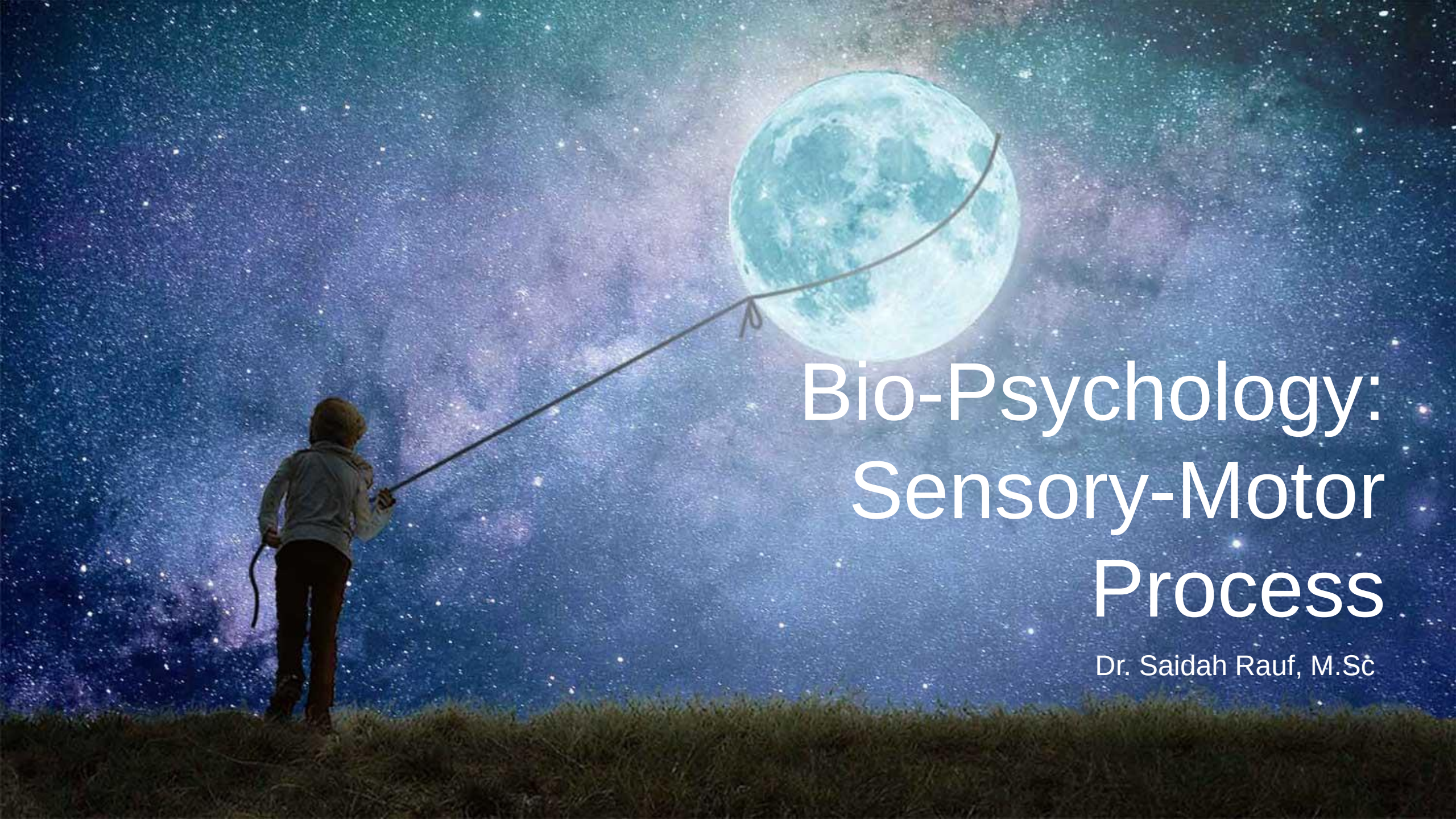
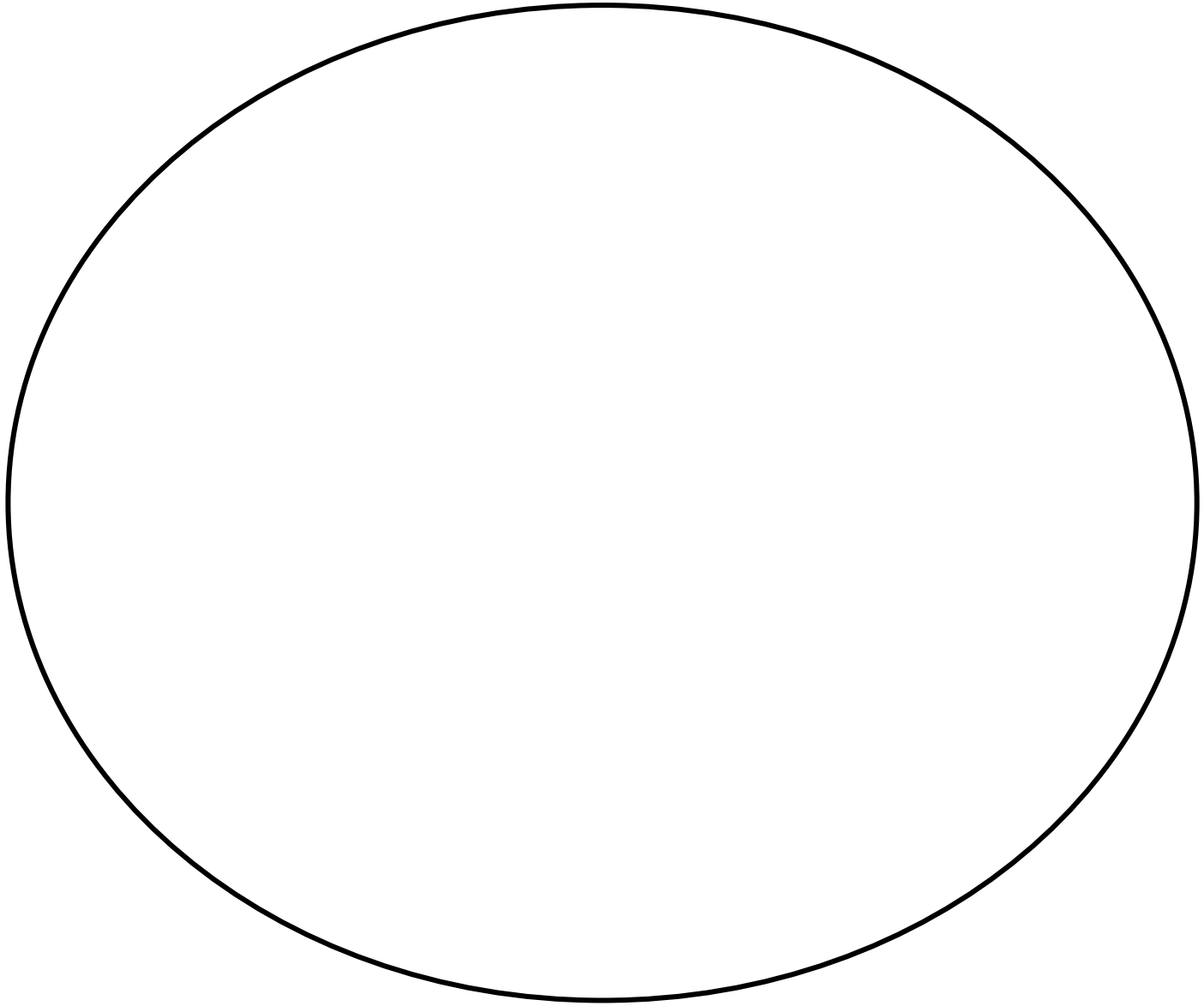
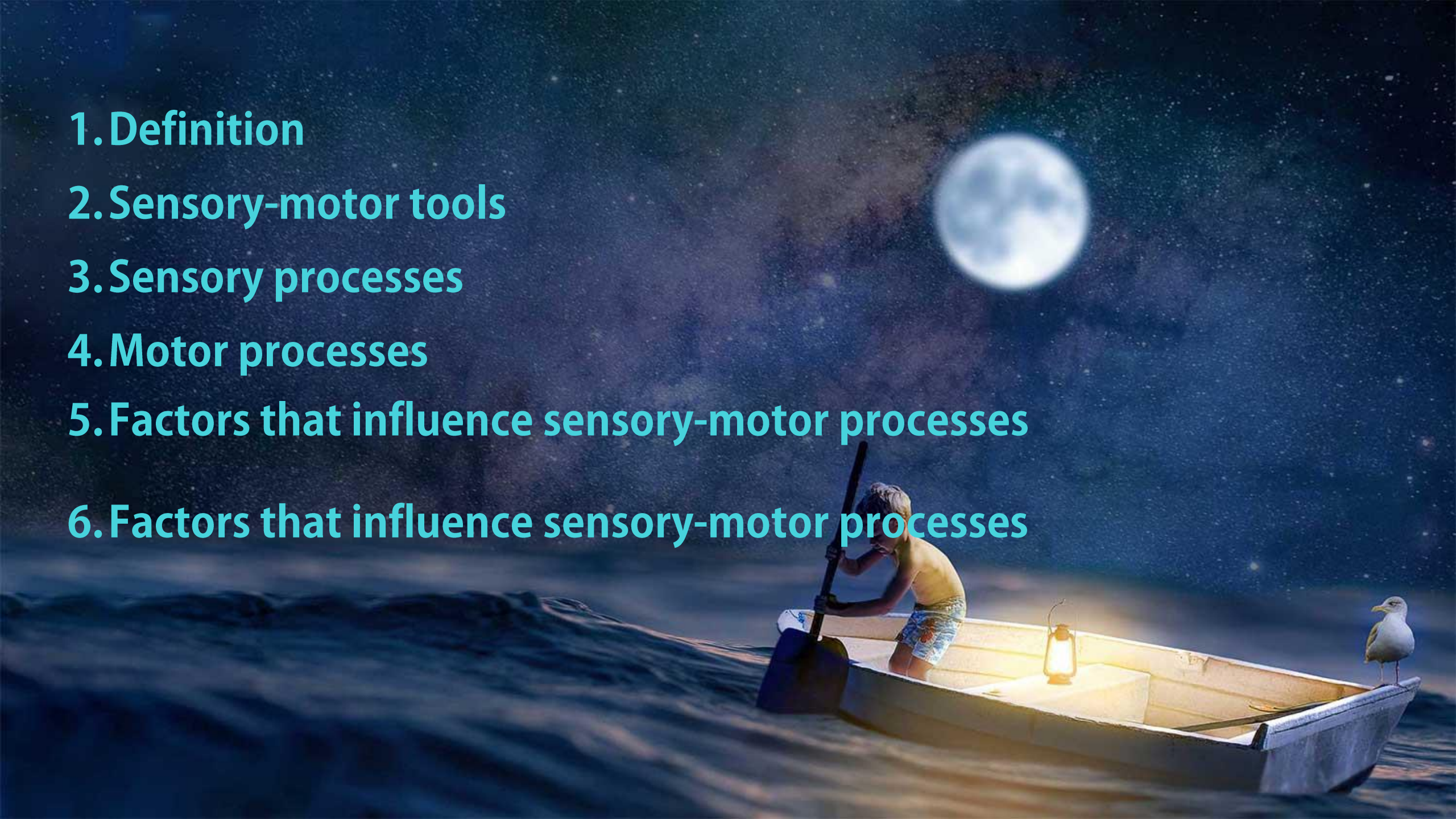


Bio-Psychology: Sensory-Motor Process

Dr. Saidah Rauf, M.Sc


What do you see?





1. Definition
2. Sensory-motor tools
3. Sensory processes
4. Motor processes
5. Factors that influence sensory-motor processes
6. Factors that influence sensory-motor processes

Introduction

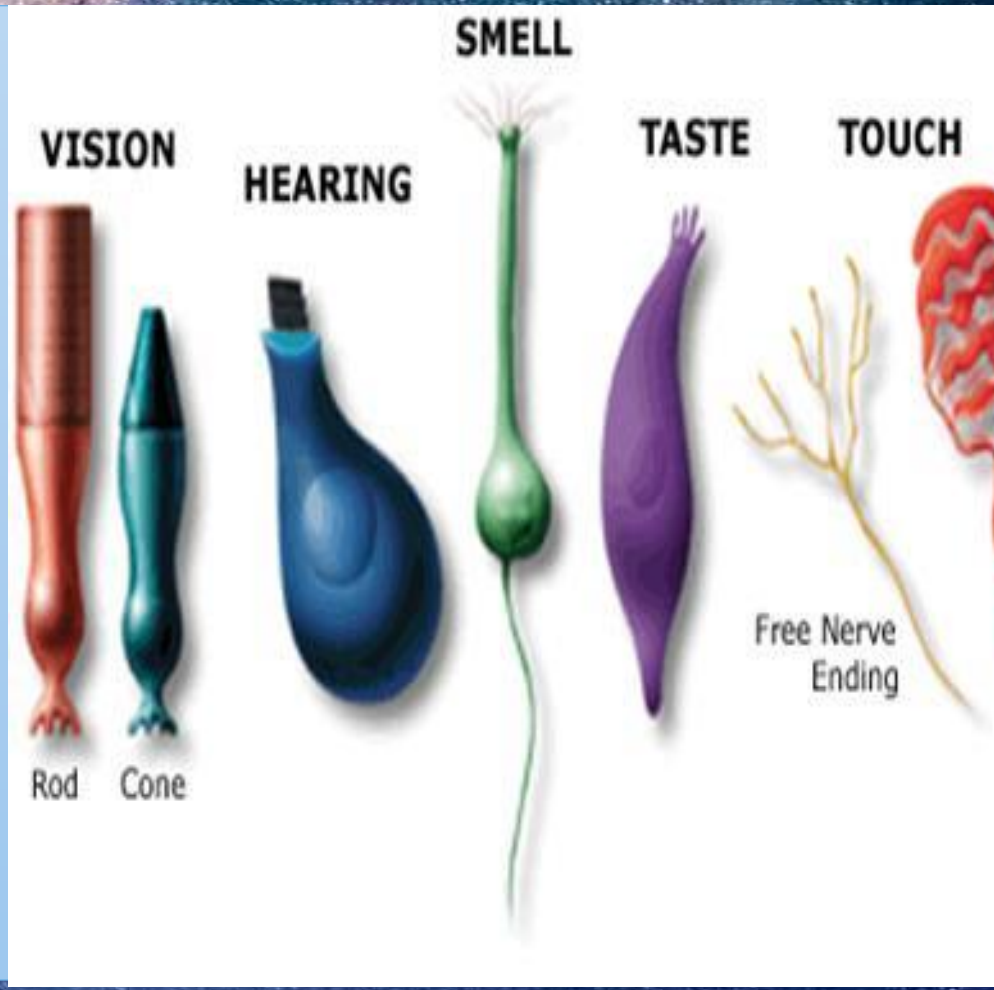
- **What are Sensory and Motor Processes?**
  - Sensory: How we receive and process information from our environment.
  - Motor: How the brain controls movement in response to sensory input.
- **Importance in Nursing:**
  - Vital for understanding patient behaviors and neurological health.

Sensory Process

- **Definition:**
  - The process of receiving stimuli via sensory organs (eyes, ears, skin, etc.) and sending signals to the brain.
- **How it Works:**
  - Sensory receptors detect stimuli (e.g., light, sound, touch).
  - Nerves transmit this information to the brain for processing.

Sensory tools

- **Sensory organs**
  1. Eyes (Vision): Detect light, shapes, and colors.
  2. Ears (Hearing): Sense sound waves.
  3. Nose (Smell): Detect chemicals in the air.
  4. Tongue (Taste): Sense flavors in food.
  5. Skin (Touch): Sense pressure, temperature, and pain.



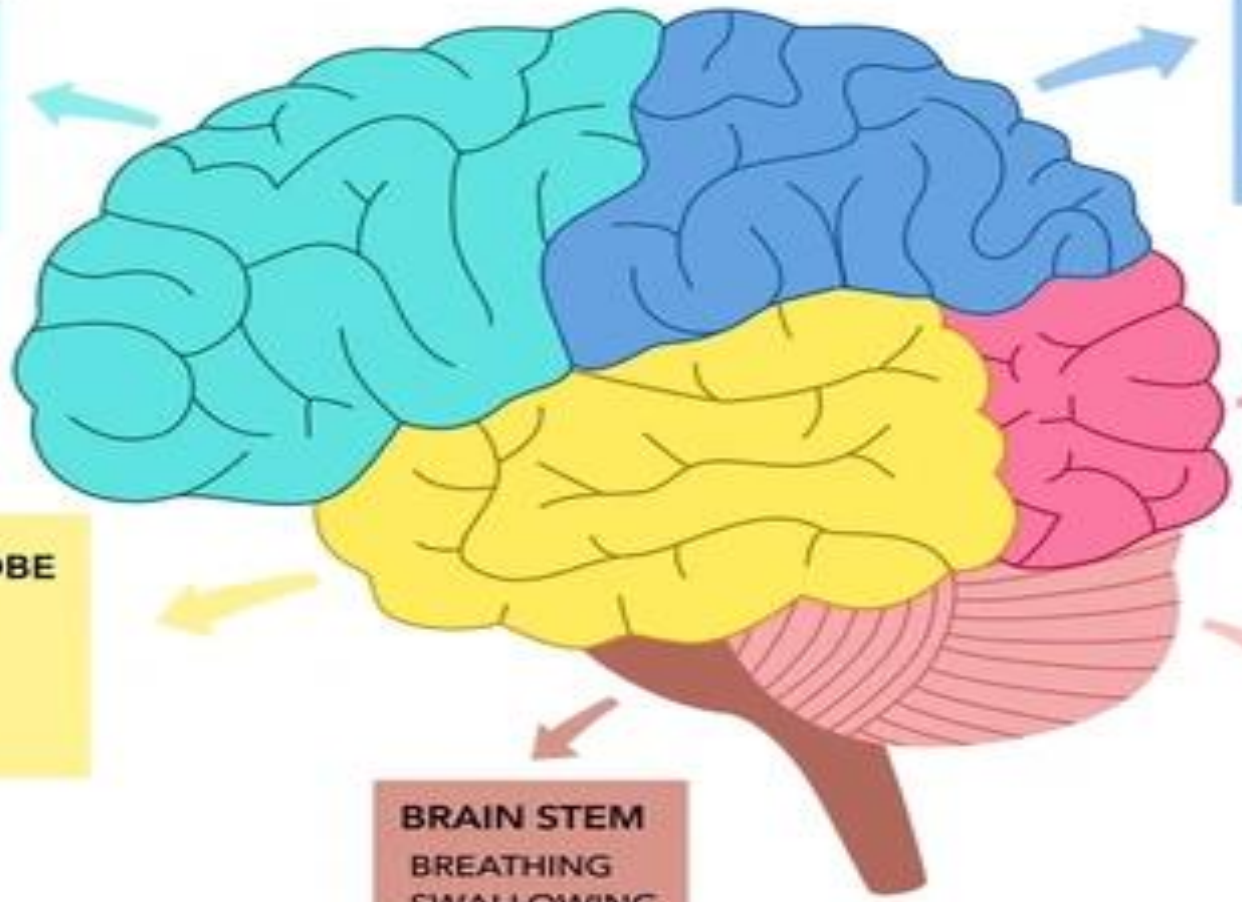
Sensory Process

- Example:
  - ✓ Touch Sensation:
    - When you touch a hot surface, sensors in your skin detect heat.
    - The information is sent to your brain, which processes it as "hot."Nursing Relevance:Patients with burns or sensory impairments need specialized care.

Motor tools

1. Muscles: Enable physical movement.
2. Bones and Joints: Provide structure and support for movement.
3. Nervous System: Coordinates and controls muscle movements through nerve signals.

BRAIN FUNCTIONS



FRONTAL LOBE
- MOVEMENT
- BEHAVIOR
- PROBLEM SOLVING
- SPEECH

PARIETAL LOBE
- INTELLIGENCE
- LANGUAGE
- SENSATION
- REASONING

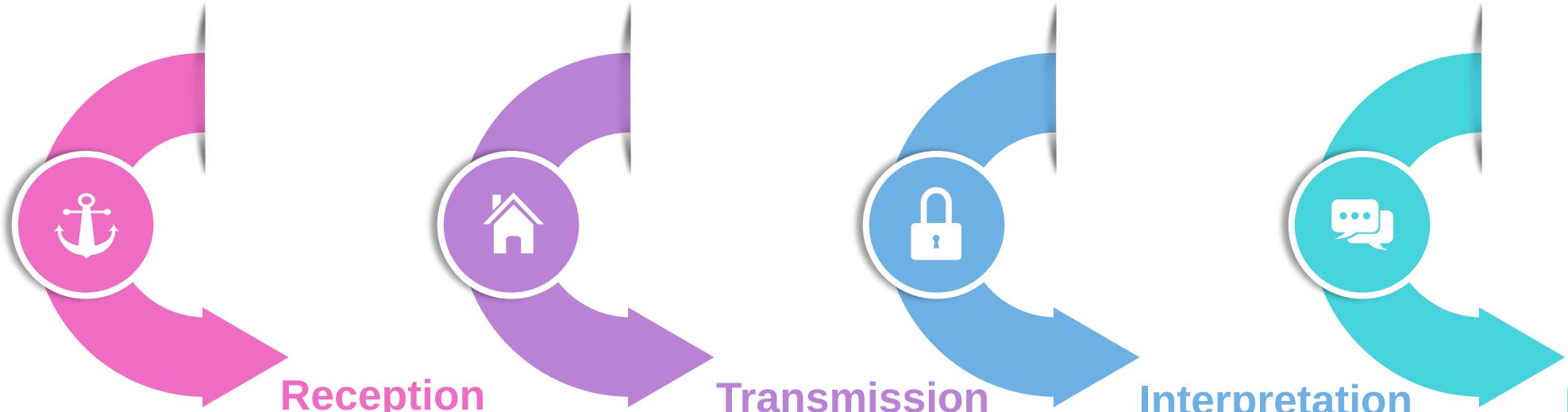
OCCIPITAL LOBE
- SIGHT
- VISUAL RECEPTION

TEMPORAL LOBE
- LANGUAGE
- MEMORY
- HEARING
- EMOTION

CEREBELLUM
- BALANCE
- MUSCLE CONTROL

BRAIN STEM
- BREATHING
- SWALLOWING

Stages of Sensory Process



Reception

Sensory organs detect stimuli (e.g., light, sound, temperature).

Transmission

Sensory nerves send signals to the brain.

Interpretation

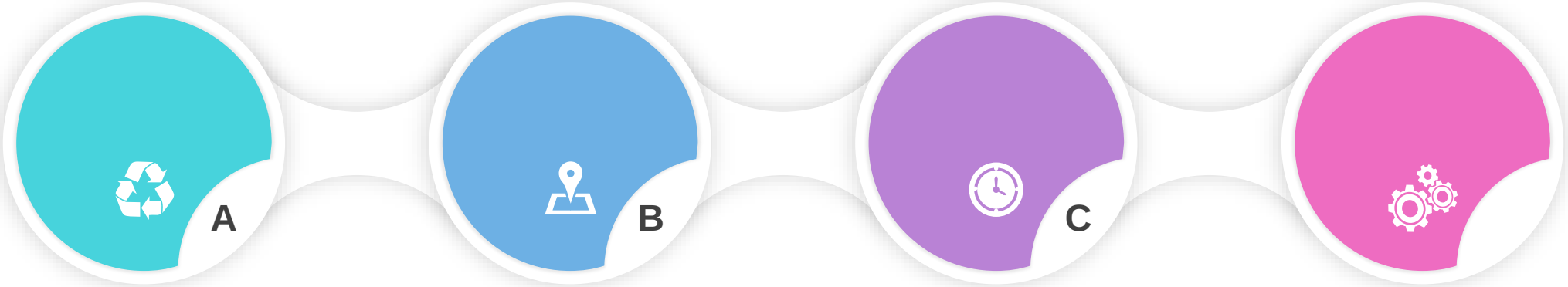
The brain interprets these signals (e.g., understanding what you see or hear).

Response

The brain decides what action to take based on the sensory input.

Example: You hear a loud noise (sensory input), its transmits to your brain, your brain recognizes it as danger, and you react by moving away.

Stage of Motor Process



Brain Signals

After interpreting sensory information, the brain sends signals through nerves to the muscles

Muscle Movement

Muscles receive the signals and contract or relax to create movement.

Coordination

Different muscles work together to create smooth and accurate movements.

Example

If you step on a sharp object, the sensory input (pain) causes a motor reaction (lifting your foot).

Factor Affecting Sensory-Motor Process

- Age: Younger individuals may have quicker sensory and motor responses.Health
- Conditions: Diseases like diabetes can damage sensory nerves, affecting responses.
- Environment: Noisy or chaotic environments can interfere with sensory input.
- Fatigue: Tiredness can slow down sensory and motor processes.
- Medications: Some drugs can impair nerve function and response times.
- Stress


THANK YOU