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| **UNIT 5: STATES OF CONSCIOUSNESS**  |

**CONSCIOUSNESS AND INFORMATION PROCESSING**

**OBJECTIVE 1: Discuss the history of psychology’s study of consciousness, and contrast conscious and unconscious** **information processing**

1. The study of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ was central in the early years of psychology and in recent decades, but for quite some time it was displaced y the study of observable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Advances in neuroscience made it possible to relate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to various mental states; as a result \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ began to reenter psychology.

Define consciousness in a sentence.

1. Asked to press a button when they feel a tap, people respond \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (before/after) they become conscious they have responded. In comparison with unconscious processing, conscious processing has a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (limited/unlimited) capacity, is relatively \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (fast/slow), and processes pieces of information \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(simultaneously/serially).
2. Novel tasks \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (require/ do not require) conscious attention.

**SLEEP AND DREAMS**

**OBJECTIVE 2: Distinguish four types of biological rhythms, and give an example of each.**

1. Our bodies’ internal “clocks” control several \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Among these are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which may give rise to seasonal variations in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Some people, especially those in far northern regions, may experience a depressed winter mood called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. We may also experience cycles lasting \_\_\_\_\_\_\_\_\_\_\_\_\_\_ days, such as the female \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_; \_\_\_\_\_\_\_\_\_\_\_\_\_-hour cycles of varying \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; and \_\_\_\_\_\_\_\_\_ minute cycles, such as the various stages of sleep.

**OBJECTIVE 3: Describe the cycle of our circadian rhythm, and identify some events that can disrupt this biological clock.**

1. The sleep-waking cycle follows a 24-hour clock called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. When people are at their daily peak in circadian arousal, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is sharpest and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is

most accurate. In contrast to university students, who often are at their peak in the \_\_\_\_\_\_\_\_\_\_\_\_\_ (morning/evening), older adults tend to peak in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. We may experience \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ if our circadian rhythm is interrupted by travel across time zones. Our circadian rhythm may also be interrupted by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ changes, such as the one that occurs in the spring in many areas, and by work \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Resetting of a disrupted biological clock is facilitated by exposure to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_, which triggers proteins in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the eyes to signal the brain’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ gland to increase or decrease its production of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The cluster of cells called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_controls the circadian clock. The longer we remain awake, the more our brains accumulate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which tends to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ certain neurons and make us sleepy. We can also reset our biological clocks by adjusting our \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**OBJECTIVE 4: List the stages of the sleep cycle, and explain how they differ.**

1. The sleep cycle consists of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ distinct stages.
2. The rhythm of sleep cycles was discovered when Aserinsky noticed that, at periodic intervals during the night, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a sleeping child moved rapidly. This stage of sleep, during which \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ occur, is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. The relatively slow brain waves of the awake but relaxed state are known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ waves.
4. During Stage 1 sleep, people often experience \_\_\_\_\_\_\_\_\_\_\_\_\_\_ sensations similar to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. These sensations may later be incorporated into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. The bursts of brain-wave activity that occur during Stage 2 sleep are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. Large, slow brain waves are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_ waves. First in Stage \_\_\_\_\_\_\_\_\_\_\_\_\_\_, and increasingly during Stage \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ sleep, which are therefore called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_\_\_\_\_ sleep. A person in the latter stage of sleep generally will be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (easy/difficult) to awaken. It is during this stage that people may engage in sleep \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Describe the bodily changes that accompany REM sleep.

1. During REM sleep, the motor cortex is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (active/relaxed), while the muscles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (active/relaxed). For this reason, REM sleep is often referred to as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ sleep.
2. The rapid eye movements generally signal the beginning of a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. PET scans reveal heightened activity in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ areas of the brain during REM sleep.
3. The sleep cycle repeats itself about every \_\_\_\_\_\_\_\_\_\_\_\_\_ minutes. As the night progresses, Stage 4 sleep becomes \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (longer/briefer) and REM periods become \_\_\_\_\_\_\_\_\_\_\_\_\_ (longer/briefer). Approximately \_\_\_\_\_\_\_\_\_\_\_ percent of a night’s sleep is spent in REM sleep.

**OBJECTIVE 5: Explain why sleep patterns and duration vary from person to person**

1. Newborns spend nearly \_\_\_\_\_\_\_\_\_\_\_\_\_ (how much?) of their day asleep, while adults spend no more than \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Sleep patterns are influenced by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, as indicated by the fact that sleep patterns among \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (identical/fraternal) twins are very similar. Sleep is also influenced by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Allowed to sleep uninhindered, most people will sleep 9 hours a night. People who sleep less than that for several nights in a row will often show signs of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**OBJECTIVE 6:**

**Discuss several risks associated with sleep deprivation.**

1. Teenagers typically need \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hours of sleep but now average nearly \_\_\_\_\_\_\_\_\_\_\_\_\_\_ hours less sleep than teenagers of 80 years ago. To psychologist William \_\_\_\_\_\_\_\_\_\_\_\_\_, this indicates that the vast majority of students are dangerously sleep-deprived. One indication of the hazards of this state is that the rate of \_\_\_\_\_\_\_\_\_\_\_\_ tends to increase immediately after the spring time change in Canada and the United States. Another is that sleep deprivation may suppress the body’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ system and alter metabolic and hormonal functioning in ways that mimic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and are conducive to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Describe the effects of sleep deprivation.

**OBJECTIVE 7: Identify four theories of why we sleep.**

1. Two possible reasons for sleep are to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ us and to help restore body tissues, especially those of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Animals with high waking \_\_\_\_\_\_\_\_\_\_\_\_ produce an abundance of chemical \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_that are toxic to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Sleep also facilitates our \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the day’s experiences and stimulates \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ thinking.
2. During sleep a growth hormone is released by the \_\_\_\_\_\_\_\_\_\_\_\_\_ gland. Adults spend \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (more/less) time in deep sleep than children and so release \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (more/less) growth hormone.

**OBJECTIVE 8: Identify the major sleep disorders**

1. A persistent difficulty in falling or staying asleep is characteristic of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Sleeping pills and alcohol may make the problem worse since they tend to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (increase/decrease) REM sleep.
2. The sleep disorder in which a person experiences uncontrollable sleep attacks is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. People with this disorder may collapse directly into \_\_\_\_\_\_\_\_\_\_\_\_\_\_ sleep and experience a loss of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_. The brains of people with this disorder lack a neural center in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that produces the neurotransmitter \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Individuals suffering from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ stop breathing while sleeping. This disorder is especially prevalent among \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. The sleep disorder characterized by extreme fright and rapid heartbeat and breathing is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_. Unlike nightmares, these episodes usually happen early in the night, during Stage \_\_\_\_\_\_\_\_\_\_\_\_\_ sleep. The same is true of episodes of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_, problems that \_\_\_\_\_\_\_\_\_\_\_\_\_ (run/do not run) in families. These sleep episodes are most likely to be experienced by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (young children/adolescents/older adults), in whom this stage tends to be the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**OBJECTIVE 9: Describe the most common content of dreams.**

1. Dreams experienced during \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ sleep are vivid, emotional, and bizarre. During \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ dreams, the dreamer may be sufficiently aware to wonder whether he or she is, in fact, dreaming.
2. For both men and women, 8 in 10 dreams are marked by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (positive/negative) emotions, such as fears of being \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Although females tend to dream equally often about males and females, males tend to dream more about \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. This gender difference \_\_\_\_\_\_\_\_\_\_\_ (is/is not) found in cultures worldwide.

**OBJECTIVE 10: Compare the major perspectives on why we dream.**

1. Freud referred to the actual content of a dream as its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ content. Freud believed that this is a censored, symbolic version of the true meaning, or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_, of the dream.
2. According to Freud, most of the dreams of adults reflect \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ wishes and are the key to understanding their inner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Freud’s theory has given way to the theory that dreams serve an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-processing function. Support for this theory is provided by the fact that REM sleep facilitates \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. Other theories propose that dreaming serves some \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ function, for example, that REM sleep provides the brain with needed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Such an explanation is supported by the fact that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (infants/adults) spend the most time in REM sleep.
5. Still other theories propose that dream are elicited by random bursts of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ activity originating in lower regions of the brain, such as the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. According to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_\_\_\_\_ theory, dreams are the brain’s attempt to make sense of this activity. The bursts are believed to be given their emotional tone by the brain’s \_\_\_\_\_\_\_\_\_\_\_\_ system, especially the \_\_\_\_\_\_\_\_\_\_\_\_\_\_. Other theorists see dreams as a natural part of brain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ development.
6. Researchers agree that we \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (need/do not need) REM sleep. After being deprived of REM sleep, a person spends more time in REM sleep; this is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ effect.
7. REM sleep \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (does/does not) occur in other mammals. Animals such as fish, whose behavior is less influenced by learning, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (do/do not) dream. This finding supports the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_\_\_\_\_ theory of dreaming.

**HYPNOSIS**

**OBJECTIVE 11: Define *hypnosis*, and note some similarities between the behavior of hypnotized people and that of motivated unhypnotized people.**

1. Hypnosis is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in which a hypnotist suggests that a subject will experience certain feelings or thoughts, for example. Its discovery is attributed to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, who claimed to have discovered an “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.”
2. The weight of research evidence suggests that hypnosis \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (does/does not) allow a person to perform feats that are impossible in the normal waking state. The strength, stamina, learning, and perceptual abilities of hypnotized people \_\_\_\_\_\_\_\_\_\_\_ (are/are not) like those of motivated unhypnotized people.

**OBJECTIVE 12: Discuss the characteristics of people who are susceptible to hypnosis, and evaluate claims that hypnosis can influence people’s memory, will, health, and perception of pain.**

1. Most people are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (somewhat/not at all) hypnotically suggestible.

Describe people who are the most susceptible to hypnosis.

1. If people are led to expect that they are hypnotizable, their responsiveness under hypnosis \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (will/will not) increase.
2. The hypnotic demonstration in which a subject supposedly relives earlier experiences is referred to as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_. Research studies show that the subjects in such demonstrations have memories that are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (more/no more) accurate than the memories of fully conscious people.
3. An \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ person in a legitimate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can induce people – hypnotized or not – to perform some unlikely acts.
4. Hypnotherapists have helped some people alleviate headaches, asthma, and stress-related skin disorders through the use of suggestions.
5. For \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ such as smoking and drug use, a subject’s hypnotic responsiveness \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (does/does not) make a difference in the effectiveness of hypnosis.
6. One statistical digest showed that hypnosis \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (is/is not) especially helpful for the treatment of obesity.
7. Hypnosis \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (can/cannot) relieve pain. One theory of hypnotic pain relief is that hypnosis separates, or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the sensory and emotional aspects of pain. Another is that hypnotic pain relief is due to selective \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, that is, to the person’s focusing on stimuli other than pain.
8. PET scans show that hypnosis reduces brain activity in a region involved in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to painful stimuli, but not in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cortex that receives the raw \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ input.

**OBJECTIVE 13: Give arguments for and against hypnosis as an altered state of consciousness.**

1. Skeptics believe that hypnosis may reflect the workings of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_. These findings provide support for the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ theory of hypnosis.

Summarize the argument that hypnosis is not an altered state of consciousness

1. Hilgard has advanced the idea that during hypnosis there is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or split, between different levels of consciousness.
2. The existence of a separate consciousness, which is aware of what takes place during hypnosis, is expressed in the concept of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_. Although this theory has provoked controversy, there is little doubt that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ influences do play an important role in hypnosis.

Discuss the current view of hypnosis as a blend of the two views.

**DRUGS AND CONSCIOUSNESS**

**OBJECTIVE 14: Define *psychoactive drug.***

1. Drugs that alter moods and perceptions are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ drugs.

**OBJECTIVE 15: Discuss the nature of drug dependence, and identify three common misconceptions about addiction.**

1. Drug users who require increasing doses to experience a drug’s effects have developed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for the drug. The user’s brain counteracts the disruption to its normal functioning; thus, the user experiences \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. After ceasing to use a drug, a person who experiences \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ symptoms has developed a physical \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Regular use of a drug to relieve stress is an example of\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ dependence. A person who has a compulsive craving for a substance despite adverse consequences is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to that substance.

Briefly state three common misconceptions about addiction.

**OBJECTIVE 16: Name the main categories of psychoactive drugs, and list three ways these substances can interfere with neurotransmission in the brain.**

1. The three broad categories of psychoactive drugs discussed in the text include \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which tend to slow body functions; \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which speed body functions; and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which alter perception. These drugs all work by mimicking, stimulating, or inhibiting the activity of the brain’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Psychologically, our \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ also play a role.

**OBJECTIVE 17: Explain how depressants affect nervous system activity and behavior, and summarize the findings on alcohol use and abuse.**

1. Depressants \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ nervous system activity and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ body function. Low doses of alcohol, which is classified as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, slow the activity of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ nervous system.
2. Alcohol may make a person more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ daring. Alcohol affects memory by interfering with the process of transferring experiences into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_\_\_\_\_ memory. Also, blackouts after drinking result from alcohol’s suppression of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Excessive use of alcohol can also affect cognition by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the brain, especially in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (men/women). Alcohol also reduces \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and focuses one’s attention on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and a way from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Describe how a person’s expectations can influence the behavioral effects of alcohol.

1. Tranquilizers, which are also known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, have effects similar to those of alcohol.
2. Opium, morphine, and heroine all \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (excite/depress) neural functioning. Together, these drugs are called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. When they are present, the brain eventually stops producing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**OBJECTIVE 18: Identify the major stimulants, and explain how they affect neural activity and behavior.**

1. The most widely used stimulants are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Stimulants \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (are/are not) addictive.
2. Cocaine and crack deplete the brain’s supply of the neurotransmitters \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and result in depression as the drugs’ effects wear off. They do this by blocking the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the neurotransmitters, which remain in the nerve cells’ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Cocaine’s psychological effects depend not only on dosage and form but also on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. The drug \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or MDMA, is both a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_. This drug triggers the release of neurotransmitters \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and blocks the reabsorption of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Among the adverse effects of this drug are disruption of the body’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ clock, suppression of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_, and impaired \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ functions.

**OBJECTIVE 19**: **Describe the physiological and psychological effects of hallucinogens, and summarize the effects of LSD and marijuana.**

1. Hallucinogens are also referred to as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Two common synthetic hallucinogens are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and LSD, which is chemically similar to a subtype of the neurotransmitter \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. LSD works by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the actions of this neurotransmitter.
2. The active ingredient in marijuana is abbreviated \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Marijuana is being used therapeutically with those who suffer from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. However, these medical uses are complicated by marijuana’s toxicity, which can cause \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. The negative aftereffects of drug use may be explained in part by the principle that emotions trigger \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**OBJECTIVE 20: Discuss the biological, psychological, and social-cultural factors that contribute to drug use.**

1. Drug use by North American youth \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (increased/decreased) during the 1970s, then declined until the early 1990s due to increased \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and efforts by the media to deglamorize drug use.
2. In the twenty-first century, attitudes toward alcohol \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (have/have not) changed, with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (more/fewer) people abstaining from drinking.
3. Adopted individuals are more susceptible to alcoholism if they had a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (adoptive/biological) parent with a history of alcoholism. Boys who at age 6 are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (more/less) excitable are more likely as teens to smoke, drink, and use other drugs. Genes that are more common among people predisposed to alcoholism may cause deficiencies in the brain’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ system.

Identify some of the psychological and social-cultural roots of drug use.

1. Among teenagers, drug use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (varies/is about the same) across \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ groups.
2. African-American high school seniors report the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (highest/lowest) rates of drug use. A major social influence on drug use is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ culture.
3. State three possible channels of influence for drug prevention and treatment programs.
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**NEAR DEATH EXPERIENCES**

**OBJECTIVE 21: Describe the near-death experience and the controversy over whether it provides evidence for a mind-body dualism.**

1. The reports of people who have had near-death experiences are very similar to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ reported by drug users. These experiences may be the result of a deficient supply of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or other insults to the brain.
2. That the mind and body are distinct entities is the position of the theorists known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. In contrast, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ believe that the mind and body are one.