Focus Questions

- What did Freud think about dreams?
- Do we dream in color or in black and white?

Psychology of Dreams

Throughout history, dreams have been considered mystical and, in some cases, able to predict the future. There is no scientific evidence to support such claims. Since we know that dreams are made when electrical impulses cause the firing of our own memory circuits, it is obvious that the material is coming directly from us. If coming from us, then we should be able to tell the future just as much when we're awake as during a dream—if the future can be known. It also seems unlikely that dreams tell us much more about ourselves than we already know. A dream *can* trigger a memory that we have forgotten or deal with something that we hadn't paid much attention to, but this is far different from receiving a special secret message.

Sigmund Freud analyzed dreams to find clues to his patients' inner thoughts and forbidden impulses. He believed that dreams were symbolic expressions of our unconscious conflicts. You may be surprised to learn that Freud sometimes did psychoanalysis by mail. In one of his most famous cases, he cured a boy of an irrational fear through correspondence.

In Their Own Words . . .

Recently, letters have come to light in which ***Sigmund Freud*** *interpreted a woman's dream by mail (Benjamin & Dixon, 1996). The young woman wrote that she was in love with an Italian man her parents disliked. In her dream, the man's brother gave her a letter saying that her sweetheart had married someone else. Despairing, she stabbed herself in the heart but felt no pain. In fact, she felt wonderful. She awoke depressed and upset. Here is part of Freud's reply:*

> Now for the little I can grasp of the hidden meaning of your dream. I see your emotions towards the young Italian are not undivided, not free from conflict. Besides the love you feel for him there is a trend of perhaps distrust, perhaps remorse. This antagonistic feeling is covered up during your wake life by the love-attraction you undergo and by another motive, your resistance against your parents. Perhaps if your parents did not dislike the boy, it would be much easier for you to become aware of the splitting in your feelings. So you are in a conflict about him and the dream is a way out of the maze. To be sure, you will not leave him and fulfill your parents' request. But if he drops you this is a solution. I guess that is the meaning of the dream and your emotional reaction is produced by the intensity of your love while the content of the dream is the result of the repressed antagonism which yet is active in your soul. (As quoted in Benjamin & Dixon, 1996, p. 465)

Interpreting Primary Sources

Freud wrote that besides love, the young woman probably felt distrust or remorse towards her sweetheart. What event in the woman's dream do you think led to his conclusion?

Dream Content

Most dreams, most of the time, are about very ordinary events. We dream about things from a normal day: family, friends, and school. Dreams also contain a lot of material about worries, fears, or feeling inferior, because these are concerns we all have. And often, dreams involve an argument. The good part about these kinds of dreams is that in them, we almost always turn out to be right. That's not hard to understand, since we're usually convinced we're right in the waking state. Still, it's nice to have our dreams agree with us.

While 70 percent of our dreams are about people we actually know, there are also other unexpected common images in dreams. For example, 40 percent of females dream about the sea or bodies of water, while only 27 percent of males do. Falling or being chased in a dream is very common and occurs about equally for males and females. Sex and romance are likewise typical. And the following themes occur with some frequency among completely normal males and females: violence, talking to dead friends or relatives, shoplifting, finding yourself naked in public, and discovering the "secret of the

▲ *The first dream looks like a winner. As for the other two—well, both our wishes and our fears often appear in dreams.*

universe"—which unfortunately we forget by the time we wake up (Evans & Evans, 1983).

Bizarre dreams also occur. Usually the core of the dream is reasonable, but the story winds up happening in a strange place or with people you don't expect. Thus, ugly Uncle Harry is seen starring as the handsome leading man in a romantic movie. We suspect these strange combinations occur from the random nature of the electrical firing, putting things together we normally would not allow if we were awake and in control. Strange dreams do *not* mean something is wrong with you. The only time you should be concerned is if the same dream occurs over and over and really is bothersome. Then it's time to sit down with a friend and try to figure out what it means. It will probably then disappear, as long as you don't let it worry you.

The concept that dreams are symbolic or represent deep, hidden impulses, needs, or desires has been around forever. Even world leaders have been known to guide their movements by dreams. The story goes that Abraham Lincoln had dream warnings that it was dangerous for him to go to Ford's Theatre, where he was later assassinated. Most, but not all, researchers today believe that dream content of this sort is just a reflection of daytime, waking concerns that appear at night. They do not believe that dreams are the result of some special message from another world or from our own unconscious world.

Finally, something we don't understand at all: about 50 percent of our dreams are in color, and about 50 percent are in black and white. Despite numerous experiments, we can't figure out why this is so. No, we don't even have a guess. It's not related either to the scenes in the dream or to the amount of color we see when awake. Researchers have even put colored filters over people's eyes for a week to see if that makes a difference, but it doesn't change the proportion of color in their dreams.

Focus Question

- What is the difference between nightmares and night terrors?

nightmare frightening dream that occurs during REM

REM rebound increase in the number of dreams after being deprived of REM sleep

Nightmares

Two frightening experiences can occur during sleep. The first hap pens during REM and is called the **nightmare.** Fortunately, nightmare are infrequent; only about 5 percent of the population have them as ofte as once a week. The odds that all of us will have a nightmare on occasio are very high, though, since we all carry around bad memories that ca be triggered. Nightmares are more likely when people have missed RE periods for a day or so from drinking too much alcohol or not gettin enough sleep. The reason nightmares appear then is that if REM i blocked, **REM rebound** occurs. REM rebound refers to the fact that th first time we go to sleep after being deprived of REM, both the length an the number of dreams increase (rebound) dramatically to make up for th loss. Hence, the chances of having unpleasant dreams increase. In genera however, we have no evidence that nightmares indicate something i wrong with the person. They seem to be just part of dreaming. An despite the fact that you will hear the rumor frequently, nightmares are n caused by eating something strange.

Night Terrors

night terror a horrible dream occurring during NREM, when the body is not prepared for it; also called an *incubus attack*

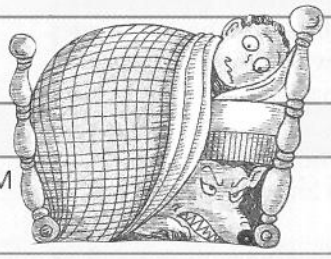
The second frightening experience during sleep is another kind dream, one that you may have been lucky enough to avoid. It is called **night terror,** a horrible dream that is quite vivid and real.

What makes night terrors so awful is that they occur during NREM, n REM. The body knows that a regular dream is coming every 90 minutes an prepares for it, but the body is caught completely unprepared by a unpleasant dream that is triggered during NREM. The physical overload

In Focus

Comparing Nightmares to Night Terrors

Nightmares	Night Terrors
Occur during REM, usually during the second half of the night	Occur during NREM, usually during the first hour of sleep
Mild physiological changes	Drastic bodily changes: breathing and heart rate rise dramatically
Associated with vivid images	Associated with panic
Most likely to occur during REM rebound	Most likely to occur in children



Why do nightmares usually occur during the second half of the night?

Being a child is not always fun, especially when the monsters are after you.

causes sets off major bodily changes. Breathing rate zooms upward, the person feels choked, and heart rate takes off to an unbelievable 170-plus beats a minute. These events create a feeling of panic and a fear of dying. The sleeper usually springs up in bed, sweating, nauseated, and afraid.

Night terrors are fairly common in very young children. For some unknown reason, these dreams seem to be connected with a maturing brain. Thus, in general, night terrors should probably *not* be treated by a professional, since all that would do is call attention to them and frighten the child even more. The child will most likely grow out of them. If night terrors occur with any frequency beyond middle adolescence, however, the chances are good that something physical is wrong, and this should not be ignored. A physical exam is clearly in order.

Pause for Thought

1. Describe a typical sleep cycle for one night.
2. What are three hypotheses about why we dream?
3. What are some of Freud's main beliefs about dreaming?

Critical Thinking

4. Neighbor A has a son who suffers night terrors. Neighbor B has a daughter who has been having nightmares. Explain how the two problems differ and why everything will probably be OK.

Losing Sleep

Two famous cases highlight the dangers of staying awake for long stretches of time (Coren, 1996).

In 1959, New York disc jockey Peter Tripp announced he would raise money for charity by staying awake for 200 hours. He spent most of his time in an army recruiting booth so that people passing on the street could watch his progress. He ignored doctors' warnings about pursuing his goal but did agree to let them examine him every so often. As you might expect, Tripp's ordeal was a bumpy ride. He hit some deep lows, but he was also able to present his three-hour radio broadcast each day, which probably means he could adjust his biological clock to some extent, even under these circumstances. By the fourth day he had a difficult time completing even simple tasks like reciting the alphabet. He thought spots on the table were bugs and imagined spiders in his radio booth. Near the end of his marathon, he believed that one of his doctors wanted to bury him alive and ran away from him in terror. When he finally got to sleep, he dozed for thirteen hours, and his mood returned to normal.

In 1964, a young man from San Diego, Randy Gardner, decided he would stay awake for 264 hours for a school science fair. That's eleven days, if you're counting! Like Tripp, Gardner experienced wide-ranging highs and lows. The people who were with him during the more normal periods reported that Gardner suffered no ill effects from staying awake so long and, for years afterward, others were led to believe that maybe sleep isn't so crucial after all. In fact, Gardner experienced many of the same symptoms as Tripp. After only the second day, he had trouble focusing and wouldn't watch TV for the rest of his time awake. He couldn't concentrate well, and his memory was often terrible. One time, a psychologist who was monitoring Gardner asked him to begin at 100 and keep subtracting seven. After a few subtractions, Gardner stopped and seemed to be struggling for the next number, then couldn't even remember what he was supposed to be doing. His speech was often slurred; his thinking became confused. At various points in his experiment, he also suffered delusions, believing one time that he was a famous black football player and misinterpreting others' remarks as racist. When he finally reached his goal, he slept for almost fifteen hours and woke up feeling normal.

Although both men suffered no long-term damage, they were clearly setting themselves up for a host of potential problems. Rats deprived of sleep during laboratory experiments die after about three weeks. Curiously, autopsies fail to pinpoint an exact cause of death in these cases. So why is sleep so important? One possible answer may involve REM, or dream sleep. Maybe we sleep so we can dream; maybe dreams are that essential. If people are awakened, for example, every time they are about to have a dream, they feel as bad as if they had had no sleep at all. The importance of dreams is also shown by the fact that nearly all creatures—except for one species of bird—have what appear to be dream periods. Elephants, cows, rats, mice, cats, rabbits, and donkeys all have REM.

Review the Case Study

Describe several common symptoms you experience when you don't get enough sleep

Practical Issues in Sleep

Focus Questions

- Does everyone need about the same amount of sleep?
- Are sleepwalkers really asleep?
- Is insomnia a common problem?

A person's patterns of sleep change as the years progress. Infants spend a good 75 percent of the time in REM sleep. The brain has so much building to do that chemicals are used up very quickly and need to be constantly restored. By adolescence, the brain is fully developed, but major physical and psychological changes are still going on. As a result, regular sleep is important—at least in theory. Adolescents usually have so many "social obligations" that their sleeping schedule is chaotic. Finally, toward old age, people require much less deep sleep, probably because of changes in the brain cells that control sleep. In this section, we deal with issues that apply to the teenage years through age 25.

Social Entrainment

Problems can arise from too much *social entrainment* of sleep cycles. Sometimes, for social purposes, we alter our rhythms—because, for example, we are going to too many parties, visiting too much, or "hanging out" too much. Just getting eight hours of sleep is not enough. Sleep has to come at the right point in the circadian cycle. Otherwise, the cycle gets off-balance, which in turn makes the person feel terrible and also leads to errors on the job or to trouble solving problems. If there is not enough REM, the body craves more. The longer this goes on, the harder it becomes to get back to a reasonable rhythm.

▲ *New mothers often have to catch a few hours' sleep whenever they can—not the most restful way to do it.*

Length of Sleep

People differ in the amount of sleep they need each night. For most of us, though, the body tends to seek about seven to eight hours' worth. Some people need a little more and some a little less. You actually have to experiment to find out what the correct amount is. Almost no one can get by for any length of time with less than five hours of sleep a night. Teenagers need a little more sleep than adults do, between eight and nine hours a night. However, today teenagers average almost two hours less sleep than they did several decades ago (Holden, 1993). In fact, these days many people are sleeping less in order to do more. The effects of this trend are potentially quite harmful. Productivity suffers when people get too little sleep; it doesn't increase. And people are more prone to mental confusion and accidents when they are sleep deprived.

Although, on occasion, a normal person can sleep up to 17 hours a night, too much sleep doesn't work either (Winfree, 1987). After sleeping 11 hours, the brain is drowsy and we do poorly on tasks requiring alertness. Long sleepers (10 hours plus) also tend to die earlier than short sleepers (6 hours). But this is probably not related to sleep itself. For one thing, long sleepers are less active. Another factor centers on something we mentioned earlier: Those with problems need more REM, so they sleep more. If you worry a lot, your stress level is going to be much higher overall, and your body is more likely to give out earlier.

▶ *Contrary to popular belief, it is not dangerous to waken a sleepwalker.*

Walking and Talking in Your Sleep

A fair number of people sleepwalk or talk in their sleep. Neither i
cates something is wrong with them. On the side of the brain, there
specific areas that control body movements and speech (see Chapter
When random electrical impulses hit these areas, they cause walkin
talking. Such behavior typically occurs during stage 4 sleep, a deep NR
sleep period, so the person is not really awake or making much se
Trying to communicate is fruitless. You may have heard it is dangerou
awaken a sleepwalker. That's not true at all. Sleepwalkers are just asle
Wake them up so they don't wander off and hurt themselves. Just be s
they're sitting or lying down first.

Sleep Disturbance

About 10 percent of adult Americans have trouble sleeping. M
such problems are self-created. Dogs and cats don't seem to h
insomnia (in-SOM-nee-ah), the inability to get enough sleep.

insomnia the inability to get enough sleep

The two most common causes of insomnia are getting out of the r
mal circadian cycle and taking drugs or alcohol, especially before goin
sleep. The irony is that these drugs (including "relaxers" or "sleep
pills") tend to block REM sleep. As a result, over a week or so, we are
ing more and more REM sleep and feeling worse and less able to sl
By the end of a week, we are starting to feel depressed. The m
depressed we are, the more we need REM, and so forth. Really heavy a
hol use for an extended period of time can cause such severe R
rebound that dreams appear while the person is still awake—in a form

night terrors. Bugs seem to be attacking, snakes are crawling under the bed, and so forth. These are the result of continued heavy use of drugs or alcohol. On the other side, sometimes drugs can help bring on sleep for a very brief time after a trauma, such as a death in the family.

An infrequent problem that usually starts sometime in the teens or early twenties is **narcolepsy.** In this disorder, an individual can go into "instant" REM anywhere, anytime, even while driving a car or talking to someone. Thus, although rare, it is extremely dangerous, since the person immediately loses consciousness. Drugs are available that often help, so treatment is mandatory. We don't know the cause.

narcolepsy disorder in which a person falls instantly into sleep no matter what is going on in the environment

Another problem, usually with older people, is called **sleep apnea** (AP-nee-ah). The word *apnea* means "not breathing." Someone with this disorder literally stops breathing hundreds of times during sleep and keeps waking up. Normally, the person doesn't know this is happening.

sleep apnea condition in which a person's breathing often stops while the person is asleep

suggestion is basic to hypnosis.