Learning Objectives

Upon completion of this unit, students should be able to:

1. Determine the purpose of biological rhythms and explain their significance.
2. Differentiate between patterns of sleep and determine their function.
3. Identify and explain the different theories about the function of dreams.
4. Distinguish between the theories of hypnosis.
5. Determine and discuss how drugs can alter mental states.
6. Determine the difference between sensation and perception, and explain their significance.
7. Identify how psychologists measure senses.
8. Discriminate between the human senses and describe their significance.

Written Lecture

Chapter 5: Body Rhythms and Mental States

Do you ever find yourself daydreaming? Have you caught yourself drifting in and out of a conversation only to realize that you were in a hypnogogic state? Research purports that consciousness ebbs and flows instead of remaining in a constant, discrete state, as has been argued.

Wade & Tavris (2011) explain that our conscious thoughts in one state can directly filter over into another area of consciousness. Cartwright (1974) posited that our conscious thoughts can have a direct correlation to our dreams. She argued that if one spent a great deal of the day contemplating a particular thought, in all likelihood that same thought, or a slight variation, would manifest in the individual’s dreams that night (Cartwright, 1974). What do you think? Has this ever happened to you? As you read this chapter, you will gain better insight into our conscious thoughts and behaviors, as well as our sleeping patterns. Are these areas somehow intertwined? Are there linkages that actually exist that can explain why we have certain dreams? What is the true function of our dreams?

As you continue throughout your readings, begin to examine your own sleeping patterns. Do you ever find yourself feeling drowsy for seemingly no reason at all? Many argue that our industrialized society might be the culprit behind our sleep deprivation. One’s biological clock sometimes gets out of sync due to exposure to bright lights. Research has studied the effects of too much exposure to bright lights on one’s internal clock. Experiments have even been conducted that capitalize on this theory to treat seasonal affective disorder. As you go throughout your day, begin to notice when you feel sleepiness creeping upon you. Do you have an established bedtime ritual? What happens if you do not get to bed at your “normal” hour? How is the next day altered if you did not get an adequate amount of rest? This chapter will expose the reader to many elements related to body rhythms, and the importance of dreams.

Further examination of this chapter will prompt one to examine the controversy related to hypnosis. Many argue that some individuals are more prone to...
hypnosis than others. According to Wallace (1993), individuals who tend to be
most productive during the day hours are more prone to hypnosis in the evening
hours. Conversely, those who are most alert in the evening hours are more
susceptible to hypnosis early in the morning (Wallace, 1993). Keeping this in
mind, have you ever been under the influence of hypnosis? Could you
remember anything that you said or did while hypnotized?

As you conclude your study of this chapter, begin to examine your thoughts on
mind altering drugs. For example, in 1935 the United States government opened
a drug treatment center to rehabilitate individuals addicted to illegal drugs. The
official name for the institution was the "Narcotic Farm." Located in Lexington,
Kentucky, the treatment center was actually a federal prison. By utilizing the
settings of a rural farm, researchers believed that inmates and other patients
could successfully overcome their addictions, and return to society as
functioning, productive citizens. However well-meaning the original plan was,
there was much controversy surrounding the treatment practices. Many
individual who had successfully stopped using drugs, such as heroine, were "re-
addicted" to other drugs in order for researchers to study the process of
withdrawal. These volunteers were often rewarded for their research
participation by being given access to certain drugs for recreational purposes.
Research on LSD was also funded by the CIA to ascertain its effectiveness as a
"truth serum" to be utilized during interrogations. What do you think about the
farm? Do you think this research was ethically sound? Ponder this scenario as
you conclude your examination of the chapter.

Chapter 6: Sensation and Perception

How do you know when something is warm? When do you know that you are
thirsty? What triggers you to feel nauseated, fatigued, or in pain? Wade & Tavris
(2011) report that our bodies possess three different types of sensory systems:
exteroceptors, interoceptors, and proprioceptors. Each sensory system has a
different function. Notice how each system impacts one’s daily activities. What
would you do if one was not functioning properly? How would you adjust?

As you continue your examination of this chapter, pay particular attention to the
section related to vision. Have you ever had an eye exam? What were your
thoughts as the doctor asked you to determine differences in your vision through
lens number one versus lens number two? In essence, the doctor was checking
for "just noticeable difference." If he rushed you, were your perceptions altered?
Many argue that our perceptions and sensations are impacted by more than
psychophysical laws alone. Many scholars purport that our emotions impact our
perceptions as well. What do you think? Can one’s emotions impact how the
individual sees or hears something, while also altering the way in which the
meaning is perceived?

Can you hear me now? Can you hear me now?

This common phrase from a popular television commercial provides great insight
into further examination of this chapter. Research has shown that as we get
older, damage done to hair cells in the cochlea impact our ability to hear. For
example, teenagers can generally hear sounds that older individuals cannot
discern. Have you noticed this before? Do you hear as well now as you did ten
years ago? Do you find yourself asking others to repeat statements quite often?
Keep this in mind while you read the section on hearing.

Do certain smells affect your behavior? Baron & Thomley (1994) argue the
affirmative. They conducted an experiment in which participants were instructed
to perform certain tasks under low and moderate stress. Some participants had
a fragrant air freshener present during the experiment, and others did not. Some
of them also received a small candy-filled bowl as a reward for their efforts. It was noted that the participants were able to recall the words of the experiment more easily if the air freshener was present with the candy. In fact, the effects of the air freshener and the gift of candy were seen as comparable motivators for completing the voluntary experiment (Baron & Thomley, 1994). As you peruse this chapter, you will identify other senses that impact one’s perception as well. Take note of these areas and your thoughts while reviewing the data.

As you conclude your examination of this unit, begin to reflect upon the origins and influences of our perceptions. Does the world look the same to a newborn as it does to a fifty-year old man? Do both individuals experience the same smells and sounds? What truly impacts our perceptions? As you read the information presented in the textbook, notice which theory resonates the most with you. Contemplate the true origin of one’s perceptions. Critically examine if one can perceive something without a conscious awareness. Does subliminal thinking ever influence behavior? Can others truly alter our perceptions and senses?

References


Supplemental Reading

Click here to access a PDF of the Chapter 5 Presentation.

Click here to access a PDF of the Chapter 6 Presentation.

The following are three articles on psychology found within the Academic OneFile and the Opposing Viewpoints Resource Center databases located in the CSU Online Library. The articles discuss the topics of bodily rhythms, and sensation and perception.


**Learning Activities (Non-Graded)**

**Quiz**

1. A circadian rhythm is a biological fluctuation that is about 24 hours from peak to peak. When Professor Snuffle travels from New York to Paris, he always reports feelings of jet lag, although he takes this trip twice a month. What structure regulates his sleep schedule and is probably out of sync?
   a. Hippocampus
   b. Suprachiasmatic nucleus
   c. Hypothalamus
   d. Organ of Corti

2. Julia has a final exam on Friday at 3 o'clock in the afternoon. She decides to get up very early and study until noon. After a one hour lunch break with some friends, she goes back to studying for another hour. Come test time, Julia notices that she can't seem to remember the information she studied earlier in the day. However, her friend Jeanie stated that she studied the night before and feels adequately prepared. What did Jeanie do?
   a. Crammed the information and allowed short-term memory to take over
   b. Studied in short term intervals with naps in-between
   c. Allowed the consolidation process to work by receiving normal REM sleep
   d. Stayed up late studying and slept in to make up the difference

3. Dr. Smith is analyzing the dreams of a patient. He believes that symbolism exists within dreams and should be analyzed in the context of the dreamer’s waking life, and the associations to the contents of the dreams. For example, a patient’s brother may be disguised as the father, especially if the message creates anxiety, e.g. if there were problems with the patient’s sibling. What theory does Dr. Smith prescribe to?
   a. Dreams as interpreted by brain activity
   b. Dreams as efforts to deal with problems
   c. Dreams as thinking
   d. Dreams as unconscious wishes

4. Doctor Walker is at convocation for freshman students where he will be hypnotizing them. He does this by forming a scenario based upon what he wants the overall outcome to be, and drawing from the subjects’ own predetermined expectations. What theory does Doctor Walker probably prescribe to?
   a. Socio-cognitive approach
   b. Dissociation theory
   c. Precognitive theory
   d. Sociocultural approach
5. This drug binds to adenosine receptors in the brain (adenosine makes you sleepy) and prevents the uptake of adenosine to the brain. The drug causes your pupils to dilate, heart to beat faster, and blood pressure to rise. It also tells the pituitary gland to start pumping adrenaline into the body. When taken in significant doses, it is known to cause a high.
   a. Marijuana
   b. Alcohol
   c. Coffee
   d. Amphetamines

6. Alden was in a car accident that damaged a portion of his brain. When he recovered, he could perform all the functions of a normal adult, except for one curious feature. He reported that he thought the color red smelled like lilacs, the aroma of pizza felt like sandpaper, and the sound of a piano note tasted like broccoli. What symptoms is Alden exhibiting?
   a. Parapsychology
   b. Synesthesia
   c. Sensation pruning
   d. Functional sensation

7. Tom is seated in a dark room and asked to look at a screen. He watches as flashes of light, varying in brightness, are flashed one at a time. Whenever he notices a flash he informs the researchers. What are the researchers measuring?
   a. Tom's anatomical encoding of brightness
   b. Tom's absolute threshold for brightness
   c. Tom's functional encoding of brightness
   d. Tom's difference threshold for brightness

8. As she watches her granddaughter’s dance recital, Stacy perceives two separate groups of dancers. Her granddaughter’s group wore bright turquoise costumes with gold accents and the other group wore bright gold costumes with turquoise accents. Stacy perceived the girls as belonging to two different groups due to the Gestalt principle of:
   a. proximity.
   b. continuity.
   c. similarity.
   d. closure.

### Quiz Answer Key

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Non-graded Learning Activities are provided to aid students in their course of study. You do not have to submit them. If you have questions, contact your instructor for further guidance and information.