INTRODUCTION TO PSYCHOLOGY
Psychology 101

East-West University/Fall 2022

Defining Psychology

- Scientific study of behavior and mental processes
- Behavior
- Mental processes
- Critical thinking
- Empirical method (Any procedure for conducting an investigation that relies upon experimentation and systematic observation rather than theoretical speculation)

Critical Thinking

- Thinking deeply and actively
- Asking questions
- Evaluating the evidence
- Characteristics of critical thinking
  - Curiosity
  - Skepticism
  - Objectivity: T**he tendency to base judgments and interpretations on external data rather than on subjective factors, such as personal feelings, beliefs, and experiences**

Counterintuitive

- Intuition
  - The ability to understand something immediately, without the need for conscious reasoning
- Contradiction to intuitive thinking

History of Psychology

- Early psychologists foused on observable behavior
- Freud: First to focus on abnormal behavior
  - Three parts of personality
    - Id, ego and superego

Contemporary Approaches to Psychology

- Biological
- Behavioral
- Psychodynamic
- Humanistic
- Cognitive
- Evolutionary
- Sociocultural

Biological

- Emphasizes the body (esp. the brain and nervous system)
- Neuroscience
- “What area of the brain is involved in fear responses?”

Behavioral (B.F. Skinner)

- Focuses on the scientific study on *observable* behavior
- *Instrumental conditioning*

Psychodynamic (Freud)

- Focuses on:
  1. Unconscious thought
  2. Conflict between biological demands and society's demands
  3. Early childhood experiences

Sociocultural

- Examines the influences of social and cultural factors

The Scientific Method

1. Observing some phenomenon
2. Formulating hypotheses and prediction
3. Testing through empirical research
4. Drawing conclusions
5. Evaluating conclusions

Types of psychological research

- Descriptive
  - Observation
    - Better if more than one person observes
  - Surveys
    - Standard list of questions/*items*
    - Can only be used to describe what people think
    - Clear and understandable for all *subjects*
  - Interviews
    - May not be as structured as surveys

Types of psychological research

- Case studies
  - Single individual
  - Specific group
  - Family unit
  - What is learned may not apply to others
  - When multiple case studies are published , knowledge in an area is advanced

Types of psychological research

- Correlational
  - Measures how two variables change together
  - Correlation ≠ causation
  - Third variable (confound) problem
  - Correlational coefficient
    - (-1.0 to +1.0)
    - 0 = no relationship between the two variables

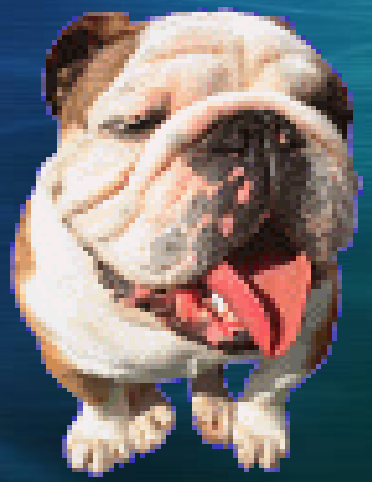
Types of psychological research

- Experimental
  - Experiment (a scientific procedure undertaken to make a discovery, test a hypothesis, or demonstrate a known fact.)
  - Experimenter manipulates one or more variables that are believed to influence some other variable
  - Random assignment
  - Independent variable
  - Dependent variable
  - Experimental group
  - Control group

Independent and dependent variables

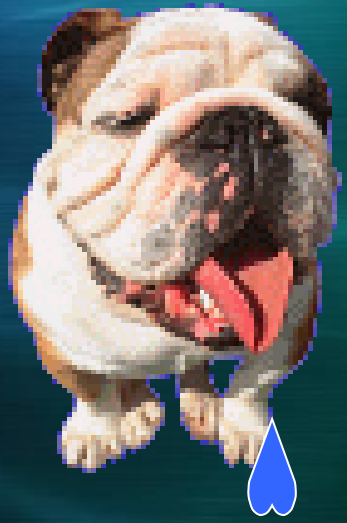
- Independent (IV): Causes something to happen
- Dependent (DV): The variable that that shows the effect of changing the IV
- Pavlov's dog

Triggers and Cravings

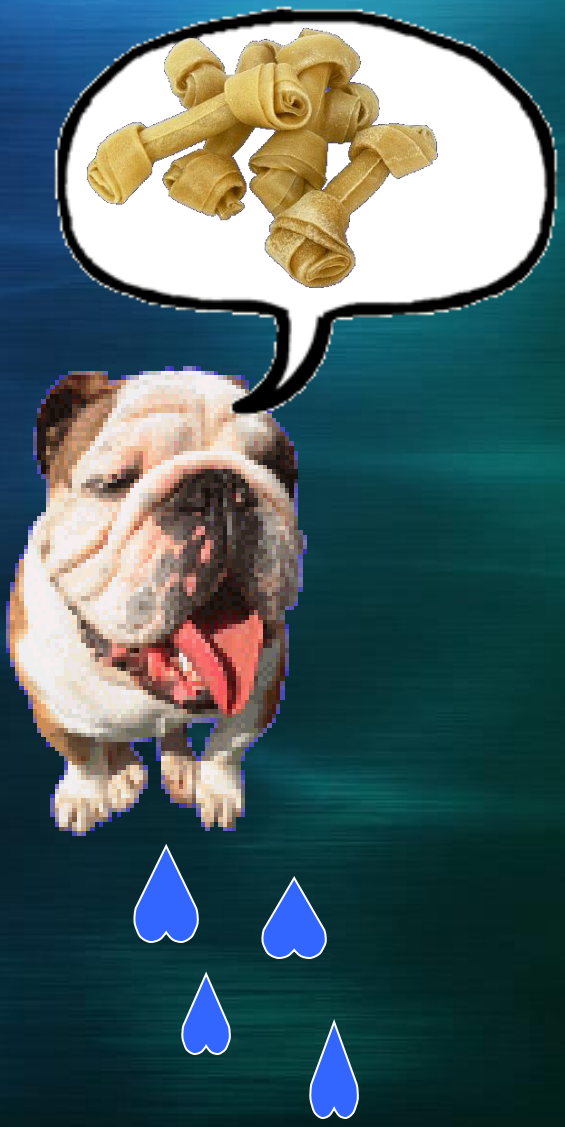


Pavlov's Dog: Exposure to Food produces salivation

Triggers and Cravings

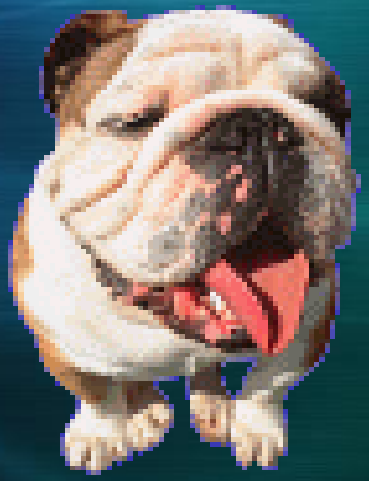


Pavlov's Dog: Producing a conditioned response



Pavlov's Dog: Pavlov's Dog:
Producing a conditioned response

Triggers and Cravings



Pavlov's Dog: Extinction

Independent and dependent variables

- Independent (IV): Causes something to happen
- Dependent (DV): The variable that that shows the effect of changing the IV
- Pavlov's dog
  - IV = food/bell
  - DV: salivation

Types of psychological research

- Experimental
  - Experiment (a scientific procedure undertaken to make a discovery, test a hypothesis, or demonstrate a known fact.)
  - Experimenter manipulates one or more variables that are believed to influence some other variable
  - Random assignment
  - (Independent variable)
  - (Dependent variable)
  - Experimental group
  - Control group

Research samples and settings

- Population
- Sample
- Random sample
- Laboratory setting
- Naturalistic setting

Research ethics

- IRB
- First do no harm
- Informed Consent
- Protection from harm
- Deception
- Coercion
- Debriefing
- Confidentiality and anonymity

Informed consent

- Procedure occurs before research begins
- Knowledge of what will happen
- Voluntary participation
- Right to withdraw from research at any point
- Purpose of the research/logistics
- Risks involved
- Agree/disagree to do it/be involved/be treated
- Informed consent document

Protection from harm

- Minimize risk of harm
  - Physical
  - Psychological
- Risk-benefit analysis

Deception

- Misleading
- “Hide the truth”
- May be acceptable
  - Milgram study
- Confederates
- Risk-benefit analysis

Coercion

- *Coerce:* Force or pressure someone to do something against their will
- Accomplished through threats

Debriefing

- Occurs after the study concludes
- Purpose of study
- Procedure of study
- Reveal deception
- Questions/concerns

Confidentiality/Anonymity

- Right to privacy
- All identifying information kept in a secure environment

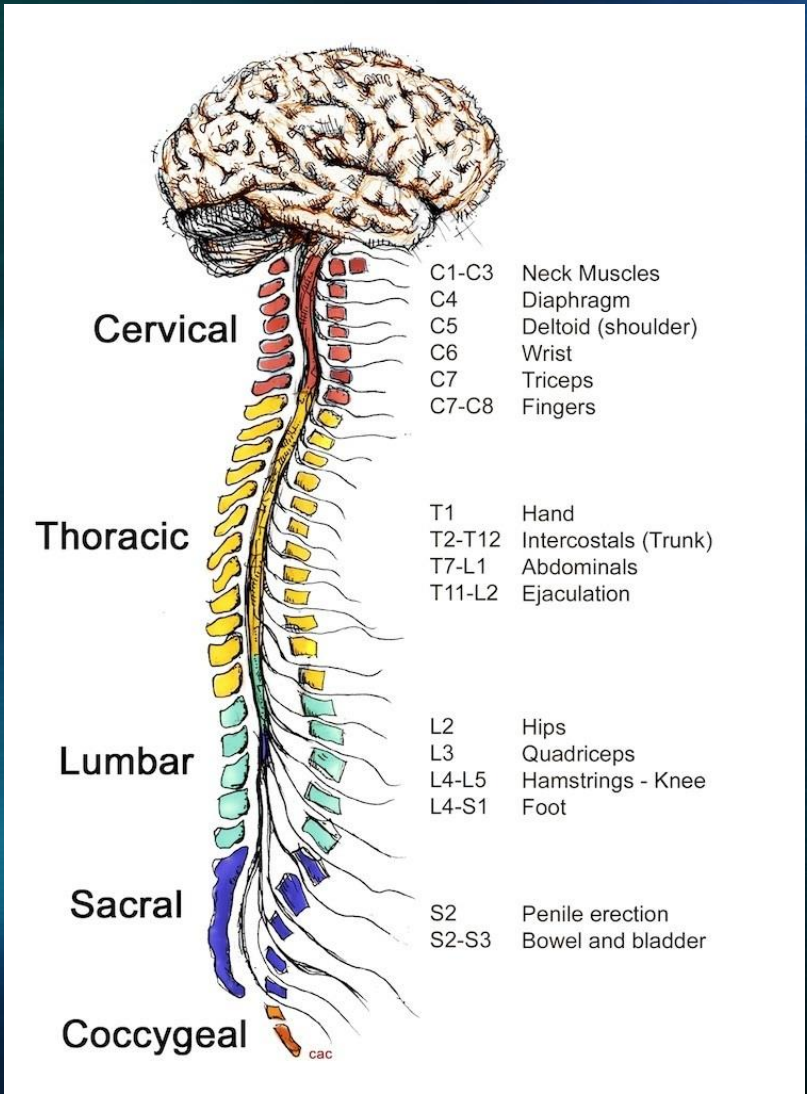
THE BRAIN AND BEHAVIOR

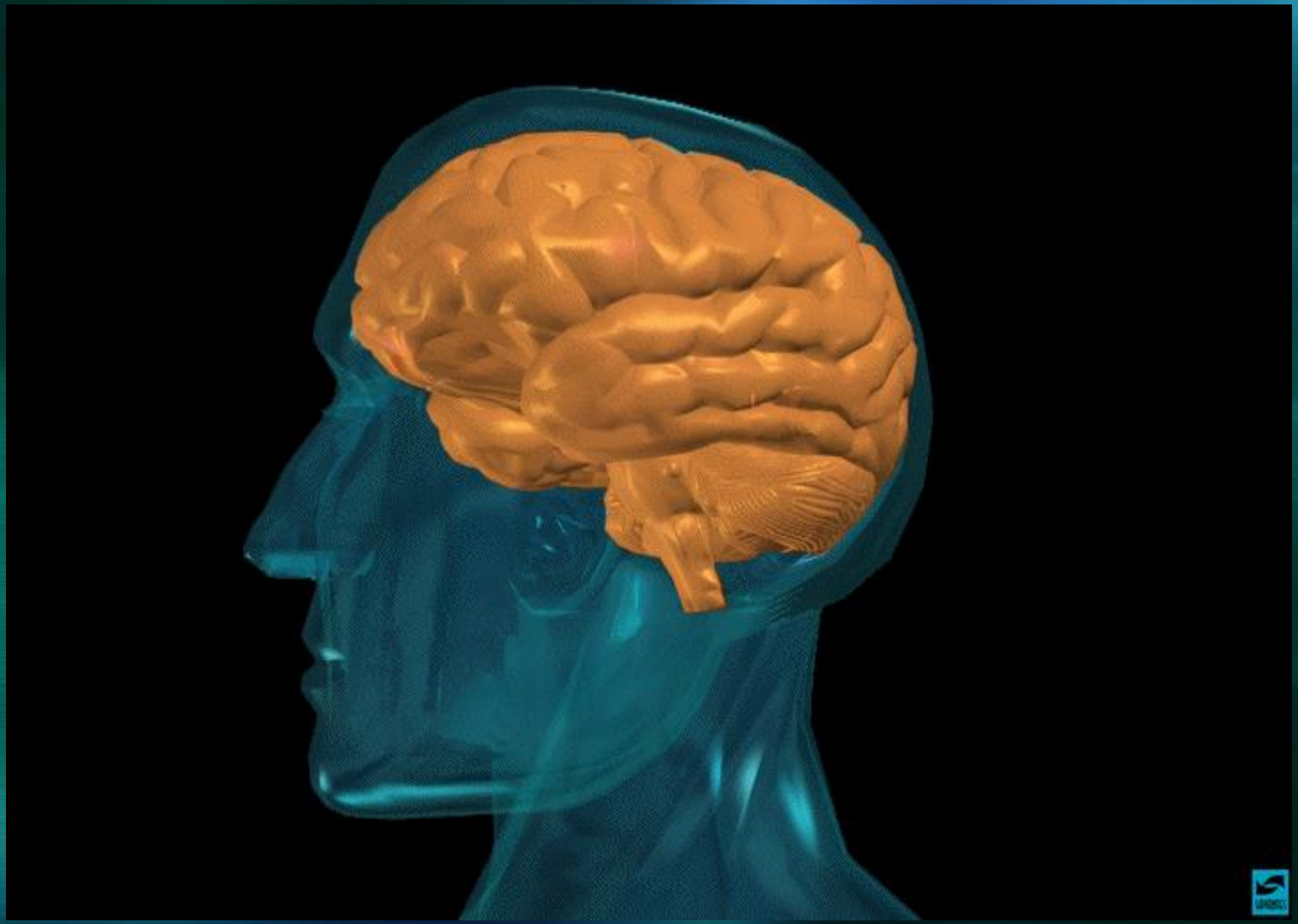
Psychoneurology

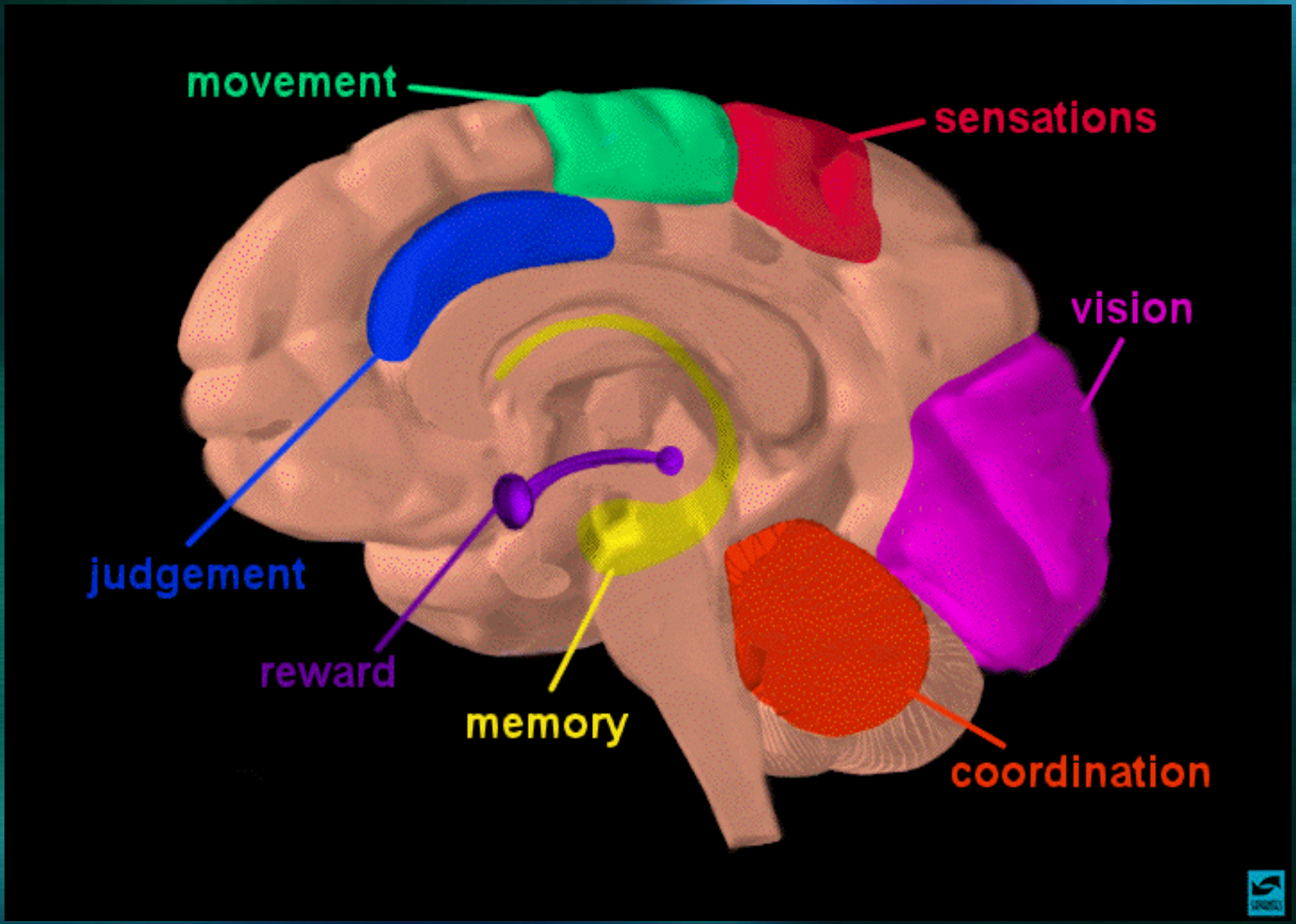
The human nervous system

- Billions of brain cells (neurons)
- Plasticity
- Neurotransmission (electrochemical)
- Synapse

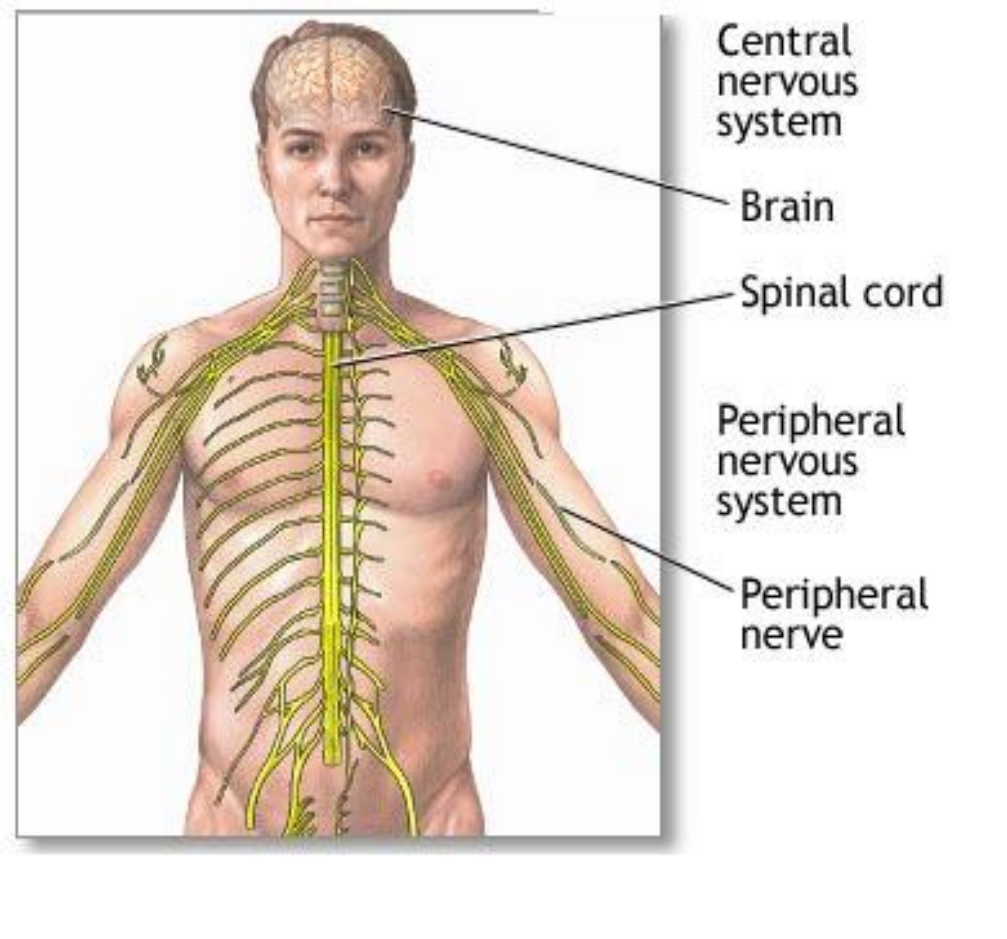
Central nervous system (CNS)






movement
sensations
vision
judgement
reward
memory
coordination

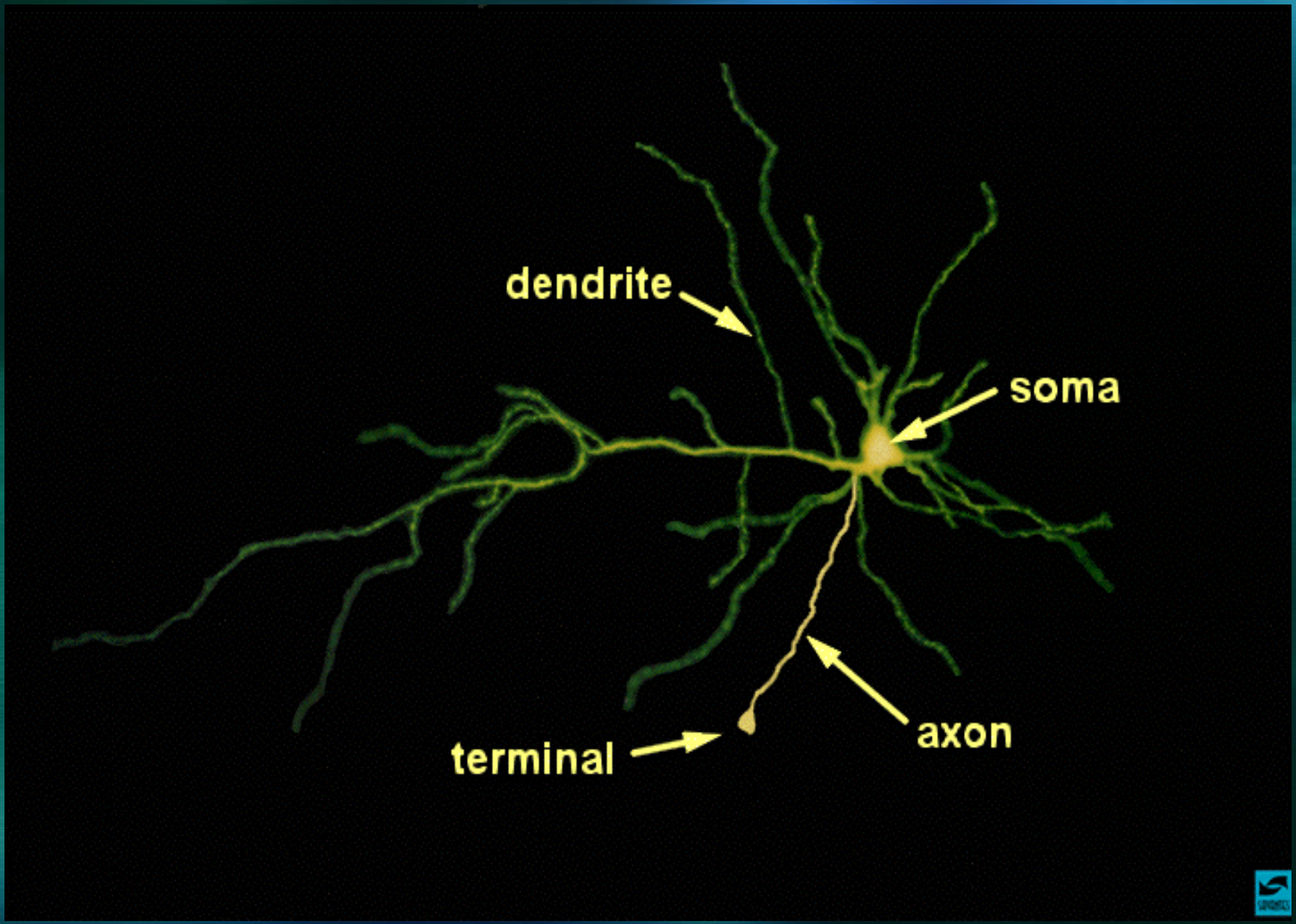
Peripheral Nervous System (PNS)



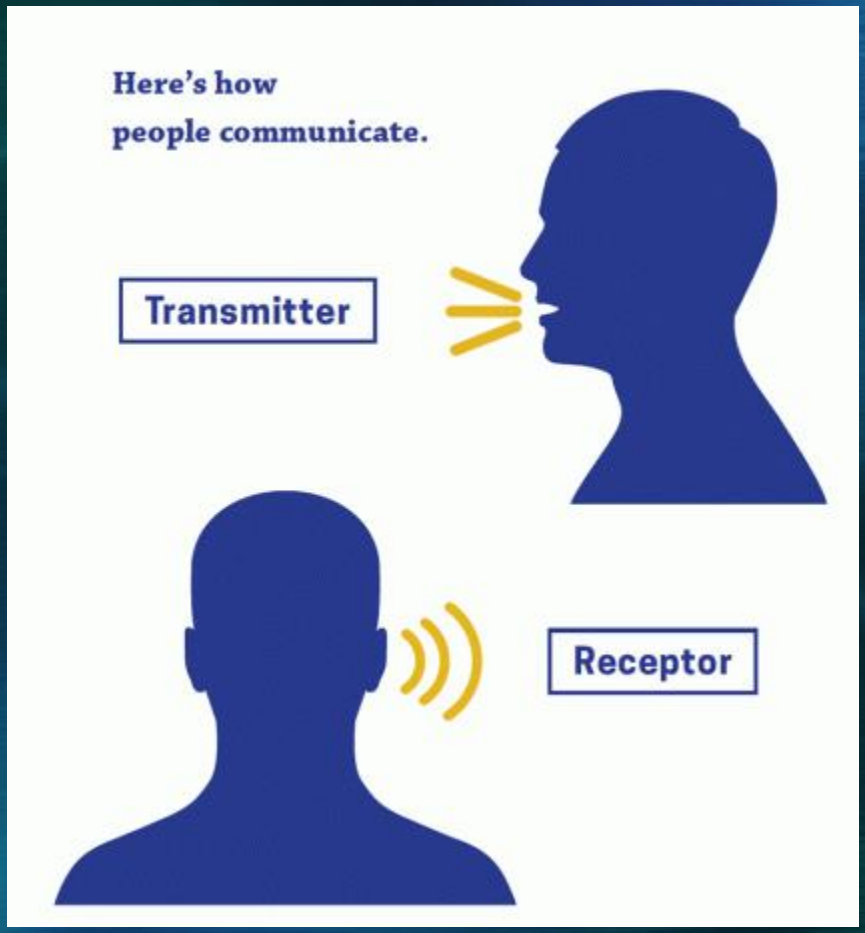
Sympathetic and Parasympathetic Nervous System

- Sympathetic:
  - Release of adrenaline and stress hormone
  - Increases pulse, breathing, blood pressure, blood flow to brain
  - Dilates pupils
  - Decreases digestive activity
- Parasympathetic
  - Opposite effects

Neurons


dendrite
soma
axon
terminal

Here's how
people communicate.



NEUROTRANSMITTERS

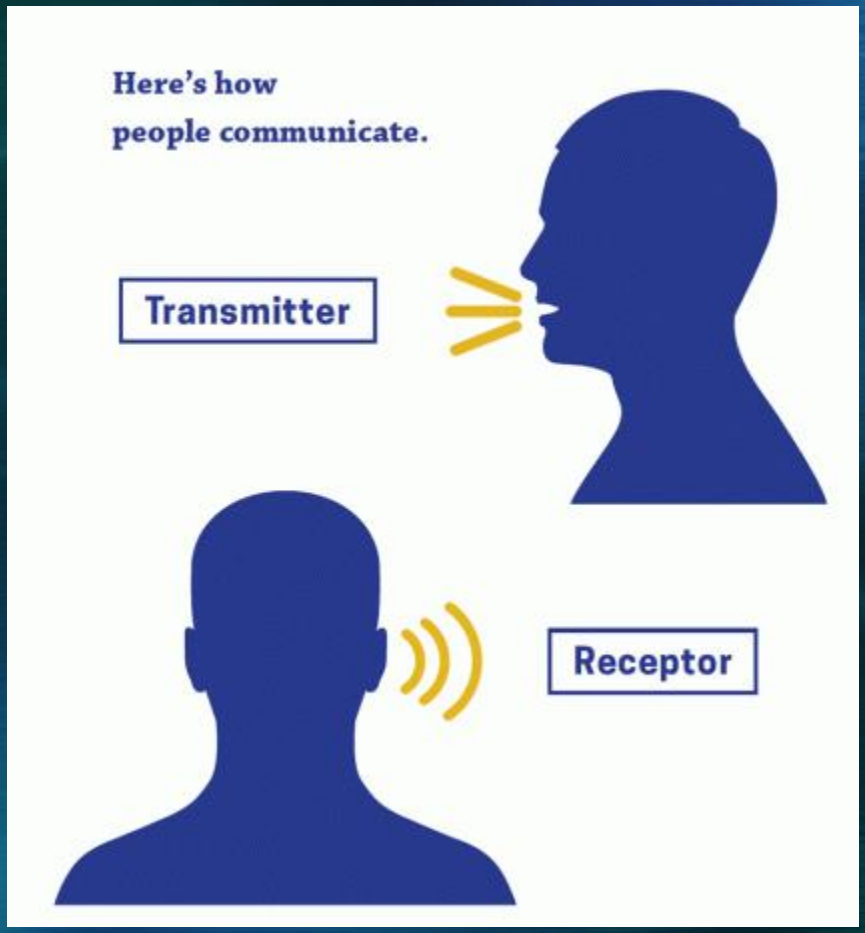
- Naturally-occurring brain chemicals
- Many psychoactive drugs resemble neurotransmitters:

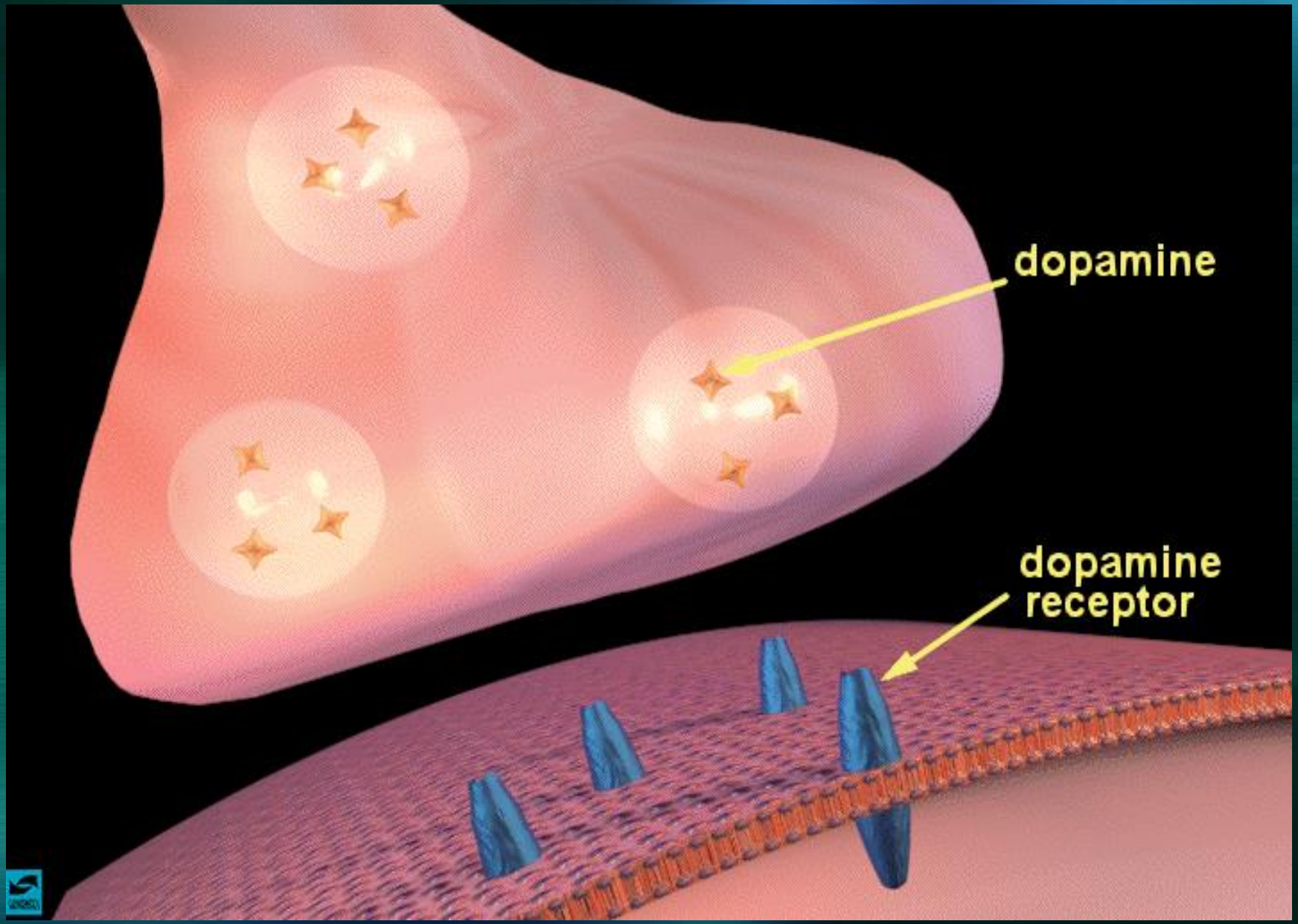
Neurotransmitters

- Acetylcholine (Ach)
- GABA
- Norepinephrine
- Dopamine
- Serotonin
- Endorphins
- Oxytocin

Receptor sites

Here's how
people communicate.




dopamine
dopamine receptor

Agonists and antagonists

- Agonist: Fits into receptor site and causes an action
- Antagonist: Occupies the receptor site, but does not cause an action except possibly reversing the action of the agonist

Structure of the brain

- Hind brain
- Midbrain
- Forebrain
  - Limbic system
  - Amygdala
  - Hippocampus
- Thalamus
- Hypothalamus
- Cortex

Cerebral Cortex

- “Neocortex”
- Lobes
  - Frontal
  - Parietal
  - Occipital
  - Temporal
- Somatosensory cortex
- Motor cortex
- Association cortex

Endocrine System

- Consists of glands that regulate the activities of certain organs by releasing their chemical products into the bloodstream
  - Pituitary
  - Thyroid
  - Parathyroid
  - Adrenal
  - Pancreas
  - Testes/Ovaries
- Glands produce chemical messengers called *hormones*

Genetics

Genetic basics

- Chromosomes
- DNA
- Genes
- Human genome
- Gregor Mendel
  - Dominate-Recessive principle
- Polygenic inheritance (more than one gene influences a characteristic)
- Selective breeding

Behavioral Genetics

- **Degree and nature of genetic influence on behavior**
- Intact twin studies
- Adoption studies
- Nature Vs. nurture
- Genotype
- Phenotype
- Gene x environment (G x E) interaction

Intelligence

SENSATION AND PERCEPTION

Psychology 101

Sensation

- The process of receiving stimuli energies from the external environment and transforming these energies into neural energy
- Receiving messages from the world around you and creating brain signals
  - Sight
  - Hearing
  - Touch
  - Taste
  - Smell

Perception

- Process of organizing and interpreting sensory information so that it makes sense
- Process through which the brain gives meaning to sensation

- Sensation and perception are a unified processing system

Sensory Receptors

- Vision: Photoreception detection of light, perceived as sight
- Hearing: Mechanical perception of vibration, perceived as hearing
- Touch: Mechanical perception of pressure, perceived as touch
- Smell: Chemoreception of chemical stimuli, perceived as smell
- Taste: Chemoreception of chemical stimuli, perceived as taste

Auditory Processing

- Allow us to communicate through speech and sound
- Sound waves (vibrations)

Structures of the ear

- Outer ear: Collects sounds and funnels them to the interior ear
- Middle ear:
  - Separated from the outer ear by the tympancic membrane (ear drum)
- Inner ear: Purpose is to convert sound waves into signals that ca be sent to the brain

Auditory Processing in the brain

- Auditory nerve carries messages to the auditory section of the cortex
- Localizing sound: Ears in a different places, so they pick up slightly different versions of the same sound.

Skin senses
Cutaneous senses

- Touch: Mechanical energy (pressure)
  - Route of touch sensation: Spinal cord, brain stem, thalamus, somatosensory cortex
  - Different areas of the body have different levels of sensitivity (hands more than legs)
- Temperature: thermoreceptors (warm and cold)

Skin senses
Cutaneous senses

- Pain: The sensations that warm us of damage to the body
- Intense stimulation of any of the senses can produce pain (e.g., too bright, too loud)
- Tells motor system tha it must act to prevent further injury

Skin senses
Pain

- Pain sensors exist throughout the body
- Endorphins:
  - Involved in turning on and off pain sensations
  - Primarily involved in the slow pathway
- Varying tolerances for pain
- Culture

Chemical Senses

- Taste
  - “Taste buds” (papillae): send messages to the sensory section of the brain
  - Salty, sweet, bitter, sour
  - *Unami (“yummy”)*
  - Culturally influenced

Chemical Senses

- Smell
  - Purpose: Tasting food, selecting romantic partners, identifying source of smell
  - Olfactory epithelium:
    - Line the nose
    - Can replace themselves
  - Route to brain:
    - Does not pass through the thalamus
    - Smell nerve impulses go directly to sensory cortex, then to the limbic system (center for emotion)

Kinesthetic and Vestibular Senses

- Provide information about your movement and position in space
  - Kinesthetic: Movement, posture and orientation
  - Vestibular: Balance and movement
    - Proprioception/proprioceptive
    - Semicircular canals

STATES OF CONSCIOUSNESS

Psychology 101

The Nature of Consciousness

- Defining consciousness
- Consciousness and the brain
- Theory of mind
- Levels of awareness

The Nature of Consciousness

- Defining consciousness
  - The private inner mind
    - Thoughts
    - Feelings
    - Imagination
    - Reliving experiences
- Stream of consciousness
  - Continuous flow of changing thoughts, feelings, images and sensations
  - Changes constantly

Defining Consciousness

- Consciousness
  - Awareness
    - Awareness of self
    - Awareness of surroundings
    - Thoughts about one's experiences
  - Arousal
    - Physical state of being engaged with the environment
    - Can be high, low or inbetween

Levels of awareness

- Higher level consciousness
- Lower-level consciousness
- Altered states of consciousness
- Subconscious awareness
- No awareness

Higher level consciousness

- Controlled processes
  - Focused on one goal or task
  - Not aware of other stimuli unless they are overwhelming
  - Requires selective attention

Lower level consciousness

- Automatic processes
  - States of consciousness that require little attention and do not interfere with on-going activity
  - Occur at a lower level than controlled processes, but are still conscious
- Daydreaming
  - Not fully conscious, but not asleep
  - Usually happens when we are doing something that requires less than full attention
  - “Mind wandering”

Altered states of consciousness

- State of mind and awareness that are very different from everyday life
  - Trauma
  - Fever
  - Fatigue
  - Psychoactive drugs

Subconscious awareness

- Can occur whether we are awake or asleep
- Waking subconscious awareness:
  - Incubation: Solving a problem when not aware of thinking about it
- Sleep and dreams
  - Not entirely unaware
  - Low levels of consciousness

No awareness

- Unconscious
  - Freud Vs. modern definition
  - Anesthetized
  - “Knocked out”
  - Coma

Biological Rhythms and Sleep

- Circadian rhythms
  - 24 hour “clock”
  - Sleep and waking
  - Hormones
  - Blood sugar (glucose)
  - Body temperature
  - Desynchronization (e.g., “jet lag”)

Stages of sleep

- Non-REM sleep:
  - Stages I-4
  - Different brain waves
- REM (rapid eye movement) sleep:
  - EEG shows a state similar to relaxed wakefulness
  - Eyes move back and forth behind closed eyelids

Time spent in stages of sleep

- 1-2: 60%
- 3-4: 20%
- REM: 20% (More during second half of sleep)

Sleep disorders

- Insomnia
- Sleepwalking, -talking and -eating
- Nightmares
- Night terrors
- Narcolepsy
- Sleep apnea

Insomnia

- Unable to fall asleep
- Waking often during sleep
- Early morning wakening
- Sleep medications: A short-term solution
- Melatonin

Sleep behaviors

- Sleep walking
- Sleep talking
- Sleep eating and driving (Ambien)

Nightmares/night terrors

- Nightmare:
  - A frightening dream
  - Wakes the sleeper from REM sleep
  - Nightmares are common
  - May be associated with life stressors
- Night terror:
  - Sudden arousal from sleep
  - Terror
  - May be accompanied by physical symptoms
  - Most common among young children

Narcolepsy

- Sudden, overpowering urge to sleep
- Not produced by boredom
- Usually occurs in adulthood
- Rare

Sleep apnea

- Breathing stops during sleep because:
  - Windpipe fails to open
  - Problem occurs with the respiratory area of the brain
- People with sleep apnea waking up numerous times a night and maybe sleepy during the day
- Snoring followed by apnea
- Factor in sudden infant death syndrome (SIDS)

Psychoactive Drugs

Psychology 101

Psychoactivity = ability to affect mood, thinking, perception and/or behavior

TIME FACTORS

- Onset of action: How quickly does the drug produced it's effect?
- Duration of action: How long does the drug's effect last?
- Residual effects: After-effects, extended drug reaction, flashbacks

METHOD OF ADMINISTRATION

- Ingestion (oral): slower onset/longer duration
- Insufflation (sniffing/snorting): faster onset/shorter duration
- Intravenous (I.V.) Injection: faster onset (seconds)/shortest duration
- Smoking: fastest onset/shortest duration

TOLERANCE

Homeostasis

The human body's natural tendency to move toward a state of equilibrium or constancy

TOLERANCE

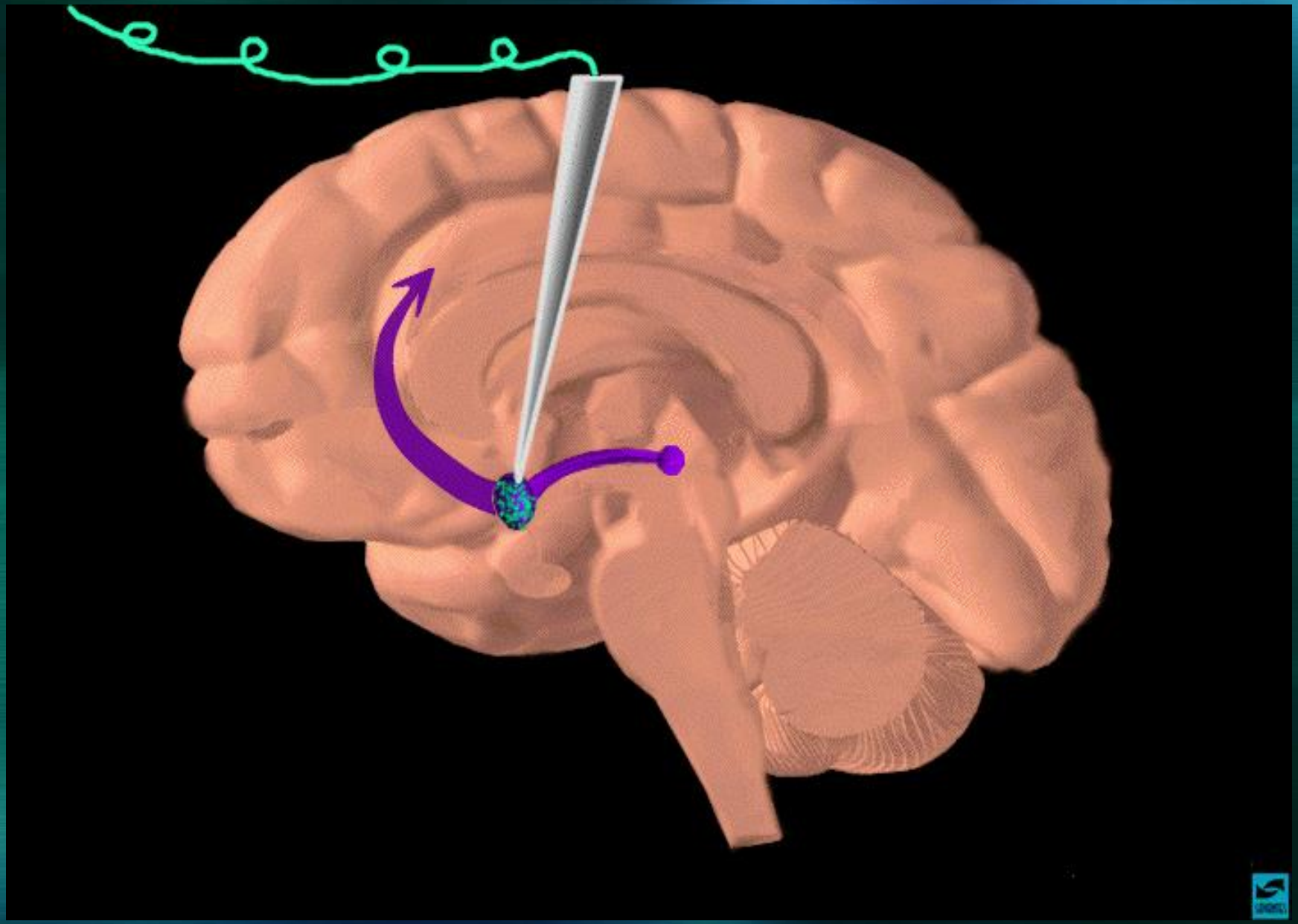
- Need to increase the dose of a drug in order to obtain the desired effect
- Decreased effect of drug after repeated administration
- Dependent on prior dosage level
- Develops in hours (cocaine), days (LSD), or weeks

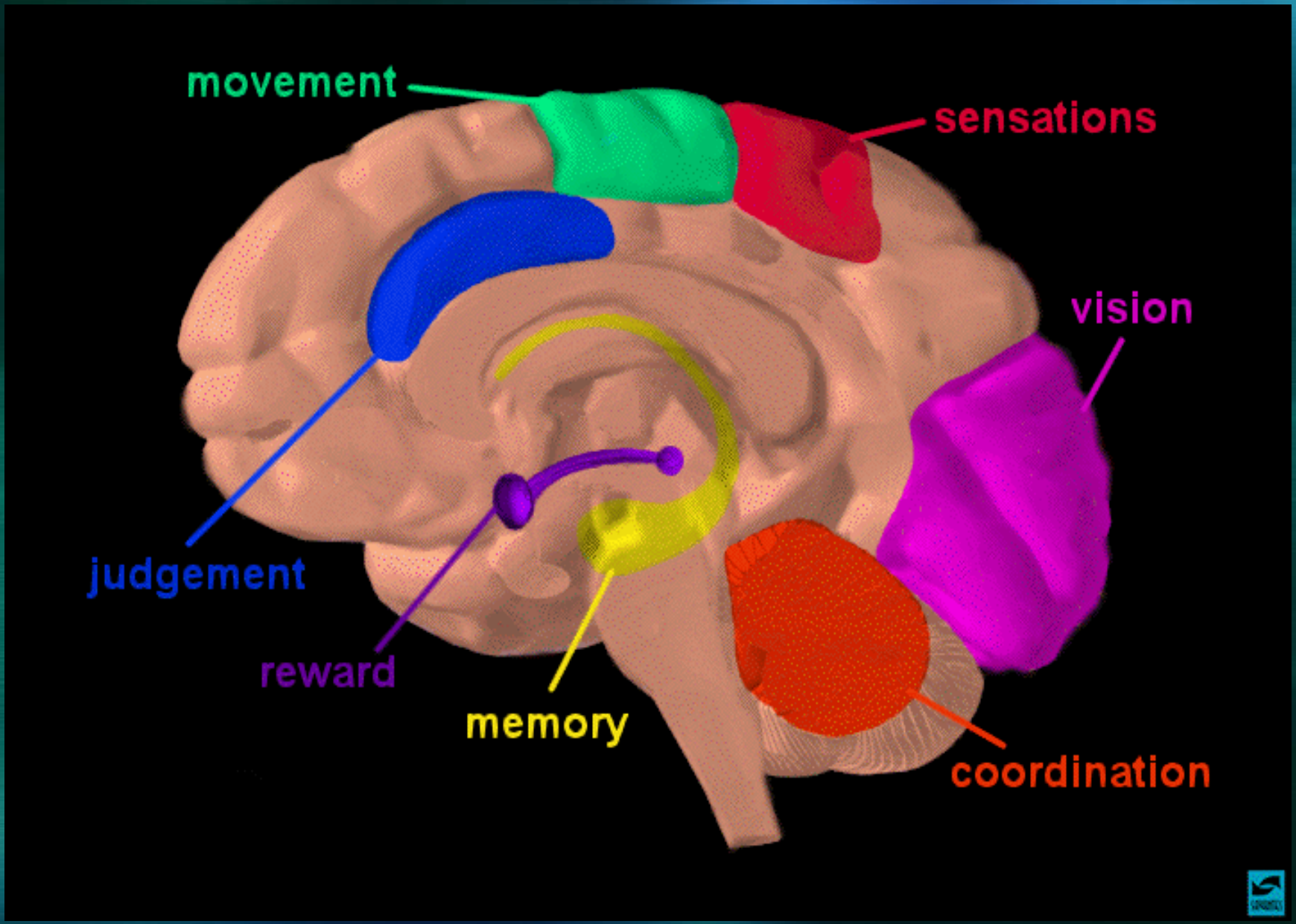
ADDICTION POTENTIAL

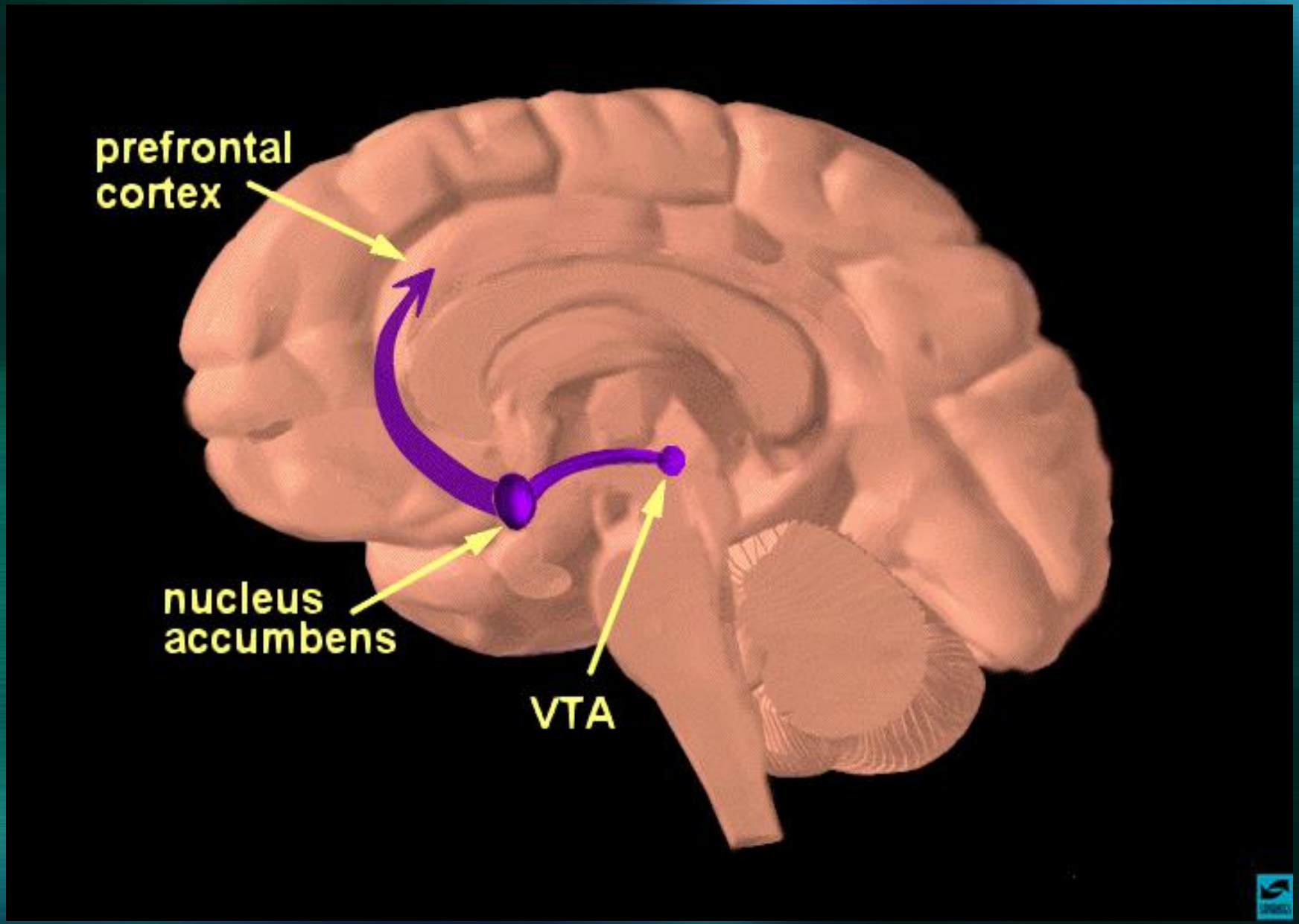
- What percentage of first-time users will enjoy the effect of the drug enough that they will seek it out again?
- If an individual uses the drug on a regular basis, how likely is it that s/he will become dependent on the substance?

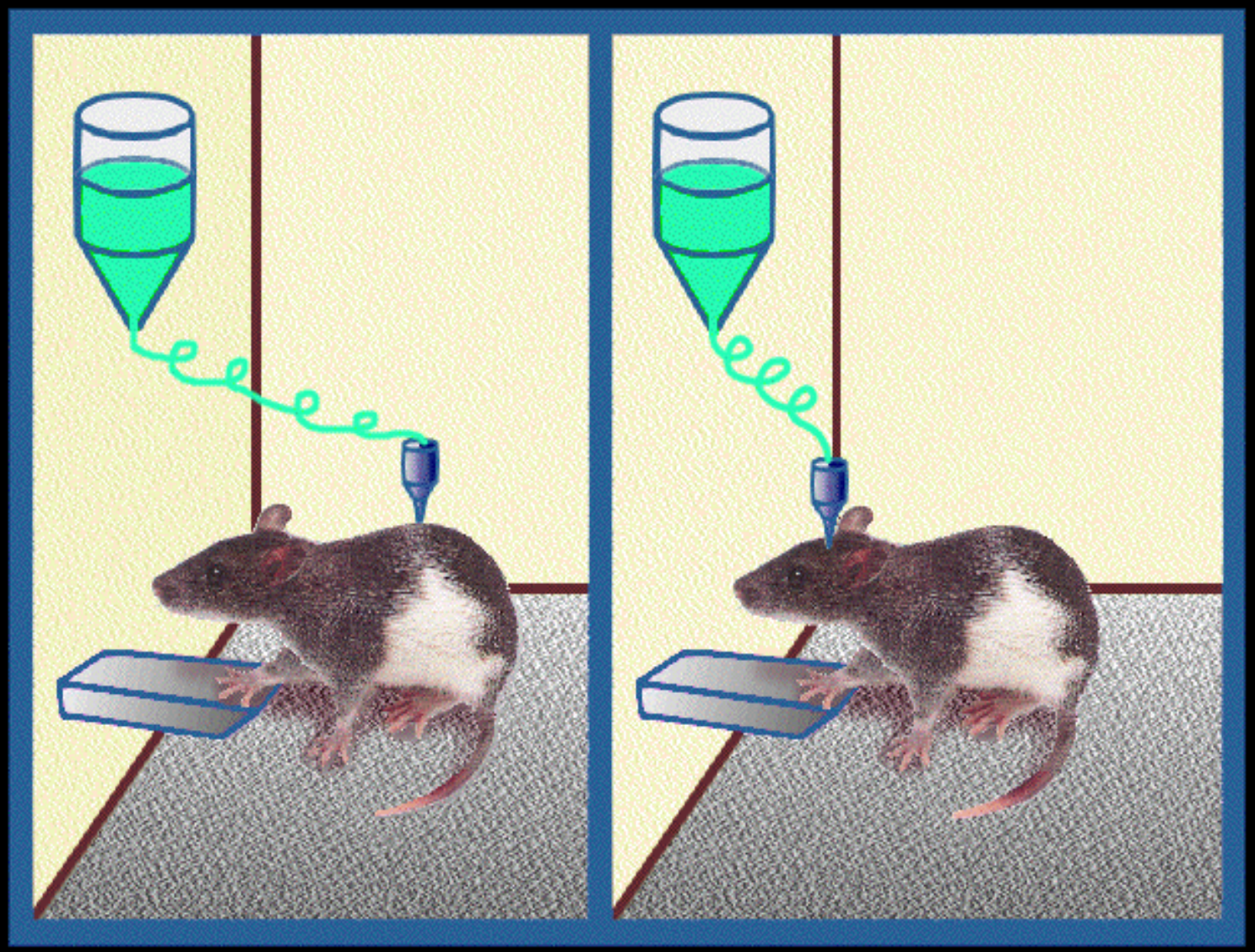
ADDICTION POTENTIAL

- After being introduced to the drug, do sub-human animals (e.g., monkeys, rats, mice) seek out opportunities to self-administer the substance? Do they do so to the exclusion of eating, consuming water and engaging in reproductive behavior?




movement
sensations
vision
judgement
reward
memory
coordination

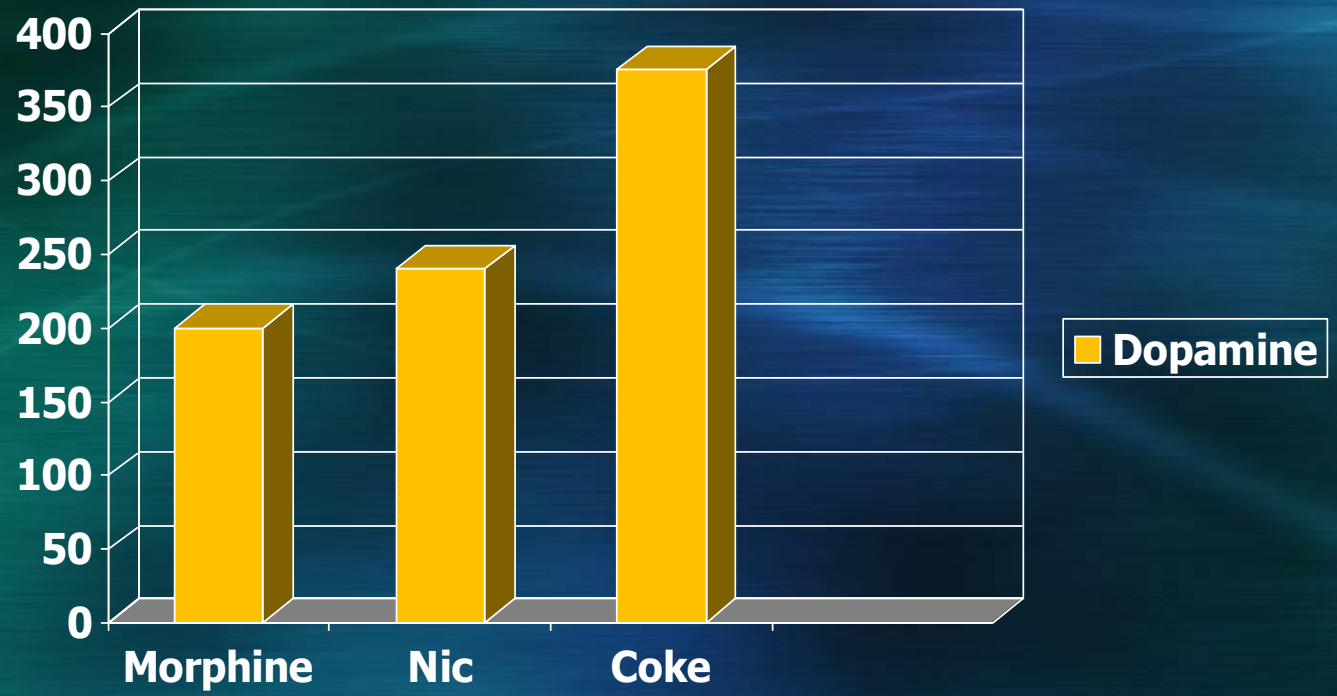

prefrontal
cortex
nucleus
accumbens
VTA



ADDICTION POTENTIAL

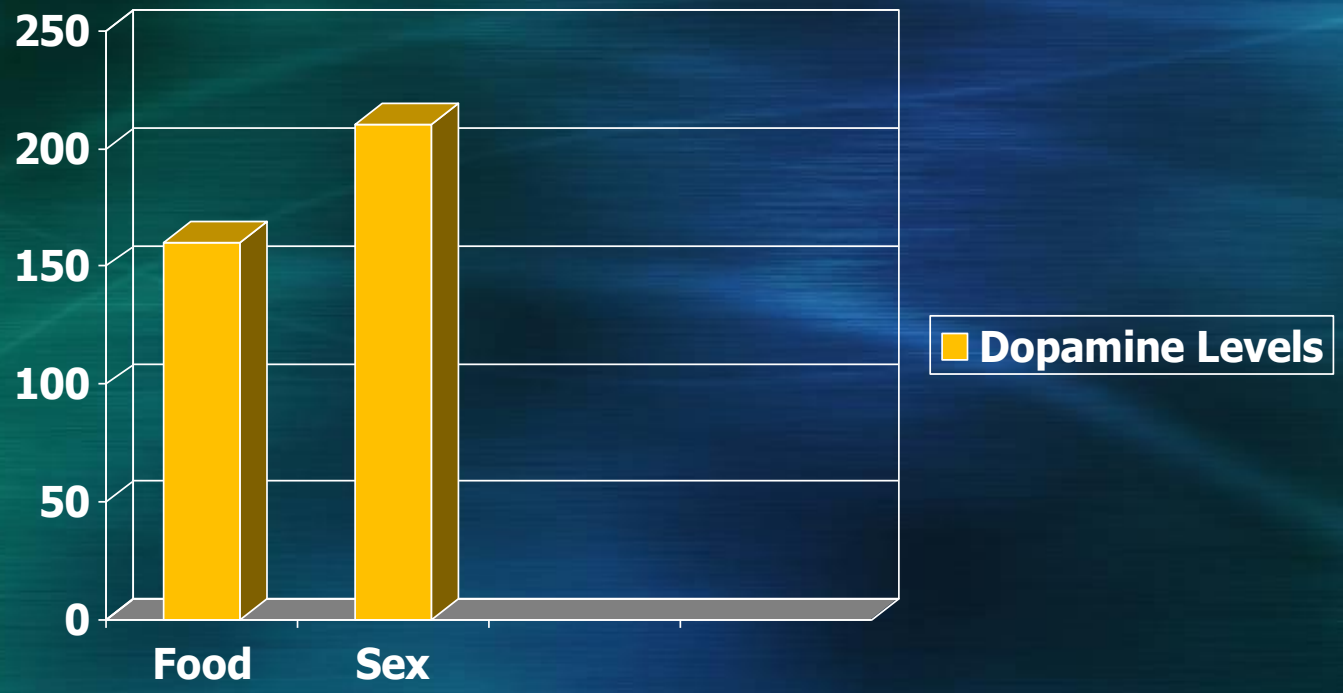
- Ability to stimulate the brain's reward circuits
- Ability to meet a individualized neurochemical need
- Physical dependency potential
- Intensity of withdrawal symptoms

Dopamine Levels in the Shell of the Nucleus Accumbens (% of baseline)

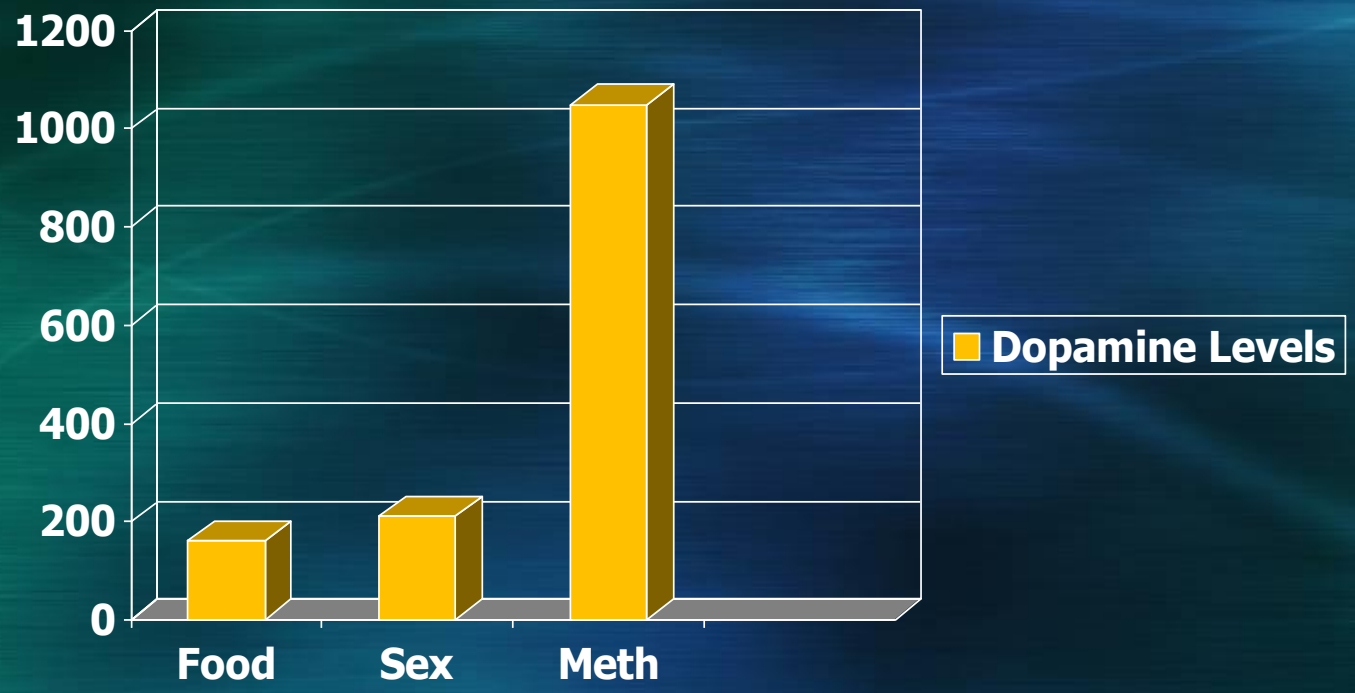


Dopamine Levels in the Shell of the Nucleus Accumbens (% of baseline)

Dopamine Levels in the Shell of the Nucleus Accumbens (% of baseline)



Dopamine Levels in the Shell of the Nucleus Accumbens (% of baseline)



ADDICTION POTENTIAL

- Ability to stimulate the brain's reward circuits
- Ability to meet a individualized neurochemical need
- Physical dependency potential
- Intensity of withdrawal symptoms

ADDICTION

- DSM-V definition: 11 criteria (symptoms)
  - Compulsive drug-taking
  - Loss of control
  - Continued use despite negative consequences
  - Tolerance and physical dependence not required but may be part of the addiction picture

TOXICITY

- Ability to produce physical damage to the human body
- Long-range = months, years
- Short-range = days, weeks
- Physical vs behavioral

PSYCHIATRIC IMPAIRMENT

- Ability of drug to produce negative changes in thinking, learning, perception, mood or behavior
- Acute vs chronic

PSYCHIATRIC IMPAIRMENT

- Short-term
- Long-term
- Affective Disorders
- Thought Disorders

Important “basics”

- What is the drug’s addiction potential?
- Does the drug produce tolerance?
- What are typical physical dependence withdrawal symptoms?
- What is the drug’s potential for producing immediate and long-term physical toxicity?
- Does the drug produce psychiatric impairment? Short-term? Chronic?

Stimulants

- Cocaine
- Amphetamine (Adderall)
- Lisdexamfetamine (Vyvanse)
- Methamphetamine
- Methylphenidate (Ritalin/Concerta)

Stimulants: Basics

- High addiction potential
- Tolerance develops
- Withdrawal symptoms minimal
- Moderate to high potential for immediate physical toxicity
- Moderate potential for long-term toxicity
- Moderate to high potential for acute psychiatric impairment
- Low to moderate potential for chronic psychiatric impairment

Adderall/Other ADD Medications

- Between 2003 and 2019, number of adolescents with an ADHD prescription rose 400%
- By senior year, nearly two-thirds of college students are offered Adderall or other “study drugs”, and nearly one-third have accepted

Hallucinogens/Psychedelics

Psychedelics/hallucinogens: Basics

- Addiction potential low
- Tolerance develops rapidly
- Withdrawal symptoms absent or extremely minimal
- Low potential for immediate or long-term physical toxicity
- Moderate potential for acute psychiatric impairment
- Low potential for chronic psychiatric impairment

Hallucinogens/Psychedelics

- LSD
- Psilocybin
- Relatively safe

- NBOMe series-Not so much

Hallucinogens (Lower risk)

- Addiction potential low
- Tolerance develops rapidly
- Short- and long-term physical toxicity potential low
- Psychiatric impairment low to moderate
- Neurochemical mechanism of action:
  - Stimulation of serotonin subreceptors (5HT2A)
  - Increase in glutamate

LSD Vs Psilocybin

- Psilocybin legal in Oregon and other locations
- Psilocybin duration shorter than LSD (4-6 hours Vs 8-12)

Hallucinogens (Lower risk)

- Effects (desired):
  - Hallucinations
  - Perceptual distortions
  - “Morphing”
  - Synesthesia
  - Altered body image
  - Altered experience of time and space
  - Consciousness expansion
  - Mystical experiences

Hallucinogens (Lower risk)

- Effects (side)
  - Slight increase in body temperature
  - Nausea (rare)
  - Blurred vision (rare)
  - Slightly increased/decreased blood pressure
  - Slight elevation of pulse
  - Dilated pupils

Hallucinogens (Lower risk)

- Effects (Undesired)
  - Panic
  - Fear of insanity
  - Paranoia
  - Frightening hallucinations
  - Depersonalization
  - Derealization

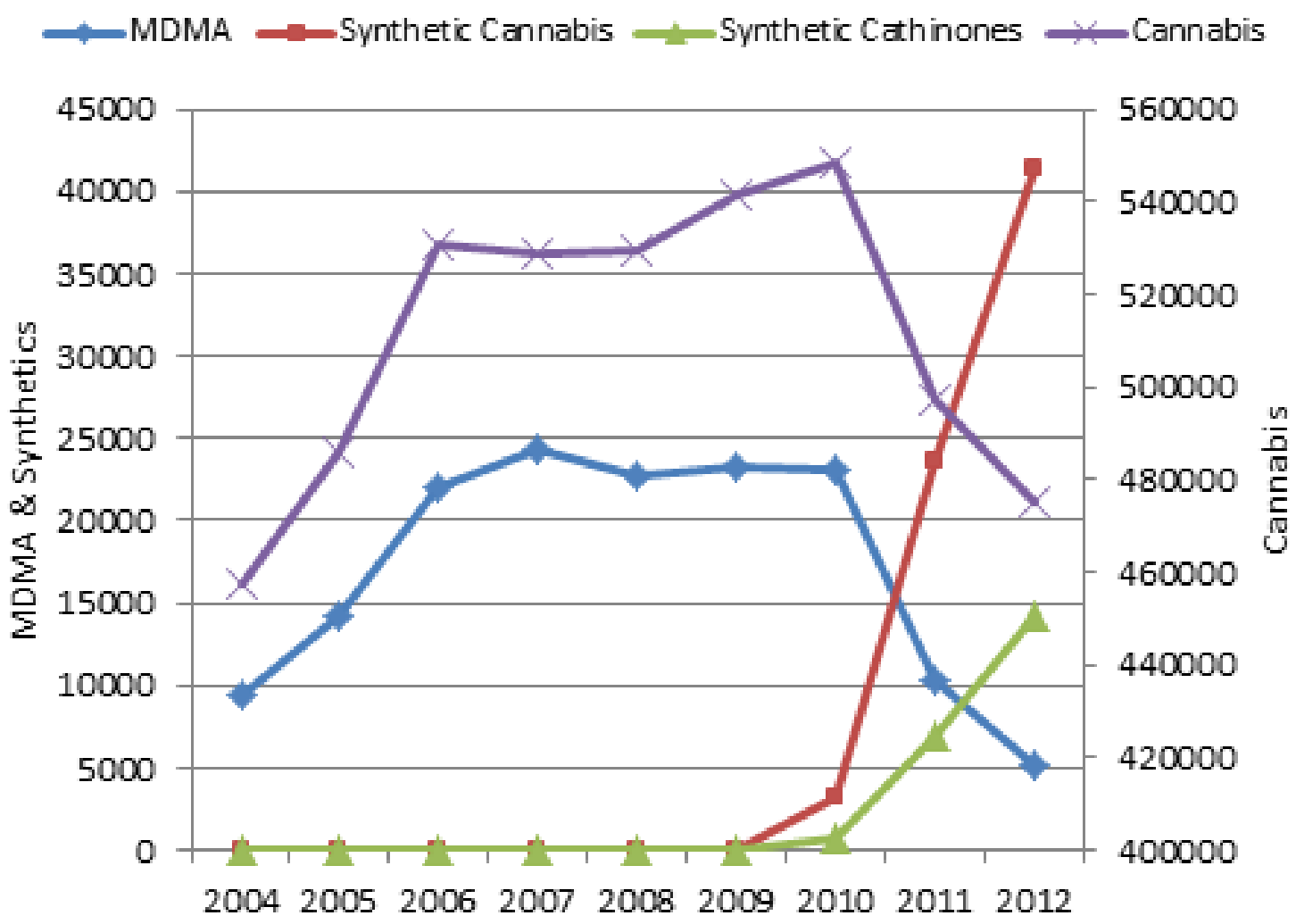
Good golly Miss Molly Who are you today?

- Pop quiz: What is “Molly”?

MDMA

- “Ecstasy”
- “Molly”
- “Flat”/”Chicago Mints” (Chicago)

Changes in Number of Items Examined in DEA NFLIS:2004-2012



Dissociative anesthetics

- Phencyclidine (PCP)
- Ketamine
- Dextromethorphan (DXM)

Dissociative anesthetics: Basics

- Addiction potential low to moderate
- Tolerance develops
- Withdrawal symptoms mild
- Moderate to high potential for immediate physical toxicity
- Potential for long-term physical toxicity varies
- Potential for acute and chronic psychiatric impairment moderate to high
- NMDA/glutamate antagonist

PCP

- Angel dust
- Sherms
- Dips
- Fry
- Embalming fluid

PCP

- Oral (rare)
- Intranasal
- Smoked (on marijuana, mint, parsley)
- i.v. (rare)

PCP

- (Not used medically)
- Floating feeling
- Sedation
- Euphoria
- Confusion
- Disorientation
- Depersonalization
- Derealization
- Loss of ego boundaries
- Panic

PCP

- Bizarre behavior
- Aggressive behavior
- Hallucinations (rare)

PCP

- Numbness
- Ataxia
- Increased blood pressure
- Nystagmus
- Seizures

Ketamine (Ketalar)

- “Special K”
- Intravenous anesthetic
- Post-operative pain management with an opioid
- Also used in veterinary medicine
- Many of the same effects as PCP
- Fewer negative effects
- Short-acting (20-60 minutes)

Ketamine: Treatment of depresssion

- Single sub-anesthetic dose
- Provide relief for 1-2 weeks

DXM

- Dextromethorphan
- In OTC cough medicines
- Often kept behind counter
- Robotussin DM
- Coricidin cough and cold = “Skittles”, “3-C”
- Similar to ketamine and PCP, but less intense effects except in large doses
- “Robotripping”

CANNABIS

Cannabis

- Endocannabinoids
  - CB_1 CB_2
- Marijuana
  - THC
  - CBD
  - Other cannabinoids
- Hashish
- Concentrates
  - Hash oil
  - Shatter
  - Wax

Cannabis

- Effects:
  - Euphoria
  - Dreaminess
  - Introspective mood
  - Hilarity
  - Heightened perception

Cannabis

- Effects (side):
  - Bloodshot eyes
  - Forgetfulness
  - Increased pulse
  - Dry mouth

Cannabis

- Effects (undesired):
  - Confusion
  - Paranoia
  - Derealization
  - Depersonalization
  - Panic
  - Anxiety
  - Psychosis (rare)

Cannabis

- Cannabis hyperemesis syndrome (CHS)
  - Vomiting
  - Abdominal pain
  - May be relieved by hot showers (?)

Cannabis: Basics

- Addiction potential low to moderate
- Tolerance develops to some symptoms of intoxication
- Physical dependence withdrawal symptoms mild
- Immediate and long-term physical toxicity potential appears moderate to low
- Immediate psychiatric impairment potential low to moderate/chronic psychiatric impairment may be moderate for adolescents

Opioids: Basics

- Addiction potential high
- Tolerance develops
- Physical dependence withdrawal symptoms moderate to serious/not life-threatening
- Immediate physical toxicity potential (overdose) moderate to high
- Long-term physical toxicity potential low
- Acute and chronic psychiatric impairment potential low

Opioids

- **Heroin**
- **Hydrocodone/Vicodin/Norco**
- **Oxycodone (OxyContin/Percodan)**
- **Hydromorphone (Dilaudid)**
- **Oxymorphone (Opana)**
- **Fentanyl (Sublimaze)**
- UR-47700
- Other synthetic opioids

Opioids

- March 2016: Fentanyl found in “hydrocodone” and “oxycodone” tablets
- October 2015: Fentanyl found in fake Xanax tablets
- Prince had fake hydrocodone tablets containing fentanyl

Opioids

- Heroin
- Hydrocodone/Vicodin/Norco
- Oxycodone (OxyContin/Percodan)
- Hydromorphone (Dilaudid)
- Oxymorphone (Opana)
- Fentanyl (Sublimaze)
- **UR-47700**
- **Other synthetic opioids (e.g., carfentanil)**

Opioid effects

- Sedation (“nodding”)
- Euphoria
- Pain relief
- Constipation
- Constricted pupils

Opiate Withdrawal

- Signs of w/d:
  - **Drug hunger (craving)**
  - **Dilated pupils**
  - **Yawning**
  - **Lacrimation (eyes tear)**
  - **Rhinitis (runny nose)**
  - **Fever**
  - **Restlessness**
  - **Stomach, leg and back cramps**

Opiate Withdrawal

- Signs of w/d:
  - **Insomnia**
  - **Nausea**
  - **Diarrhea**
  - **Vomiting**
  - **Chills/cold flashes with goose bumps ("cold turkey“)**
  - **Sweating**
  - **Leg spasms (“kicking the habit”)**

Opiate Withdrawal

- Signs of w/d:
  - **Rapid pulse**
  - **Increased blood pressure**
  - **Anxiety**
  - **Depression**
  - **Muscle and bone pain**

CNS depressants

- Addiction potential moderate to high
- Tolerance develops
- Physical dependence withdrawal symptoms moderate to severe/life-threatening
- Physical toxicity (overdose) potential high/other immediate & long-term physical toxicity low
- Low potential for psychiatric impairment

CNS depressants: Withdrawal symptoms

- Tremor
- Agitation
- Insomnia
- Sweating
- Elevated pulse and blood pressure
- Sensory hypersensitivity
- (Stomach cramps)
- (Nausea/vomiting)
- Seizures

CNS depressants

- Addiction potential moderate to high
- Tolerance develops
- Physical dependence withdrawal symptoms moderate to severe/life-threatening
- Physical toxicity (overdose) potential high/other immediate & long-term physical toxicity low
- Low potential for psychiatric impairment

Sedative-Hypnotics

- Barbiturates (Rare, but physically dangerous)
- Non-barbiturates
  - Ambien
  - Lunestra
  - (Rozeram)
  - Restoril (tenazepam)

Benzodiazepines

- Xanax (alprazolam)
- Klonopin (clonazepam)
- Valium (diazepam)
- Ativan (lorazepam)

Purple Drank

- Drank
- Syrup
- Sizzup
- Lean

Purple Drank

- Codeine/promethazine cough syrup
- Mountain Dew/Sprit
- Jolly Rancher candy


PROMETH
WITH CODEINE
COUGH SYRUP
C

Purple Drank

- Codeine/promethazine cough syrup
- Mountain Dew/Sprit
- Jolly Rancher candy

Purple Drank

Purple Drank

- May have originated as early as 1960s
- Popular in Texas in early 90s
- Spread through southern states, then nationwide
- Mentioned in rap and hip-hop music
- 2014: Justin Bieber

Purple Drank

- Codeine: Opiate effect
  - Sedation
  - Pain relief
  - Euphoria
- Promethazine (Antihistamine):
  - Sedation
  - Potentiates codeine
  - May be more lethal than codeine

Purple Drank

- Sometimes (less often) hydrocodone (Vicodin) cough syrup
- Cheaper “knock-off” version contains dextromethorphan (DXM)
  - Sedative in small doses
  - Dissociative anesthetic (like PCP) in high doses

Sippin Syrup

Slow your roll

PURPLE DRANK

ima grip and sip

WARNING!

THIS BEVERAGE MAY BE EXTREMELY RELAXING AND CALMING

Purple Drank

The Nutritional Supplement of Champions

Dreams

- Freud:
  - Dreams represent unconscious desires
  - Manifest Vs. latent content
- Often much like waking life
- No evidence that dreams help us solve problems

Dreams

- Dream theories:
  - Cognitive theory
    - Sleeping is much like waking life
    - No search for latent content
    - Dreaming seen as dramatization of normal events that can be understood as metaphors
      - Life is a highway
      - She is a shining star
      - The snow is a white blanket.

Dreams

- Dream theories:
  - Activation synthesis
    - Cortex synthesizes (makes) brain signals generated in the lower portions of the brain
    - Dreaming is the cortex's attempt to make sense of random lower brain signaling OR
    - Dreaming is the brain's tendency to incorporate external stimuli into sleep images

Hypnosis

- EEG similar to people in a waking state (beta and alpha waves)
- An altered state of mind in which the subject is unusually receptive to suggestions
- Ability to be hypnotized (hypnotizability) depends on the individual

Steps in hypnosis

- Hypnotist:
  - Minimizes distractions
  - Makes the subject comfortable
  - Has subject focus on something specific
  - Informs subject what to expect
  - Suggestions things that s/he knows will happen or are likely.
    - When these things occur, subject believes something is happening and becomes more suggestible

Understanding hypnosis

- Divided state of consciousness theory
  - Consciousness split into different parts
    - One follows hypnotist's commands
    - Other is a "hidden observer"
    - "Ice water"
- Social cognition theory
  - Hypnosis not an altered state of mind
  - Hypnotized people act like they think hypnotized people should act
  - Does not explain how people who have never seen hypnosis can be hypnotized

Uses of hypnosis

- Address substance use problems (e.g., smoking)
  - Hypnosis seems to work best when people are motivated to change
- Treat mental health disorders
- Address pain
  - Pain seems to be felt in the lower brain, but not in cortex
  - Pain does not make its way to full consciousness

Meditation

- Attaining a peaceful state of mind free of worries
- Meditator is aware of problems but is not overwhelmed by them
- Mindfulness meditation:
  - Not about avoiding problems, but focusing on them

Meditation and disease

- Meditation has been used to treat:
  - Depression
  - Anxiety
  - Panic attacks
  - Stress
  - Chronic pain
  - psoriasis

Meditative state of mind

- Similar to hynagogic reverie