

States of Consciousness

The Many Faces of Awareness

States of Consciousness

The Many Faces of Consciousness

- Consciousness
- Waking Consciousness
- Altered States of Consciousness

States of Consciousness

The Many Faces of Consciousness

- Alterations in thinking
- Disturbed sense of time
- Loss of control
- Change in emotional expression
- Perceptual distortions
- Change in meaning or importance of events
- Sense of the indescribable
- Feelings of rejuvenation
- Hypersuggestibility

Methods of Bringing on and ASC

- Repetition, Monotony, Restricted Movement
 - Solitary Confinement, Trekking, Highway Hypnosis, Immobilization
- Barrage of Stimulation, Extensive Activity
 - Torture, Grilling, Frenzied Dancing, Brainwashing, Crowd Influence, Long Distance Running, Emotional Conflict
- Mental Concentration
 - Praying, Sentry Duty, Reading, Writing, Problem Solving, Absorbing Tasks, Flow States

Methods of Bringing on and ASC

- Passivity, Daydreaming, Drowsiness
 - Meditation, Autohypnosis, Soothing Music, Free Association, Muscular Relaxation
- Physiological Factors
 - Changes in body chemistry, Dehydration, Sleep Deprivation, Fever, Illness, Drug Use, Drug Withdrawals

The Need for Sleep

- Innate Biological Rythm
- Microsleep
- Sleep Deprivation
- Sleep Deprivation Psychosis

Sleep Patterns

- Daily Patterns
 - 6 to 8 hours average in adults
- Short Sleepers
- Long Sleepers

Sleep Throughout Life

- Infancy
 - NewBorn
 - Have 6-8 sleep periods a day
 - 16 hour days
 - 3-6 months
 - Sleep throughout the night
 - 6 months
 - Spend half the night asleep

Sleep Throughout Life

- Childhood
 - Amount of sleep begins to decline
 - 11 hours of sleep per night
 - Preschool
 - Sleep through the night , one nap during the day
 - 6 to 12 years
 - Sleep drops from 11 hours to 8 hours
 - Stage four sleep at its highest

Sleep Throughout the Night

- Adolescence
 - Less likely to wake up on their own
 - Apt to sleep later and take afternoon naps
- Young Adulthood
 - Take 10-15 minutes to fall asleep
 - Awaken once every other night and stay awake 5 to 15 minutes
 - Avg 7-8 hours/ great variability from day to day
 - Half of sleep in Stage 2 ; 1/4 spent in REM

Sleep Throughout Life

- Late Adulthood
 - Stage 4 accounts for 40 minutes of sleep period
 - Major changes in sleep patterns occur
 - Night prowlers
 - Trouble falling asleep
 - Few periods of deep sleep

How much Sleep Do We Need?

- Sleep varies from person to person.
- Some of us need 10 hours, while others need only 5.
- Normal is 7 to 8 hours of sleep
- Your sleep patterns will change over time, esp. during times of stress

Stages of Sleep

- Electroencephalograph (EEG)
- Alpha, Beta, Delta Waves
- Four Stages of Sleep
- Stage 1
- Stage 2
- Stage 3
- Stage 4

Four Sleep Stages

- Stage 1
 - Occurs a few minutes after bedtime
 - Light sleep
 - Brain waves become irregular
 - Heart rate, breathing slow
 - Muscles relax
 - May or may not realize you've been asleep

Four Sleep Stages

- Stage 2
 - Brain waves slow
 - Bursts of activity called spindles appear
 - Heart rate, breathing, and temperature continue to decrease
- Stage 3
 - Spindles disappear
 - Brain waves become long and slow (Delta Waves)
 - Hard to awaken

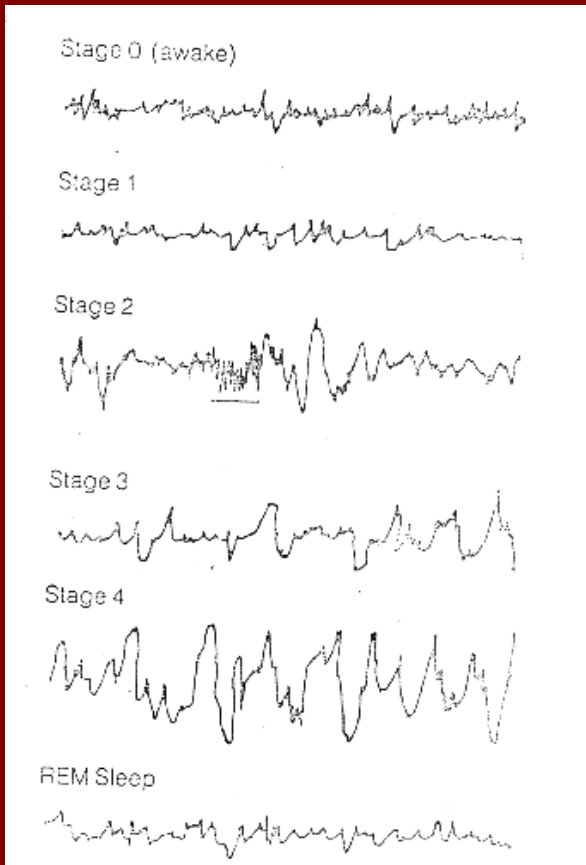
Four Stages of Sleep

- Stage Four
 - Deep Sleep (deepest level of normal sleep)
 - Occurs in 15 to 20 minutes segments in young adults
 - Lessens with age
 - Reached about an hour after falling asleep
 - Brain waves are almost totally Delta

Two Basic States of Sleep

- Non-Rem
- Rem
- Rem Sleep and Dreaming
- Rem Behavior Disorder

Brain Wave Patterns



Brain Wave Patterns

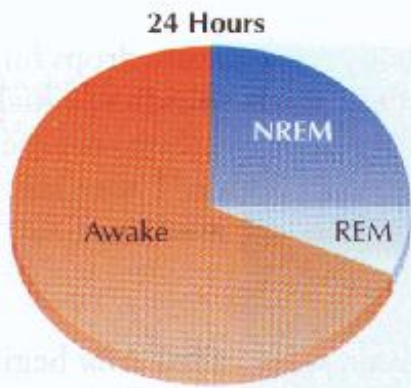
Beta (Waking State)

Alpha (Relaxed State)

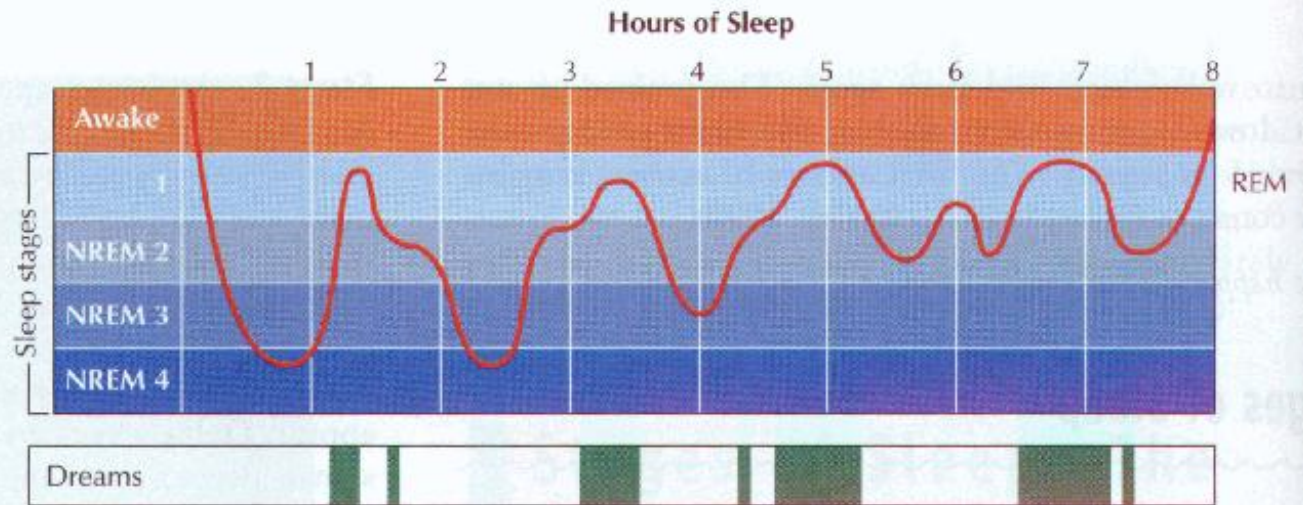
Delta (Deep Sleep)

REM (Dreaming State)

Hours of Sleep



(a)



(b)

Sleep Disturbances

Sleep Walking and Sleep Talking

- Somnambulists
- Sleep Talking

Sleep Disturbances

Nightmares and Night Terrors

- Nightmares
- Night Terrors
- How To Eliminate a Nightmare

Sleep Disturbances

Things That Go Wrong in the Night

- Hypersomnia
- Insomnia
- Narcolepsy
- Nightmare disorder
- Period limb movement syndrome
- REM behavior disorder
- Sleep Apnea
- Sleep drunkenness
- Sleep terror disorder
- Sleep-wake schedule disorder
- Sleep walking disorder

Sleep Disturbances

Table 8-1 ■ Sleep Disturbances—Things That Go Wrong in the Night

Hypersomnia Excessive daytime sleepiness. This can result from depression, insomnia, narcolepsy, sleep apnea, sleep drunkenness, periodic limb movements, drug abuse, and other problems.

Insomnia Difficulty in getting to sleep or staying asleep; also, not feeling rested after sleeping.

Narcolepsy Sudden, irresistible, daytime sleep attacks that may last anywhere from a few minutes to a half hour. Victims may fall asleep while standing, talking, or even driving.

Nightmare disorder Vivid, recurrent nightmares that significantly disturb sleep.

Periodic limb movement syndrome Muscle twitches (primarily affecting the legs) which occur every 20 to 40 seconds and severely disturb sleep.

REM behavior disorder A failure of normal muscle paralysis, leading to violent actions during REM sleep.

Restless legs syndrome An irresistible urge to move the legs in order to relieve sensations of creeping, tingling, prickling, aching, or tension.

Sleep apnea During sleep, breathing stops for 20 seconds or more until the person wakes a little, gulps in air, and settles back to sleep; this cycle may be repeated hundreds of times per night.

Sleep drunkenness A slow transition to clear consciousness after awakening; sometimes associated with irritable or aggressive behavior.

Sleep terror disorder The repeated occurrence of night terrors that significantly disturb sleep.

Sleep-wake schedule disorder A mismatch between the sleep-wake schedule demanded by a person's bodily rhythm and that demanded by the environment.

Sleepwalking disorder Repeated incidents of leaving bed and walking about while asleep.

Bond & Wooten, 1996; DSM-IV, 1994; Haari & Linde, 1990.

Sleep Disturbances

Narcolepsy

- Definition
- Cataplexy
- Tend to fall into deep REM sleep

Sleep Disturbances

Insomnia

- Definition
- Drug Dependency Insomnia
- Types and Causes of Insomnia
 - Temporary
 - Chronic Insomnia

Insomnia

Behavioral Remedies

- Avoid Stimulants
- Take care of worries before bed
- Relaxation
- Sleep Restriction
- Stimulus Control
- Paradoxical Intention

Sleep Quotient Quiz

- <http://www.sleepfoundation.org/nsaw/sleepiq99i.cfm>

How To Get A Good Night's Sleep

Five Basic Strategies

- Never Oversleep
- Set Your Body Clock
- Exercise
- Don't Nap
- Set a Bedtime Schedule

Five Basic Strategies

Never Oversleep

- Never oversleep because of a poor night's sleep
 - This is a most crucial rule
 - Get up about the same time everyday
 - Sleeping late for several days can reset the body clock to a different cycle
 - You'll be getting sleepy later and waking up later

Five Basic Strategies

Set Your Body Clock

- Light helps restart the clock to its active daytime phase
 - When you get up, go outside and get some sun
 - Or, turn on the lights in the house
 - Walk around for awhile to get the blood circulating more oxygen to your brain.

Five Basic Strategies

Exercise

- Keep physically active during the day after a bad night's sleep
 - When you sleep less you should be more active during the day
 - Being less active is the worst thing an insomniac can do
 - Strenuous exercise in the late afternoon seems to promote more restful sleep

Five Basic Strategies

Don't Nap

- Do not take any naps after you've lost sleep
 - When you feel sleepy, get up and do something
 - While studying, get up regularly (every 30 minutes)
 - Do a gentle stretch, walk around the room
 - Exercise will increase the oxygen to the brain and help you be more alert

Five Basic Strategies

Set a Bedtime Schedule Two Part Strategy

- Part One:
 - Get to bed at about the same time every night
 - Be regular. Going to bed at about the same time every night can make sleep as regular as hunger

Five Basic Strategies

Set a Bedtime Schedule Two Part Strategy

- Part Two
 - Go to bed later when you are having trouble sleeping
 - If you're only getting five hours of sleep during the insomnia, go to bed five hours before you need to get up.
 - Make the time you spend in bed sleep time.
 - Still have some insomnia, Go to bed proportionally later. Then as your time in bed becomes good sleep time, move the time forward

Additional Sleep Strategies

Develop a Bedtime Routine

- Stop studying and don't get into any stimulating discussions or activities a half hour or an hour before bedtime.
- Do something that's relaxing
- Find your own sleep promoting routine

Additional Sleep Strategies

Warm Bath, yes; Shower, no

- Take a long hot bath before going to bed. This helps you to relax and soothe your muscles.
- Showers tend to wake you up. Insomniacs should avoid showers in the evening

Additional Sleep Strategies

List “gotta do’s”

- Keep a pad and pencil handy.
- If you think of something you want to remember, jot it down. Then let the thought go. There will be no reason to lie awake worrying about remembering it.

Additional Sleep Strategies

To Eat or Not to Eat

- Make the evening meal the major meal of the day
- Schedule it at least four hours before bedtime so your digestive system will be reasonably quiet by the time you're ready to sleep.

Additional Sleep Strategies

Warm Milk

- Milk has an essential amino acid which stimulates the brain chemical serotonin, believed to play a key role in inducing sleep.
- A piece of whole wheat bread or another carbohydrate enhances the effect

Additional Sleep Strategies

Avoid Some Foods

- Avoid caffeine, fermented cheese ripe avocados, beers, bologna, pepperoni and red wines

Additional Sleep Strategies

Cut Down on Alcohol

- Alcohol might make you sleepy, but it results in shallow and disturbed sleep, abnormal dream periods, and frequent early morning awakening.

Sleep Disturbances

Sleep Apnea

- Definition
- Hypersomnia
- SIDS
- Warning Signs
 - Mother is a teenager
 - Baby is premature
 - Baby engages in snoring, breath holding, or awakens frequently
 - Mouth breather
 - Remains passive when rolled onto its face; moves little in sleep
 - Smokers live in the house

Dreams

A Separate Reality

- Rem Sleep Deprivation
- Functions of Rem Sleep

Dreams

REM Sleep and Memory

- Rem sleep seems to help in the formation of memories and strategies that help us cope with the world.
- Dreaming may also help to “erase” useless memories.

Dreams

Dream Worlds

- Most dreams reflect everyday events.
- Most actions take place between dreamer and 2 or 3 emotionally significant people.
- Dream actions are mostly familiar
- About half had sexual elements.
- Unpleasant conditions are more frequent than pleasant emotions.

Dreams

Dream Theories

- Psychodynamic Dream Theory
- Wish fulfillment
- Freud
- Dream symbols
- Activation-Synthesis Hypothesis
- Hobson and McCarly

Hypnosis

Look Into My Eyes

- Hypnosis is an altered state of consciousness, characterized by narrowed attention and an increased openness to suggestion.

Hypnosis

Hypnotic Susceptibility

- 8 out of 10 people can be hypnotized
- Only 4 out of ten will be hypnotic subjects
- Hypnotic susceptibility is one's capacity to become hypnotized.
- Hypnotizability is very stable over time.

Table 8-3 ■ **Stanford Hypnotic Susceptibility Scale**

Suggested Behavior	Criterion of Passing
1. Postural sway	Falls without forcing
2. Eye closure	Closes eyes without forcing
3. Hand lowering (left)	Lowers at least 6 inches by end of 10 seconds
4. Immobilization (right arm)	Arm rises less than 1 inch in 10 seconds
5. Finger lock	Incomplete separation of fingers at end of 10 seconds
6. Arm rigidity (left arm)	Less than 2 inches of arm bending in 10 seconds
7. Hands moving together	Hands at least as close as 6 inches after 10 seconds
8. Verbal inhibition (name)	Name unspoken in 10 seconds
9. Hallucination (fly)	Any movement, grimacing, acknowledgment of effect
10. Eye catalepsy	Eyes remain closed at end of 10 seconds
11. Posthypnotic (changes chairs)	Any partial movement response
12. Amnesia test	Three or fewer items recalled

Adapted from Weitzenhoffer & Hilgard, 1959.

Hypnosis

Stanford Hypnotic Susceptibility Scale

Hypnosis

Inducing Hypnosis

- Techniques for inducing hypnosis include:
 - 1. focus attention on what is being said
 - 2. relax and feel tired
 - 3. let go and accept suggestions easily
 - 4. to use vivid imaginations
- Self hypnosis
- Basic suggestion effect
- Hidden observer

Hypnosis

Effects of Hypnosis

- 1. Superhuman acts of strength
- 2. Memory
- 3. Amnesia
- 4. Pain relief
- 5. Age repression
- 6. Sensory changes

Hypnosis

Effects of Hypnosis

- Hypnosis is a valuable tool for inducing relaxation, controlling pain, and enhancing psychotherapy.
- In general, hypnosis is better at changing subjective experiences than it is at modifying behaviors such as smoking or overeating.

Hypnosis

Stage Hypnosis

- Stage hypnosis is often merely a simulation of hypnotic effects.
- Features of Stage Hypnosis
 - Waking suggestibility
 - Selection of responsive subjects
 - The hypnosis label disinhibits
 - The stage hypnotist uses tricks

Sensory Deprivation

Life on a Sensory Diet

- Sensory deprivation refers to any major reuction is external stimulation.

Sensory Deprivation

Disruptive Effects

- Color distortions
- Visual illusions
- Slower reactions
- Warping of visual lines and spaces

Sensory Deprivation

Benefits of Sensory Restriction

- Sensory enhancement
- Relaxation
- Changing habits
- Prospect

Drug Altered Consciousness

The High and Low of It

- Psychoactive Drugs
- Any substance that is capable of altering attention, judgement, time sense, self-control, emotion, or perception.
- List of substances - legal and illegal - is extensive

Drug Altered Consciousness

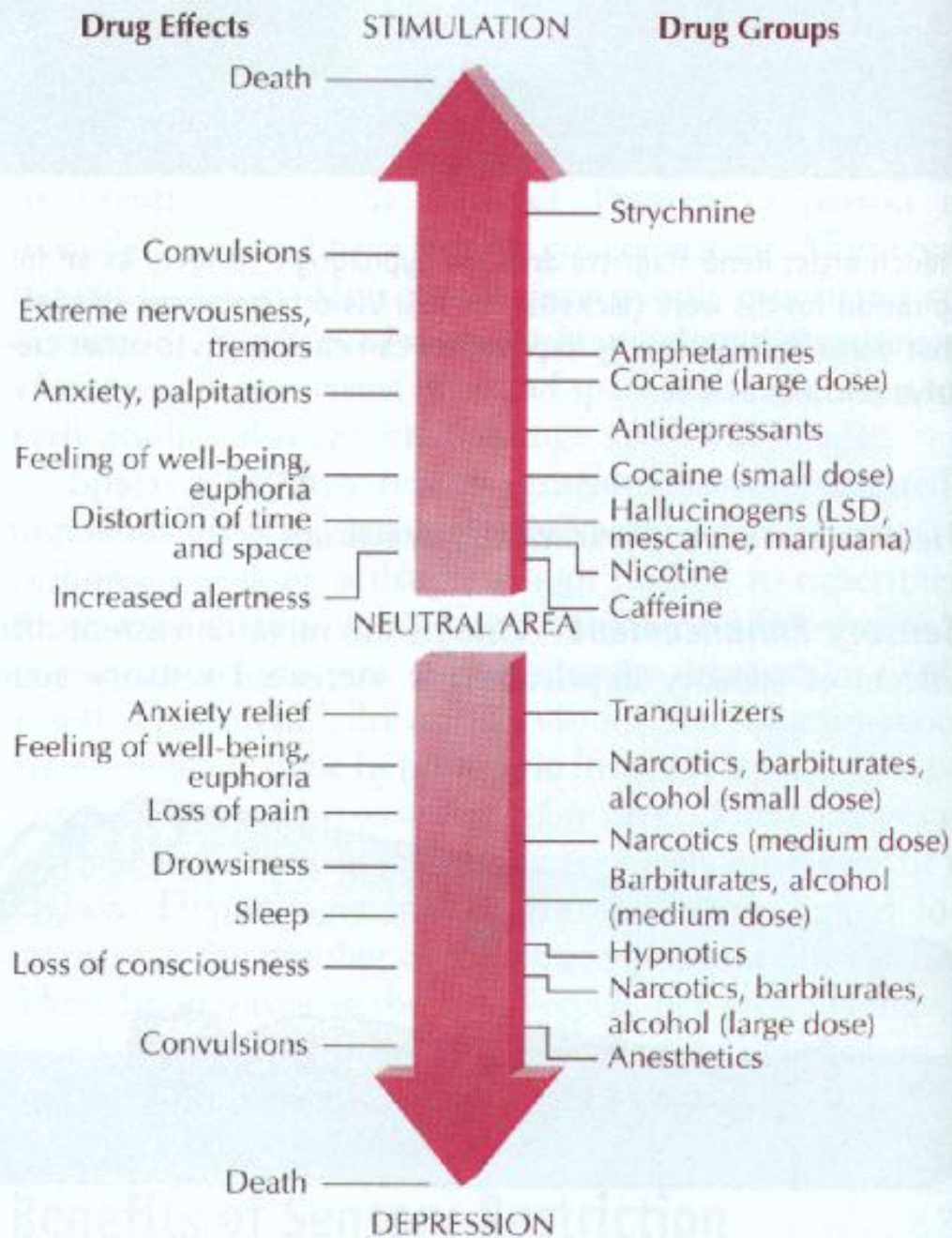
Substance Abuse Qualifiers

- A pattern of use such as intoxication throughout the day, an inability to cut down or stop, a need for its daily use in order to function adequately, and the continuing use of the substance even if it make a physical disorder worse.
- Disturbance in social relationships or deterioration of occupational functioning
- Signs of disturbance lasting for at least a month

Drug Altered Consciousness

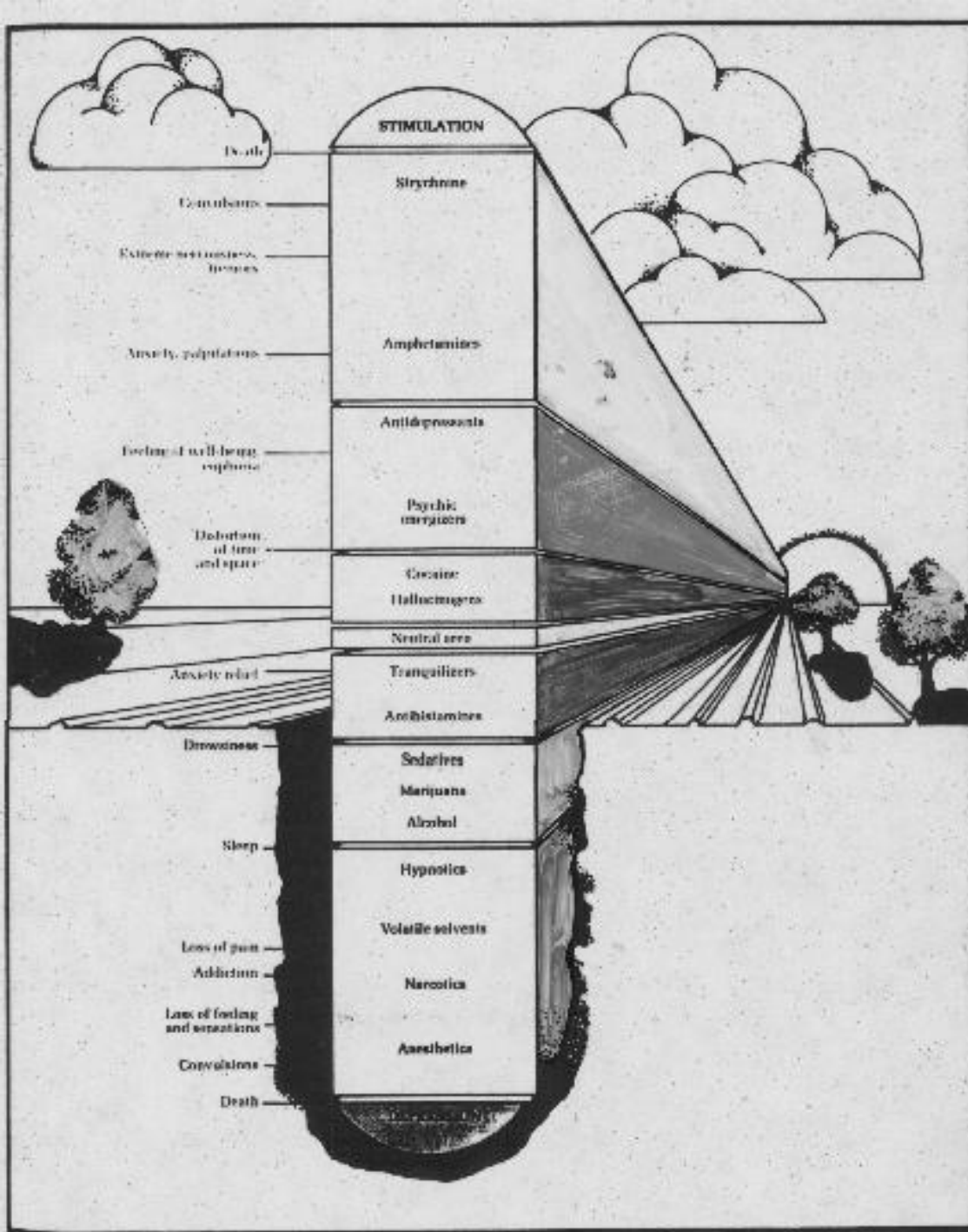
Facts About Drugs

- Stimulant
- Depressant
- Hallucinogenic
- Physical dependence
- Withdrawal symptoms
- Psychological dependence



Drug Spectrum and Continuum

Drug Spectrum



Facts About Drugs

Patterns of Abuse

- Experimental
- Social-Recreational
- Situational
- Intensive
- Compulsive

Drug Altered Consciousness

Effects of Stimulants

- Stimulants which affect the central nervous system. Also called “speed,” “uppers,” “pep pills.”
- Short term effects include restlessness, sleeplessness, irritability, nervousness.
- Can cause hallucinations, depression, anxiety, paranoia, violent and bizzare behavior, and injuries

Effect of Stimulants

Aphetamines

- The Brain
 - May cause permanent brain damage, speech and thought disturbances
- The Heart
 - Rapid or irregular heart beat. Heart disease or heart attack from high does.
- The Blood Vessels
 - Serious life threatening infections. High blood pressure. May also lead to strokes and comma.

Amphetamines, Cocaine, Nicotine

Amphetamine Abuse

- Abuse
- Amphetamine psychosis

Amphetamines, Cocaine, Nicotine

Cocaine Abuse

- A white crystalline powder extracted from the leaves of the coca plant.
- Highly addictive
- Immediate effects include loss of appetite, increased blood pressure, heart rate, breathing, and body temperature.

Caffeine

Caffeine Abuse

- Caffeine stimulates the brain by blocking chemicals that normally inhibit nerve activity.
- Caffeine causes sweating, talkitiveness, tinnitus, and hand tremors.
- Psychologically, caffeine suppresses fatigue, and increases feelings of alertness.

Caffeine

Abuse

- Serious abuse may result in an unhealthy dependence on caffeine called caffeinism.
- Insomina, irritability, loss of appetite, chills, racing heart, and elevated body temperature may result.
- Caffeine encourages the development of breast cysts in women and contributes to bladder cancer, heart problems, and high blood pressure.

Table 8-5 ■ Average Caffeine Content of Various Foods

Instant coffee (5 ounces),	64 milligrams
Percolated coffee (5 ounces),	108 milligrams
Drip coffee (5 ounces),	145 milligrams
Decaf. coffee (5 ounces),	3 milligrams
Black tea (5 ounces),	42 milligrams
Canned iced tea (17 ounces),	30 milligrams
Cocoa drink (6 ounces),	8 milligrams
Chocolate drink (8 ounces),	14 milligrams
Sweet chocolate (1 ounce),	20 milligrams
Colas (12 ounces),	50 milligrams
Soft drinks (12 ounces),	0–52 milligrams

Amphetamines, Cocaine, Nicotine

Nicotine Abuse

- A natural stimulant found mainly in tobacco
- Sometimes used as an insecticide
- Smokers build up a tolerance to the drug
- In large doses nicotine may cause convulsions, respiratory failure, and death

Nicotine

Abuse

- Nicotine is addictive
- Withdrawal causes headaches, sweating, cramps, insomnia, digestive upset, irritability, and sharp craving for nicotine
- Withdrawal symptoms may last from 2 to 6 weeks

Nicotine

Impact on Health

- Cigarettes release 6,800 different chemicals
- Many are carcinogens
- 97 per cent of lung cancer deaths are smoking related

Smoking Related Facts

Personal and Social Impact

- Every cigarette reduces life expectancy by 7 minutes
- #1 cause of death in the US and Canada
- Smoking related cost in the US amount to \$50 billion a year
- 40% of all smokers who develop throat cancer try smoking again
- Only 1 in 5 smokers who tries to quit succeed

Smoking Related Facts

Personal and Social Impact

- Second hand smoke can cause 24 to 39 per cent increase in cancer risk to non-smokers
- The scientific link between smoking and cancer is firmly established.

Nicotine

Dynamics of Smoking

- What does a smoker experience:
- Most smokers want to quit
- Smoke to keep nicotine levels constant
- Smokes only to prevent withdrawal

Nicotine

Quitting Smoking

- Cold Turkey
- New Strategies

Depressants

Barbiturates

- Sedative drugs that depress brain activity
- Used to calm patients or to induce sleep
- Mild doses has the same effect as alcohol
- High doses causes confusion, or psychotic symptoms
- Overdose can lead to coma or death

Depressants

Tranquilizers

- Lowers anxiety and reduces tension
- Alleviates nervousness and stress
 - Valium, Xanax, Halcion, Librium
- Can cause drowsiness, shakiness, and confusion
- Strong potential for addiction

Tranquilizers

Abuse

- Most abused are Seconal and Tuinal
 - Act quickly and induce intoxication and last 2 to 4 hours
- Repeated use can cause addiction
- Can cause severe depression that may end in suicide
- Drug interaction

Depressants

Alcohol

- Effects
 - Small doses
 - Large doses
- Alcohol myopia
- Abuse
- Recognizing an alcohol problem

Alcohol

Development of a Drinking Problem

- Early Warnings
- Signals Not to Be Ignored

Alcohol

Moderated Drinking

- Personal and Social Responsibility
- Paced Drinking
- Treatment for Alcoholism

Table 8-6 ■ Drinking in Moderation

Your Weight (Pounds) **Approximate Number of Drinks per Hour to Stay Below 0.05 Blood Alcohol***

	<i>Male</i>	<i>Female</i>
100	0.75	0.60
120	1.00	0.75
140	1.25	0.90
160	1.30	1.00
180	1.50	1.10
200	1.60	1.20
220	1.80	1.35

One drink = 12 ounces beer, 4 ounces wine, 2.5 ounces brandy, or 1.25 ounces 80 proof liquor.

*Table entries are approximate, owing to the individual differences in metabolism, recency of meals, and other factors. Estimates are from tables prepared by Vogler and Bartz (1982, 1992).

Alcohol

Drinking

in

Moderation

Chart

Alcohol

Effects of Alcohol

- Causes increase in aggression, hostility, violence, and abusive behavior
- Dulls effects of environmental cues to proper behavior and to make the user less aware of and less concerned about the negative or unpleasant consequences of his or her actions

Alcohol

Effects of Alcohol

- Affects perceptual and motor processes; diminishes visual acuity, depth perception, and the perception of the differences between bright lights and colors
- Smell and taste are diminished, and the perception of time also becomes distorted
- Reaction time is slowed about 10% with a 80 to 100 mg dose

Alcohol

Effects of Alcohol

- In tasks requiring attention to several simultaneous stimuli, both speed and accuracy are greatly reduced

Alcohol

Alcohol Abuse in America

- 500 million gallons consumed annually
- 60% of high school seniors and 75% of college students used alcohol during the month
- 39% of adults and 34% of teens do not consider alcohol a drug
- Only 7% think alcoholism is a problem

Alcohol

Alcohol Use in America

- Implicated in 66% of all fatal auto accidents
- Implicated in 66% of all murders
- Implicated in 90% of all knifings
- Implicated in 50% of all violent child abuse cases
- Alcohol abuse related costs of \$100 billion
- 40% of all heavy drinkers die before age 65

Hallucinogens

Types

- Marijuana
- LSD
- PCP
- Psylicibin

Marijuana

What's in the Pot

- THC
 - A mild hallucinogen that alters sensory impressions
- Typical psychological effects include a sense of euphoria or well being, relaxation, altered time sense, and perceptual distortions
- A high dose causes paranoia, hallucinations, and delusions

Marijuana

What's in the Pot?

- No overdose deaths have been reported from marijuana
- THC accumulates in the body. In a real sense the users body is never really free from the THC
- Marijuana's potential for abuse lies primarily in the area of psychological dependence.

Marijuana

Abuse and Dangers

- 1. Marijuana cause bronchitis; pre-cancerous changes in the lungs
- 2. Lowers sperm count in males and produces abnormal sperm
- 3. May cause abnormal menstrual cycles and disrupt ovulation. Some studies suggest a higher rate of miscarriages

Marijuana

Health Risks

- 4. Can suppress the immune system
- 5. May be the cause of genetic cell damage
- Lowers cerebellum activity, leading to a loss of coordination