

Module 22

Understanding Consciousness and Hypnosis

Before You Read

Module Summary

Module 22 provides a definition and brief historical account of the increasing importance of the study of consciousness in psychology. The various states of consciousness are discussed here and current information on hypnosis is reviewed alongside a discussion of Ernest Hilgard's hypnotism experiments. The parallels between hypnosis and selective attention are illustrated with research studies.

Before beginning the module, take a moment to read each of the following terms and names you will encounter. You may wish to make vocabulary cards for each.

Key Terms

consciousness
hypnosis
posthypnotic suggestion
dissociation

Key Names

William James
Ernest Hilgard

While You Read

Answer the following questions/prompts.

22-1

1. What is the text definition of consciousness? How is that different than you may have expected?
2. What does it mean, then, if thoughts are unconscious?

22-2

1. What is one defining characteristic of someone who is easily hypnotized?
2. Discuss the evidence refuting some of the commonly held false beliefs about hypnosis.
3. List the ways in which hypnosis is used today in therapy and for pain reduction.

22-3

1. Explain the arguments that state that hypnosis is a social phenomenon.
2. Discuss the Stroop effect and how it supports the argument that hypnosis is a state of divided consciousness.

3. Summarize how Ernest Hilgard's work supports the idea of hypnosis as a dual-processing state of dissociation.

4. John is a soccer player who sustained a serious injury during the game but was not aware of it and did not feel the pain from the injury until the game was over. Discuss how the idea of selective attention plays a role in his ability to not feel the pain.

After You Read

Module 22 Review

Choose the best answers to the following questions to see if you have mastered the basics.

1. Janice is under hypnosis and has held her arm in a bath of ice water for over 5 minutes. She reports that she can feel the cold, but does not feel any pain. Ernest Hilgard would say this was evidence of
 - a. consciousness.
 - b. a posthypnotic suggestion.
 - c. cognitive appraisal.
 - d. dissociation.
 - e. perceptual illusions.

2. When one moment in time seems to flow into the next moment in time we experience what William James dubbed
 - a. flow.
 - b. postural sway.
 - c. sensory deprivation.
 - d. meditation.
 - e. stream of consciousness.

3. Elaine is 45-years-old and has been hypnotized. She is then asked to remember her third birthday party. What can you say about the memory she has of the event?
4. If Dr. Choi, a psychologist, wanted to help one of his patients reduce his overeating behaviors and get control of his obesity, he might use hypnosis in the therapy session to offer a _____ that would be carried out after his patient was no longer hypnotized.
5. When asked to read the word "BLUE" with letters colored in green many people find they take longer than if the letters were colored in blue. This phenomenon is referred to as the _____.

Module 23

Sleep Patterns and Sleep Theories

Before You Read

Module Summary

Module 23 explains circadian rhythms and how they impact on our sleep and daily functioning. Detailed charts and graphs illustrate the physical aspects and characteristics of each stage of sleep. The importance of REM sleep and its role in processing new learning is discussed, as well as current sleep theories.

Before beginning the module, take a moment to read each of the following terms you will encounter. You may wish to make vocabulary cards for each.

Key Terms

sleep

circadian rhythm

REM sleep

alpha waves

NREM sleep

hallucinations

hypnagogic sensations

delta waves

suprachiasmatic nucleus (SCN)

While You Read

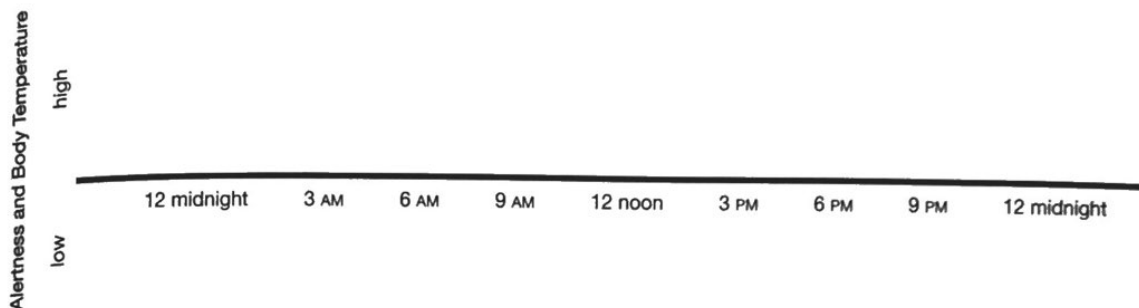
Answer the following questions/prompts.

23-1

1. How does sleep demonstrate consciousness, the awareness of ourselves and our environment?

23-2

1. Define circadian rhythm and then use the timeline below to depict the ebb and flow of the typical human circadian rhythm.



2. How are the circadian rhythm patterns of teens and adults different?

3. Based on circadian rhythm information, many high schools are adjusting their start times. What is your opinion of this move?

23-3

1. Complete the chart below.

Stage	Wave Name	Wave Characteristics	Characteristics or Common Behaviors of This Stage
Awake but relaxed			
NREM-1			
NREM-2	—		
NREM-3			
REM	—		

2. Interpret the data from Figure 23.4 to describe three differences between the sleep of a young adult and that of older adults.
3. Use Figure 23.4 to describe how the time spent in each respective stage of sleep changes over the course of an 8-hour period of sleep.
4. Explain why REM sleep is referred to as paradoxical sleep.

23-4

1. Discuss the differences in sleep patterns and the need for sleep among humans.
2. Explain how biology and experience interact in our sleep patterns.
3. Refer for Figure 25.5- Explain the role of the suprachiasmatic nucleus (SCN) and melatonin in regulating sleep and wake cycles.
4. How does artificial light from electronics and interior lighting distort the SCN-melatonin process you described above?

23-5

1. Sleep as protection from predators is most likely a view taken by which approach to psychology? Explain why.
2. Sleep as recuperation, repair, and a supporter of growth is most likely a view taken by which approach to psychology? Explain why.
3. Sleep as a memory rebuilder and nourishment for creative thinking is most likely a view taken by which approach to psychology? Explain why.
4. Explain how a regular night's sleep can also "dramatically improve your athletic ability."

After You Read

Module 23 Review

Answer the following questions to see if you have mastered the basics.

1. Bob has just dozed off on the couch and is experiencing vivid sensory images. He is most likely
 - a. in NREM-1 sleep.
 - b. in NREM-2 sleep.
 - c. in NREM-3 sleep.
 - d. in REM sleep.
 - e. still awake.
2. Jane is in NREM-2 sleep. As a sleep researcher you would expect to see which of the following?
 - a. delta waves
 - b. a hypnagogic jerk
 - c. sleep spindles
 - d. alpha waves
 - e. momentary bursts of activity in her eyes

3. Justin doesn't understand why he often feels so tired in the early afternoon. As a psychology student learning about sleep, explain why this is normal.
4. The structure responsible for directing the pineal gland to increase and decrease its production of melatonin is the
- a. amygdala.
 - b. adrenal gland.
 - c. suprachiasmatic nucleus (SCN).
 - d. basal ganglia.
 - e. cerebellum.
5. Roberto is involved in a sleep study and researchers are recording the electrical activity of his brain as he sleeps. During which stage of sleep is his brain activity most similar to when he is awake?
- a. NREM-1
 - b. NREM-3
 - c. REM
 - d. NREM-2
 - e. Deep
6. As 18-year-old Nathan sleeps through the night, he can expect that his
- a. time spent in REM sleep will decrease.
 - b. time spent in NREM-3 sleep will increase.
 - c. REM stage will occur right after his time in NREM-3 sleep.
 - d. time spent in REM sleep will increase.
 - e. REM stage will occur right before his time in NREM-3 sleep.
7. John is sleeping and is experiencing physiological arousal. His eyes are moving from side to side very quickly and his heart rate has risen sharply. John is currently in which stage of sleep?
- a. NREM-1
 - b. NREM-3
 - c. NREM-2
 - d. REM
 - e. delta sleep

Module 24

Sleep Deprivation, Sleep Disorders, and Dreams

Before You Read

Module Summary

Module 24 reviews the major sleep disorders and provides numerous examples of the impact of sleep loss on cognition and behavior. The major theories of dreams are presented and critiqued and common content of dreams is discussed.

Before beginning the module, take a moment to read each of the following terms and name you will encounter. You may wish to make vocabulary cards for each.

Key Terms

insomnia
narcolepsy
sleep apnea
night terrors

dream
manifest content
latent content
REM rebound

Key Name

Sigmund Freud

While You Read

Answer the following questions/prompts.

24-1

1. Describe how sleep deprivation impacts
 - a. student performance in school:

 - b. weight:

c. health:

d. job performance:

2. Use Figure 24.1 to

a. Explain specific research regarding the impact of sleep loss of as little as an hour on the frequency of auto accidents:

b. Explain why it is important to read histograms (bar graphs) carefully:

3. List and describe the symptoms and prevalence of the following sleep disorders:

a. insomnia:

b. narcolepsy:

c. sleep apnea:

d. night terrors:

c. sleepwalking & sleeptalking:

4. Explain how night terrors differ from nightmares.

24-2

1. Discuss the research that supports the following quote from the text.

"For what one has dwelt on by day, these things are seen in visions of the night." (p. 247)

2. Explain the current research regarding learning while we sleep.

8. Explain the activation-synthesis theory of dreaming.

9. Discuss how the cognitive development function of dreaming contrasts with the neural activation theory of dreaming.

10. Which of the dream theories summarized in Table 24.4 seem most credible to you? Why?

11. How does REM rebound suggest that the causes and functions of REM sleep are deeply biological?

After You Read

Module 24 Review

Choose the best answer to the following questions to see if you have mastered the basics.

1. Your new roommate at Sleep Disorders University tells you that he has insomnia. As a result, you can expect that he will
 - a. sleewalk.
 - b. scream out in his dreams.
 - c. stop breathing in his sleep.
 - d. have trouble falling or remaining asleep.
 - e. act out his dreams.
2. Meanwhile, down the hall in your dorm, a young freshman student has repeatedly been found locked outside of his room in the middle of the night with no recollection of how he got there. You suspect that he may have
 - a. sleep apnea.
 - b. a sleeptalking disorder.
 - c. a sleepwalking disorder.
 - d. narcolepsy.
 - e. night terrors.
3. The Resident Assistant at the University is well known for the loudness of his snore which can be heard down the hall. His roommate tells you that the RA wakes up repeatedly during the night but he doesn't recall any of the waking episodes in the morning. The most likely culprit in this case is
 - a. narcolepsy.
 - b. nightmares.
 - c. night terrors.
 - d. sleep apnea.
 - e. insomnia.
4. John, a soccer player at the University, often falls asleep right on the field after scoring a goal. He is most likely suffering from
 - a. insomnia.
 - b. sleep apnea.
 - c. somnambulism.
 - d. night terrors.
 - e. narcolepsy.
5. Your friend lives on the floor above you and shares during a dorm meeting that she suffered from night terrors as a child. Knowing this you can expect that she
 - a. primarily experienced this during her NREM-3 sleep.
 - b. probably sees a therapist to deal with the memories of the disorder.
 - c. suffers also from nightmares.
 - d. is more prone to sleep apnea as well.
 - e. is still experiencing the disorder today.

Use the following scenario to answer questions 6–10.

Justina dreamed last night that she was warding off villains in a life-or-death battle outside a fortified castle. In the dream, she attempted to cross the moat but saw that it was filled with grotesque swamp creatures with warty green skin and she recoiled in fear. Knowing there was only one way to reach safety, she flew over the top of the castle and landed among the weeds in the inner courtyard. She was surprised to run into her seventh period Geometry teacher, Ms. Hargroves, but seeing that her teacher had a spear, compass, and workbook with her, Justina knew they would prevail. Ms. Hargroves told Justina that the key to defeating the villains was to write the theorems from the homework on the castle walls as protection against the invaders. Justina scrambled to write the complicated theorems before the menacing villains closed in. Just when the towering castle walls were about to be sieged, Justina awoke from her dream with a start.

As a therapist who specializes in dreams, how would you interpret Justina's dream using

6. Freud's wish-fulfillment theory:

7. the information-processing theory:

8. the physiological function theory:

9. the activation synthesis theory:

Module 25

Psychoactive Drugs

Before You Read

Module Summary

Module 25 begins with an overview of substance abuse disorder and a review of tolerance, addiction, and withdrawal. The bulk of the module deals with each primary category of drugs: depressants, stimulants, and hallucinogens. Specific drugs in each category are highlighted and their effect on the central nervous system and behaviors is discussed.

Before beginning the module, take a moment to read each of the following terms you will encounter. You may wish to make vocabulary cards for each.

Key Terms

psychoactive drug
substance use disorder
tolerance
withdrawal
depressants
alcohol use disorder
barbiturates
opiates
stimulants

nicotine
cocaine
amphetamines
methamphetamine
Ecstasy (MDMA)
hallucinogens
near-death experience
LSD
THC

While You Read

Answer the following questions/prompts.

25-1

1. What does the text phrase a “legal-drug-using adult” mean?

25-2

1. What role do tolerance, addiction, and withdrawal play in substance abuse disorders? Explain how the three are connected.
2. According to the text, in what ways has the concept of addiction been stretched too far? In what ways is the idea of addictive behaviors just beginning to be explored?
3. Discuss how drug use can turn to abuse and then to a substance abuse disorder.

25-3

1. Define depressants and give three examples of drugs in this category.
2. List the effects of depressants on the central nervous system.

3. Explain and give examples of how alcohol impacts

a. neural processing:

b. memory:

c. self-awareness and self-control:

4. How do the expectations of drinking alcohol influence behavior?

5. List three common opiates and explain their effect on the central nervous system. Explain how these impact the levels of endorphins in the body.

6. How does addiction to pain medication occur biochemically?

25-4

1. Define stimulants and give three examples of drugs in this category.
2. List the effects of stimulants on the central nervous system.
3. Explain the relationship between nicotine use and the release of neurotransmitters in the brain.
4. Discuss the forces and influences teens in particular are subject to when considering whether or not to begin smoking.
5. Use Figure 25.3 and the text to explain the effect of cocaine on neural transmission.
6. Discuss the long-term effects of cocaine use on a person's behavior.

7. How is the expectation effect of using cocaine similar to that of using alcohol?

8. Explain the impact of methamphetamine on dopamine levels.

9. Discuss how Ecstasy (MDMA) affects levels of dopamine and serotonin.

10. What are the potential long-term effects of using Ecstasy?

25-5

1. Define hallucinogens and give two examples of drugs in this category.

2. What is the primary effect of hallucinogen use?

3. Describe the emotions and visual imagery associated with use of LSD.

4. Relate the visual images experienced under LSD use with those reported by survivors of near-death experiences, temporal lobe seizures, or prolonged periods of isolation. What point is the author trying to make with this discussion?

5. Explain the negative effects of marijuana use on mood and memory.

6. Discuss how the body metabolizes and eliminates marijuana differently from alcohol.

7. In what situations is marijuana use being decriminalized? What is your opinion on the legalization of marijuana for medical use? How about recreational use?

After You Read

Module 25 Review

Answer the following questions to see if you have mastered the basics.

1. Complete the chart below.

Drug	Category	Effect on CNS	Behavioral Impact
Alcohol			
Caffeine			
Methamphetamine			
Nicotine			
LSD			
Heroin			
Barbiturate			
Cocaine			
Marijuana			
Ecstasy			

2. Jonathan has injured himself on the rugby field and is feeling a great deal of pain in his leg. Which of the following drugs would be appropriate for him to take to reduce the pain?
- Caffeine
 - Nicotine
 - An opiate
 - LSD
 - A depressant
3. Nita is at a party and is drinking a great deal of alcohol. Which of the following is true about the alcohol in her bloodstream and brain?
- In small doses it is a stimulant; in large doses it is a depressant.
 - It will help her to focus clearly on the events around her.
 - It will increase her self-control, making it less likely she will act impulsively.
 - In large doses it will have more and more hallucinogenic qualities.
 - In small doses it is a depressant; in large doses it is a depressant.
4. Which is a physiological effect of nicotine use?
- Depressing the activity in the brain
 - Decreased heart rate and blood pressure
 - Increased appetite for carbohydrates
 - Reduced circulation to extremities
 - Increase in the release of neurotransmitters that cause stress
5. Theresa and Sydney are at a party and using a drug. They seem to have a great deal of energy and are feeling very loving toward all the partygoers. They have been dancing nonstop for hours and are feeling very thirsty. Theresa and Sydney are most likely using
- Ecstasy.
 - marijuana.
 - heroin.
 - a barbiturate.
 - a depressant.

✓ Check Yourself

Now that you have mastered the basics, work through the problems below to see if you can *synthesize*, *evaluate*, and *analyze* what you have learned.

You are a psychologist with a thriving drug addiction and sleep disorders practice. A patient has just come to see you complaining of myriad symptoms and seeking your help. Your patient has been fired from his last three jobs because he arrives late to work consistently, falls asleep at his desk, and seems highly agitated around co-workers. In addition, he forgot to turn in several of his assigned projects and reports missing the due dates for others because he simply did not remember the projects had due dates. In your capacity as a psychologist, you review your checklist on drug and sleep disorders and narrow down your possible diagnosis by ruling out the disorders that would not produce these behaviors and highlighting those that would. Fill in your checklists on the next page for this patient, then make and support your diagnosis.

Disorder	Behaviors I Would Expect	Patient Exhibits (✓)
Insomnia		
Narcolepsy		
Sleep apnea		
Night terrors		

Drug Use Category	Behaviors I Would Expect	Patient Exhibits (✓)
Stimulant		
Depressant		
Hallucinogen		

My diagnosis: This patient might be having difficulty with _____.

Support for my diagnosis:



Before You Move On

Use the checklist below to verify your understanding of the unit's main points.

- Can I describe various states of consciousness and their impact on behavior?
- Can I describe the historic and contemporary uses of hypnosis?
- Can I explain hypnotic phenomena?

Can I discuss the aspects of sleeping and dreaming?

- Stages and characteristics of the sleep cycle
- Theories of sleep and dreaming
- Symptoms and treatment of sleep disorders

- Can I identify the major psychoactive drug categories and classify specific drugs, including their psychological and physiological effects?
- Can I discuss drug addiction, tolerance, and withdrawal?
- Can I identify the major figures in consciousness research?