**Study Guide – Test 1**

**Chapters 1, 2 & 3: Ciccarelli & White**

**Introduction to Psychology**

**Spring Semester 2018**

**This study guide is for your use in focusing on material and understanding that will be most profitable to know on the test. You need not turn it in, and it is not graded or used for extra-credit.**

**Chapter 1: The Science of Psychology**

**History of Psychology**

1. What is the current definition of psychology?

2. Who is recognized as the world’s first psychologist? Why or what did he do and when?

3. You should be able to recognize the main focus or emphasis of the following perspectives in psychology. Cognitive; behavioral, psychoanalytic/psychodynamic; humanistic; biopsychological.

4. What is the difference between a psychologist and a psychiatrist?

**Research Methods**

5. What are three basic types of data collection methods or techniques used by psychologists?

6. What is naturalistic observation? What is its major advantage? What is the observer effect and why does it cause a problem in collecting valid data by observation?

7. Describe a case study (under the observation category). What is one advantage of using it and what is one disadvantage?

8. What is a survey? What are its two advantages? What two most common errors in conducting a survey may render its results false or meaningless?

9. What is the range of a correlation coefficient (a statistic)? What can a correlation show tell us about the relationship between two variables? What can it **not** tell us?

10. What allows researchers to claim evidence of causality from experiments? (Manipulation that shows changes in one variable to affect another and control that rules out alternate explanations.)

11. What variable represents the assumed cause in an experiment and what does the experimenter do with it? What variable represents the assumed effect and what does the experimenter do with it? (Hint: What is manipulated in the experiment and what is measured?)

12. Why are control groups used, and why are participants randomly assigned to groups? What is a placebo control and why are placebo control groups used?

13. Why are experiments conducted under double-blind conditions?

14. At what point during an experiment can participants be “locked in” and not permitted to leave?

15. If data cannot be collected under conditions of anonymity, how must the data be handled?

**Chapter 2: The Biological Perspective**

1. What does neuroscience deal with?

2. What is a neuron? Describe a neuron using the terms dendrites, cell body or soma, axon, and axon terminals.

3. What are glial cells and what is their function? What is the myelin sheath?

4. What is a resting potential and what is an action potential? What type of energy do these represent? What does it mean to say that neuron firing is all-or-none?

5. What type of energy do neurons use in communicating with each other? What is/are a synapse, synaptic gap, synaptic cleft, and synaptic vesicle? (There are up to 100 trillion synaptic interconnections in your brain alone.)

6. You should be able to describe what happens at the synapse. What are receptor or binding sites? Why is this called a "lock & key system”? What happens after the neurotransmitter has returned to the synaptic gap from the receptor site? What is reuptake? What is the process that happens if it does not occur?

7. What are neurotransmitters? You should be able to recognize descriptions of these four:

Acetylcholine: required for muscle contraction; involved in arousal, attention, and memory

Dopamine: involved in muscle movement and pleasure; lack of it is a factor in Parkinson’s disease; an excess is related to schizophrenic hallucinations.

Serotonin: involved in sleep, appetite, anxiety and mood regulation; lack of it is related to depression,

Endorphins: are the body’s endogenous morphine and reduce the perception of pain.

8. Psychoactive drugs work by altering the function of the neurotransmitters at the synapse. What does an agonist do? What does an antagonist do?

9. What does the Central Nervous System consist of?

10. What are the two primary divisions of the peripheral nervous system?

11. What is a nerve? Which part of the nervous system does it belong to?

12. What part of the Central Nervous System controls a simple reflex?

13. There are three types of neurons in terms of where and in what direction they carry information. Interneurons are found in the brain and spinal cord. Describe sensory and motor neurons.

14. What is neuroplasticity?

15. Where is the pituitary gland located and why is it called the master gland?

16. What neuroimaging techniques have been and are being used to study the brain? Briefly, what is the basis for each (x-rays, radioactivity, radio waves, etc.), and does it show brain structure or brain activity?

17. What are the structures of the brain? What is the main or primary function of each?

Hindbrain Midbrain Cerebral Cortex

Medulla Thalamus Cerebral hemispheres

Pons Limbic system Corpus callosum

Reticular formation Hypothalamus

Cerebellum Hippocampus

Amygdala

Cingulate cortex

18. Name the four lobes of the cerebral cortex. (Remember there are actually eight, because each one is represented on both the right and left hemispheres.) What is the main or primary function associated with each lobe? On which lobe are the centers for higher mental processing and decision-making located?

19. In which of the lobes is each of the following located? Primary visual cortex, primary auditory cortex, somatosensory cortex, primary motor cortex, Broca’s area, Wernicke’s area)?

20. Why are parts of the body not represented in proportion to their size or mass on the motor and sensory cortexes? What principle seems to be in operation here?

21. What is an association area and what happens there?

22. Cortical lateralization means to locate some mental function on either the right or left hemisphere of the brain. What seems to be the most common pattern for location of functions on the cortex?

23. What happens when you sever the corpus callosum? (There might be a question concerning odd behaviors of split-brain patients.)

24. What is a hemispherectomy? Can a person function normally after this procedure?

**Chapter 3: Sensation and Perception**

1. What is the difference between sensation and perception?

2. What are sensory receptors? What is transduction?

3. What is absolute threshold and how is it defined? What is subliminal perception?

4. How is the difference threshold defined and what is the symbol for it in psychology?

5. What are subliminal stimuli and what is subliminal perception?

6. What is sensory adaptation? Why does it normally not occur in vision?

7. How do we experience wavelengths of light? What does the amplitude of light waves determine?

8. What are the functions of each of these parts of the eye? Lens, iris, pupil

9. What is visual accommodation?

10. Why do we have a blind spot?

11. What are the differences between rods and cones; and what is the function of each?

12. You should know what the retina and the fovea are and what each of the three layers of receptor cells/neurons in the retina is named.

13. According to the Helmholtz trichromatic theory, how do we see colors?

14. According to Opponent-process theory, how do our brains process color information? (These are complementary and not competing theories.)

15. What is the sense of hearing called?

16. Describe the process of hearing. Which parts of the ear (outer, middle or inner) collect, amplify, and transduce sound?

17. Define the following terms: pinna, auditory canal, eardrum, hammer, anvil, stirrup, cochlea, oval window, hair cell, Basilar membrane, Organ of Corti.

18. How do we experience sound wave amplitude? What measurement scale is used? How do we experience soundwave wavelength or frequency?

19. Can listening to music from headphones turned to the highest volume cause hearing loss?

20. What causes conduction hearing impairment?

21. What are the two interactive senses? What is gustation? What is olfaction? What type of stimulus energy do these senses respond to?

22. Where are taste receptors or taste buds located? How long do they last? Does everyone have about the same number or density of them?

23. What are the four commonly known distinctive tastes?

24. Where are olfactory receptors located? To what structure in the brain do they forward information? Does this go through the thalamus?

25. To what mental functions does smell have a mysterious connection?

26. What is your largest and heaviest sense organ?

27. What types of sensations are part of the skin senses?

28. What is gate-control theory? How does it explain pain control?

29. What is kinesthesis and what are the receptors for this sense called? Where are they located?

30. What is the vestibular sense and where are the receptors for this located?

31. What is a gestalt?

32. What is the primary cue that we use to identify an object?

33. What is the principle of figure-ground? What is a reversible figure?

34. Describe each of the perceptual grouping principles (proximity, similarity, closure, continuity).

35. What is depth perception? You should be able to recognize a description of each of the monocular cues for depth perception.

36. Name and describe the two binocular cues for depth perception.

37. What is the size-distance relationship?

38. What is the Muller-Lyer illusion? How does it depend upon the size-distance relationship according to the carpentered-world hypothesis?

39. What is perceptual set?

40. What is extra-sensory perception (ESP)? What are telepathy, precognition, psychokinesis, clairvoyance (remote viewing)?

41. What is parapsychology?

42. What explanations does psychology offer for paranormal phenomena?

Answer: Psychology does -

**Not** endorse ESP as a natural human ability.

Consider the possibility of trickery.

Consider the possibility of misperception, imagination, or intuition.

Psychology cannot speculate about the supernatural.

43. Why do psychologists refuse to endorse ESP as a natural, although unusual human ability?