beginning at least one week before the actual date of the test. By doing this, the anxiety of not having enough time to study for the test will be automatically eliminated. Moreover, this will make the studying a much more effective experience, ensuring that the learning will be an easier process. This relieves much undue pressure on the test-taker.

Summary sheets, note cards, and flash cards with the main concepts and examples of these main concepts should be prepared in advance of the actual studying time. A topic should never be eliminated from this process. By omitting a topic because it isn't expected to be on the test is only setting up the test-taker for anxiety should it actually appear on the exam. Utilize the course syllabus for laying out the topics that should be studied. Carefully go over the notes that were made in class, paying special attention to any of the issues that the professor took special care to emphasize while lecturing in class. In the textbooks, use the chapter review, or if possible, the chapter tests, to begin your review.

It may even be possible to ask the instructor what information will be covered on the exam, or what the format of the exam will be (for example, multiple choice, essay, free form, true-false). Additionally, see if it is possible to find out how many questions will be on the test. If a review sheet or sample test has been offered by the professor, make good use of it, above anything else, for the preparation for the test. Another great resource for getting to know the examination is reviewing tests from previous semesters. Use these tests to review, and

aim to achieve a 100% score on each of the possible topics. With a few exceptions, the goal that you set for yourself is the highest one that you will reach.

Take all of the questions that were assigned as homework, and rework them to any other possible course material. The more problems reworked, the more skill and confidence will form as a result. When forming the solution to a problem, write out each of the steps. Don't simply do head work. By doing as many steps on paper as possible, much clarification and therefore confidence will be formed. Do this with as many homework problems as possible, before checking the answers. By checking the answer after each problem, a reinforcement will exist, that will not be on the exam. Study situations should be as exam-like as possible, to prime the test-taker's system for the experience. By waiting to check the answers at the end, a psychological advantage will be formed, to decrease the stress factor.

Another fantastic reason for not cramming is the avoidance of confusion in concepts, especially when it comes to mathematics. 8-10 hours of study will become one hundred percent more effective if it is spread out over a week or at least several days, instead of doing it all in one sitting. Recognize that the human brain requires time in order to assimilate new material, so frequent breaks and a span of study time over several days will be much more beneficial.

Additionally, don't study right up until the point of the exam. Studying should stop a minimum of one hour before the exam begins. This allows the brain to rest and put things in their proper order. This will also provide the time to become as relaxed as possible when going into the examination room. The test-taker will also have time to eat well and eat sensibly. Know that the brain needs food as much as the rest of the body. With enough food and enough sleep, as well as a relaxed attitude, the body and the mind are primed for success.

Avoid any anxious classmates who are talking about the exam. These students only spread anxiety, and are not worth sharing the anxious sentimentalities.

Before the test also involves creating a positive attitude, so mental preparation should also be a point of concentration. There are many keys to creating a positive attitude. Should fears become rushing in, make a visualization of taking the exam, doing well, and seeing an A written on the paper. Write out a list of affirmations that will bring a feeling of confidence, such as "I am doing well in my English class," "I studied well and know my material," "I enjoy this class." Even if the affirmations aren't believed at first, it sends a positive message to the subconscious which will result in an alteration of the overall belief system, which is the system that creates reality.

If a sensation of panic begins, work with the fear and imagine the very worst! Work through the entire scenario of not passing the test, failing the entire course, and dropping out of school, followed by not getting a job, and pushing a shopping cart through the dark alley where you'll live. This will place things into perspective! Then, practice deep breathing and create a visualization of the opposite situation - achieving an "A" on the exam, passing the entire course, receiving the degree at a graduation ceremony.

On the day of the test, there are many things to be done to ensure the best results, as well as the most calm outlook. The following stages are suggested in order to maximize test-taking potential:

Begin the examination day with a moderate breakfast, and avoid any coffee or beverages with caffeine if the test taker is prone to jitters. Even people who are used to managing caffeine can feel jittery or light-headed when it is taken on a test day.
Attempt to do something that is relaxing before the examination begins. As last minute cramming clouds the mastering of overall concepts, it is better to use this time to create a calming outlook.
Be certain to arrive at the test location well in advance, in order to provide time to select a location that is away from doors, windows and other distractions, as well as giving enough time to relax before the test begins.
Keep away from anxiety generating classmates who will upset the sensation of stability and relaxation that is being attempted before the exam.
Should the waiting period before the exam begins cause anxiety, create a self-distraction by reading a light magazine or something else that is relaxing and simple.

During the exam itself, read the entire exam from beginning to end, and find out how much time should be allotted to each individual problem. Once writing the exam, should more time be taken for a problem, it should be abandoned, in order to begin another problem. If there is time at the end, the unfinished problem can always be returned to and completed.

Read the instructions very carefully - twice - so that unpleasant surprises won't follow during or after the exam has ended.

When writing the exam, pretend that the situation is actually simply the completion of homework within a library, or at home. This will assist in forming a relaxed atmosphere, and will allow the brain extra focus for the complex thinking function.

Begin the exam with all of the questions with which the most confidence is felt. This will build the confidence level regarding the entire exam and will begin a quality momentum. This will also create encouragement for trying the problems where uncertainty resides.

Going with the "gut instinct" is always the way to go when solving a problem. Second guessing should be avoided at all costs. Have confidence in the ability to do well.

For essay questions, create an outline in advance that will keep the mind organized and make certain that all of the points are remembered. For multiple choice, read every answer, even if the correct one has been spotted - a better one may exist.

Continue at a pace that is reasonable and not rushed, in order to be able to work carefully. Provide enough time to go over the answers at the end, to check for small errors that can be corrected.

Should a feeling of panic begin, breathe deeply, and think of the feeling of the body releasing sand through its pores. Visualize a calm, peaceful place, and include all of the sights, sounds and sensations of this image. Continue the deep breathing, and take a few minutes to continue this with closed eyes. When all is well again, return to the test.

If a "blanking" occurs for a certain question, skip it and move on to the next question. There will be time to return to the other question later. Get everything done that can be done, first, to guarantee all the grades that can be compiled, and to build all of the confidence possible. Then return to the weaker questions to build the marks from there.

Remember, one's own reality can be created, so as long as the belief is there, success will follow. And remember: anxiety can happen later, right now, there's an exam to be written!

After the examination is complete, whether there is a feeling for a good grade or a bad grade, don't dwell on the exam, and be certain to follow through on the reward that was promised…and enjoy it! Don't dwell on any mistakes that have been made, as there is nothing that can be done at this point anyway.

Additionally, don't begin to study for the next test right away. Do something relaxing for a while, and let the mind relax and prepare itself to begin absorbing information again.

From the results of the exam - both the grade and the entire experience, be certain to learn from what has gone on. Perfect studying habits and work some more on confidence in order to make the next examination experience even better than the last one.

Learn to avoid places where openings occurred for laziness, procrastination and day dreaming.

Use the time between this exam and the next one to better learn to relax, even learning to relax on cue, so that any anxiety can be controlled during the next exam. Learn how to relax the body. Slouch in your chair if that helps. Tighten and then relax all of the different muscle groups, one group at a time, beginning with the feet and then working all the way up to the neck and face. This will ultimately relax the muscles more than they were to begin with. Learn how to breathe deeply and comfortably, and focus on this breathing going in and out as a relaxing thought. With every exhale, repeat the word "relax."

As common as test anxiety is, it is very possible to overcome it. Make yourself one of the test-takers who overcome this frustrating hindrance.

Special Report: Additional Bonus Material

Due to our efforts to try to keep this book to a manageable length, we've created a link that will give you access to all of your additional bonus material.

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