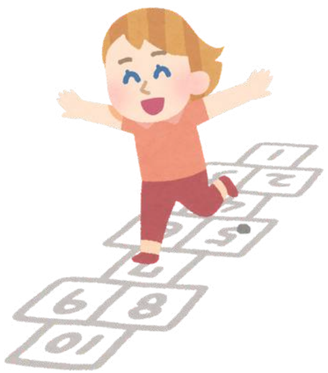
INFANCY & EARLY CHILDHOOD

Developmental Psychology

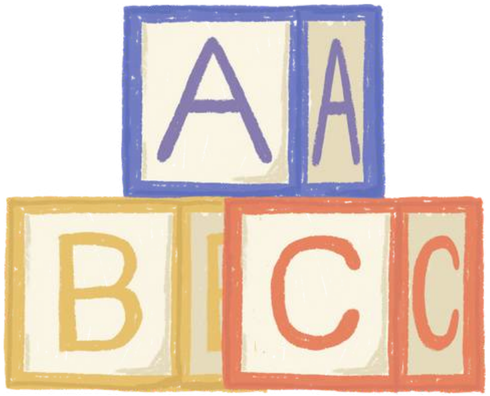
01

PHYSICAL AND MOTOR DEVELOPMENT



Physical development refers to the biological changes in the body including height, weight, brain growth, and muscle development.
Motor development is the progression of movement abilities, such as crawling, walking, grasping, and coordination.

Stages:
Infancy: Birth to 2 years
Early Childhood: 2 to 6 years



PHYSICAL DEVELOPMENT

- **Infancy (0-2 Years):** Birth weight doubles by 6 months and triples by 12 months.
- Average growth of about 25 cm (10 inches) in the first year.
- Brain reaches 75-80% of adult size by age 2. Myelination begins, improving nerve signal transmission.
- Teething Starts around 6 months. First teeth are typically the lower central incisors. By age 2, most children have a full set of 20 primary (baby) teeth.

- **Early Childhood (2-6 years):** Growth is steady but slower than infancy. Gain 5-7 cm in height and 2-3 kg in weight per year.
- Limbs grow faster than the torso - child becomes leaner and more proportionate.
- Brain growth continues, reaching about 90-95% of adult size by age 6. Continued myelination improves reaction time and coordination.
- Bones harden (ossification), allowing for better posture and stability.
- Growth plates (epiphyseal plates) remain active, aiding height increase.
- Primary teeth fully present.
- Permanent teeth begin erupting around age 6.

MOTOR DEVELOPMENT DURING INFANCY (0-2 YEARS)

Gross Motor Development
Involves movement of large muscles for activities like crawling, standing, and walking.
Key Milestones:
1-2 months: Lifts head when on tummy.
4 months: Rolls from tummy to back.
6 months: Sits with support; begins to roll both ways.
9 months: Crawls or drags body forward.
12 months: Stands with support, may take first steps.
18 months: Walks independently; may begin to climb stairs.
24 months: Runs, kicks ball, pulls toys while walking.

Fine Motor Development
Involves smaller muscles for grasping, holding, and manipulating objects.
Key Milestones:
2-4 months: Grasps objects placed in hand (reflexive at first).
6 months: Reaches for and holds objects voluntarily.
9 months: Pincer grasp (thumb and forefinger).
12 months: Picks up small objects, points with finger.
18-24 months: Builds tower of 3-4 blocks, uses spoon with help.

Motor Development in Early Childhood (2-6 Years)

Gross Motor Development
Motor skills become faster, more confident, and coordinated:

2-3 yrs: Runs steadily, climbs furniture, throws/kicks ball.
3-4 yrs: Pedals tricycle, jumps with both feet, walks stairs alternately.
4-5 yrs: Hops on one foot, catches bounced ball, begins skipping.
5-6 yrs: Rides bike with training wheels, shows balance, joins sports/play

Fine Motor Development
Improved hand control supports independence and learning:

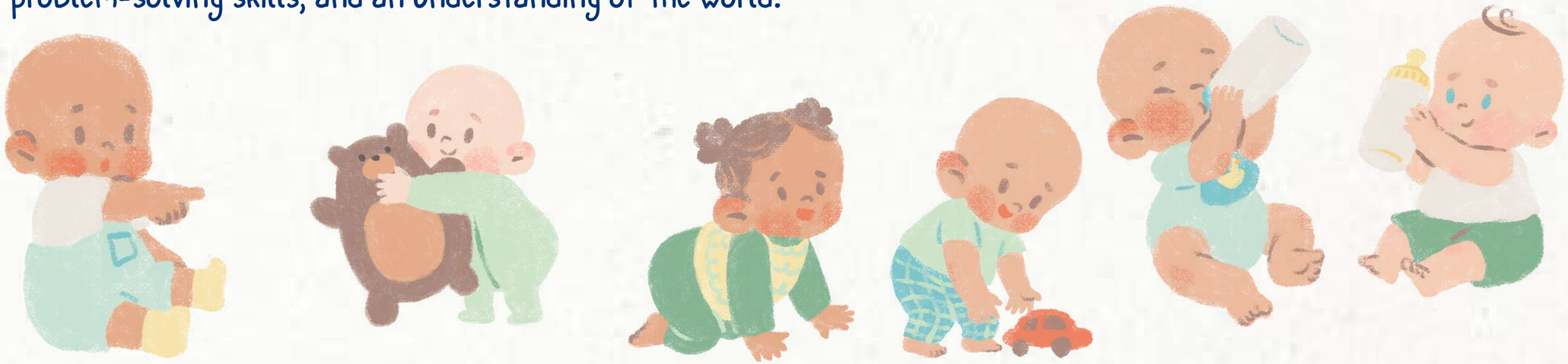
2-3 yrs: Turns pages, stacks 6-8 blocks, scribbles.
3-4 yrs: Draws shapes, uses scissors, eats with spoon/fork.
4-5 yrs: Buttons/zips clothes, draws figures, starts writing letters.
5-6 yrs: Ties laces, proper pencil grip, writes letters/numbers clearly.

BY OISHY CHATTERJEE

02

COGNITIVE DEVELOPMENT

Cognitive development in infancy refers to how babies acquire, process, and respond to information through sensory experiences and motor actions. This period is crucial for the formation of memory, problem-solving skills, and an understanding of the world.



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KEY MILESTONES IN THE SENSORIMOTOR STAGE (0-2 YEARS)

REFLEXIVE STAGE (0-1 MONTH)

- Infants rely on innate reflexes such as sucking, grasping, and rooting to respond to stimuli.
- These automatic responses ensure survival and form the basis for further cognitive development. Example: A newborn automatically turns their head toward a touch on the cheek (rooting reflex) in search of food.

PRIMARY CIRCULAR REACTIONS (1-4 MONTHS)

- Infants begin repeating actions that are pleasurable or soothing, often involving their own bodies.
- Example: Sucking on their thumb repeatedly because it feels comforting.

This marks the beginning of habit formation and learning through repetition.

SECONDARY CIRCULAR REACTIONS (4-8 MONTHS)

- Infants start interacting with objects in their environment, repeating actions that elicit interesting responses.
- Example: Shaking a rattle to hear its sound.
- This stage shows an increasing awareness of the external world and object manipulation.

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COORDINATION OF SECONDARY SCHEMAS (8-12 MONTHS)

- Infants start displaying intentional behaviors to achieve specific goals.
- The concept of object permanence develops—infants understand that objects continue to exist even when they are out of sight.
- Example: Searching for a toy hidden under a blanket, rather than assuming it has disappeared.
- This milestone is essential for memory development and problem-solving.

TERTIARY CIRCULAR REACTIONS (12-18 MONTHS)

- Infants become more experimental and curious, trying different ways to interact with objects and observe varying outcomes.
- Example: A toddler drops a spoon from different heights and locations (high chair, table, floor) to see how it falls and the sounds it makes.
- This stage highlights an emerging understanding of cause and effect.

MENTAL REPRESENTATION (18-24 MONTHS)

- Infants develop the ability to hold ideas and mental images in their minds without direct physical interactions.
- The beginnings of symbolic thought appear, allowing for pretend play and early problem-solving.
- Example: A child holds a toy phone to their ear and pretends to have a conversation, imitating what they see adults do.
- This marks the transition to the preoperational stage, where symbolic thinking expands.

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SIGNIFICANCE OF THE SENSORIMOTOR STAGE

FUNDAMENTAL COGNITIVE STRUCTURES

The sensorimotor stage provides the necessary building blocks for later learning and mental reasoning.

TRANSITION FROM ACTION-BASED TO THOUGHT-BASED LEARNING

Infants move from purely reflexive behaviors to purposeful actions and early symbolic thinking.

EMERGENCE OF OBJECT PERMANENCE

This concept is crucial for memory, understanding continuity, and later problem-solving abilities.

Example: Playing peek-a-boo with a baby strengthens their understanding that people and objects exist even when temporarily hidden.

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SIGNIFICANCE OF THE SENSORIMOTOR STAGE

FOUNDATION FOR LANGUAGE DEVELOPMENT

Early interactions, gestures, and sounds prepare infants for verbal communication.

UNDERSTANDING CAUSE AND EFFECT

Repeated actions and experiments teach infants how the world responds to their behaviors, fostering curiosity and adaptability.

Example: A baby learns that pressing a button on a toy will produce music, encouraging further exploration.

IMPORTANCE FOR CAREGIVERS AND EDUCATORS

Recognizing these developmental milestones helps in creating nurturing environments that support cognitive and emotional growth.

BY OISHY CHATTERJEE

TRANSITION FROM SENSORIMOTOR TO EARLY CHILDHOOD COGNITION

As infants move out of the sensorimotor stage, they develop more complex cognitive abilities that shape early childhood learning:

Symbolic thinking: the ability to mentally represent objects and experiences without direct physical interaction.
Example: A child uses a block as a pretend car, demonstrating imagination and flexible thinking.

Pretend Play: Engaging in make-believe scenarios, which indicates cognitive flexibility and imagination.
Example: A child sets up a tea party with stuffed animals, assigning them roles as guests.
Pretend play fosters creativity, emotional regulation, and social understanding.

Language Acquisition: Rapid vocabulary expansion and improved communication skills.
Example: A child begins to use short sentences like "want cookie" to express desires instead of just pointing or crying.
Words begin to replace actions as children learn to express needs, emotions, and thoughts verbally.
This enables more effective problem-solving and social interactions.

These cognitive advancements establish the groundwork for problem-solving, logical reasoning, and interpersonal skills, essential for later development.

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KEY MILESTONES IN THE PREOPERATIONAL COGNITIVE DEVELOPMENT IN EARLY CHILDHOOD (2-7 YEARS)

PRECONCEPTUAL SUBSTAGE (2-4 YEARS)

- **Symbolic Function**: the ability to use symbols (words, images, or objects) to represent things that are not physically present (e.g., using a toy car to represent a real car).
- **Egocentrism**: the inability to see things from another person's perspective (e.g., assuming others know what they know).
- **Animism:** Believing that inanimate objects have thoughts and feelings (e.g., thinking the moon follows them).

INTUITIVE THOUGHT SUBSTAGE (4-7 YEARS)

- **Centration**: Focusing on one aspect of a situation while ignoring others (e.g., thinking a taller glass has more juice than a shorter, wider glass).
- **Lack of Conservation**: the inability to grasp that quantity remains the same even when its appearance changes (e.g., spreading out coins makes a child think there are more).
- **Transductive Reasoning**: Drawing incorrect cause-effect relationships between unrelated events (e.g., thinking "I woke up because the sun rose" instead of recognizing the independent nature of these events).
- **Theory of Mind (Develops around 4-5 years)**: Understanding that others have different thoughts, beliefs, and emotions, which is crucial for social interactions.

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IMPORTANCE OF COGNITIVE DEVELOPMENT IN INFANCY & EARLY CHILDHOOD

EARLY LEARNING AND NEURAL PLASTICITY

the brain develops rapidly forming neural connections that influence thinking, memory, and learning.
Experiences during this stage shape cognitive abilities, making early education and enriched environments crucial for long-term intellectual growth.

FORMATION OF MEMORY AND PROBLEM-SOLVING SKILLS

children begin to develop working memory, attention control, and logical reasoning. these cognitive abilities influence school readiness, adaptability, and executive functioning skills that are crucial for academic success.

DEVELOPMENT OF LANGUAGE AND COMMUNICATION

Cognitive development in early childhood is marked by a surge in language acquisition. Psychologists study how children progress from single words to complex sentences, which impacts social interactions, emotional expression, and literacy skills.
Delays in language development may indicate speech disorders, hearing impairments, or neurodevelopmental conditions like autism spectrum disorder (ASD).

ROLE OF PLAY IN COGNITIVE GROWTH

Symbolic play (pretend play) helps children develop abstract thinking, creativity, and emotional regulation. through play, children learn cause-effect relationships, decision-making, and problem-solving, all of which are fundamental to cognitive development.

03

ATTACHMENT

Attachment is a deep and enduring emotional bond that forms between an infant and their caregiver, influencing the child's development and future relationships. It is characterized by the infant's need for closeness, security, and comfort, particularly in times of distress.

ATTACHMENT THEORY

Attachment theory, first developed by John Bowlby's in 1969 explain how early relationships between infants and caregivers shape emotional and social development. He argued that attachment is an evolutionary mechanism designed to ensure the survival of the infant by keeping them close to their caregiver.

He identified four characteristics of attachment:

1. Proximity maintenance
2. Safe Haven
3. Secure Base
4. Separation Distress

BOWLBY'S ATTACHMENT PHASES

He identified four phases of attachment:

1. **Preattachment phase (0-6 weeks):**

- Infants show no specific attachment to a caregiver.
- they respond to anyone who provides comfort and care.
- Crying, cooing, and smiling help attract caregivers.

2. **Attachment in the making (6 weeks - 6 months):**

- Infants start recognizing and preferring their primary caregiver.
- they develop trust in the caregiver's responses.
- Stranger anxiety is minimal at this stage.

3. Clear-Cut Attachment (7 months - 2 years)

- Strong attachment is formed; the infant actively seeks proximity to the caregiver.
- Separation anxiety and stranger anxiety peak during this phase.
- the infant relies on the caregiver as a safe haven during distress.

4. Formation of a Reciprocal Relationship (2+ years)

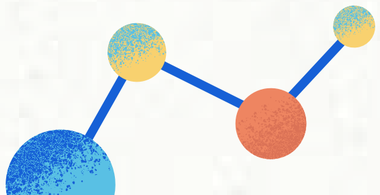
- the child becomes more independent and understands that the caregiver will return after separation.
- Anxiety about separation decreases.
- Communication improves, allowing for a more balanced relationship.

SCHAFFER & EMERSON'S STAGES OF ATTACHMENT

In 1964, Psychologists Rudolf Schaffer and Peggy Emerson conducted a longitudinal study on 60 infants from Glasgow to understand how attachment develops. Based on their observations, they identified four stages of attachment:

1. **Asocial Stage (0-6 weeks):**

- Infants do not differentiate between humans and objects in their environment.
- They respond to social and non-social stimuli in the same way.
- Babies begin to show a slight preference for human faces and voices.



2. Indiscriminate attachement stage (6 weeks - 7 months) :

- Infants begin to prefer human company over objects.
- they do not yet show a strong attachment to a specific caregiver and accept comfort from anyone.

3 Specific attachment stage (7-9 months):

- Infants form a strong attachment to one specific person (usually the mother).
- they show separation anxiety when their primary attachment figure leaves.
- they display stranger anxiety, reacting negatively to unfamiliar people

4. Multiple Attachment stage (9 months and onwards):

- Infants begin forming attachments to multiple caregivers (e.g., father, grandparents, siblings, babysitters).
- Separation anxiety decreases as they develop stronger bonds with multiple figures.
- By 18 months, most infants have formed multiple strong attachments.

04

BASIC ASPECTS OF LANGUAGE

PHONOLOGY

Phonology is the study of basic sounds of a language. A phoneme is the smallest, basic unit of a language and it is the distinct sound in a language. Different languages have different types of phonemes.

MORPHOLOGY

A morpheme is the basic unit of meaning in a language. , Morpheme is a word or a part of word that cannot be broken further into smaller parts with meaning to it.

SYNTAX

Syntax is the grammar of a language- putting words in a particular order, combines them to make acceptable and meaningful sentences. .Syntax also determines how and when we change words.

SEMANTICS

Semantics denote the meaning of words and sentences. Words have semantic restrictions, in terms of how they can be used in a sentence. A sentence might be syntactically correct but semantically incorrect

PRAGMATICS

It is how we use language in social situations and different contexts. Language is used for different purposes such as requests, information, to question, greetings etc. and we speak differently in different situations and with different people.

LANGUAGE DEVELOPMENT THEORIES

- 1. Nativism (Noam Chomsky)
- Language ability is innate—we are born with a Language Acquisition Device (LAD).
- Proposed the idea of Universal Grammar (built-in rules common to all languages).
- Children create sentences they've never heard, e.g., "Dad eated."
- Criticism: LAD is theoretical, and doesn't fully explain language learning.

2. Behavioral & Social Cognitive Theory (Skinner & Bandura)

- Language is a learned behavior, like cycling or swimming.
- Developed through reinforcement and imitation.
- Child-Directed Speech (baby talk) captures attention and aids learning.
- Key strategies:
  - Recasting: Rephrasing what a child says.
  - Expanding: Adding grammatical structure.
  - Labeling: Naming objects to build vocabulary.

LANGUAGE DEVELOPMENT THEORIES

3. Interactionism
   - Combines nature and nurture.
   - Biological readiness + rich language environment = language development.
   - Language is socially constructed through interactions.
   - Parents adjust speech to fit child's cognitive level.
   - Emphasizes the importance of conversations and social interaction.

4. Cognitive Processing Theory
   - Children are statistical learners—they analyze patterns in speech (like data crunching).
   - Learn language by tracking transitional probabilities (which sounds tend to follow others).
   - Even 8-month-olds can differentiate words this way.
   - Language is learned, not innate—depends on brain's computational power.

01 INFANCY

- Crying: Newborns cry reflexively at birth. Soon, it becomes a way to communicate distress, prompting adults to respond and provide relief
- Cooing: At 2–4 months, babies produce soft vowel-like sounds and begin laughing. They also engage in turn-taking "pre-language" interactions.
- Babbling: By 4–6 months, babies make sounds like "ba," "da," and comb'ine them (e.g., "bababa"). Though initially meaningless, responses from adults help babies attach meaning.
- Sound Discrimination: Infants can distinguish sounds from many languages up to 6 months, but this ability fades by 10 months due to limited exposure.
- First Words: A major milestone that continues the communication process, building on crying, cooing, and babbling
- Vocabulary Spurt: By 18 months, toddlers know ~50 words; by age 2, this grows to ~200 words. The pace of this "vocabulary spurt" varies by child and timing of first words.
- Two-Word Utterances: Between 18–24 months, toddlers begin combining two words (e.g., "want toy"), supported by gestures and tone. This early form of speech, called telegraphic speech, uses brief, essential words without grammar.

02 EARLY CHILDHOOD

- Vocabulary & Grammar: By age 3, children begin forming sentences with 3+ words, using vowel and some consonant sounds. They enjoy rhymes and naming things.
- Morpheme Use: Start using plurals (-s), past tense (-ed), prepositions (in, on), and articles (a, the). Overgeneralizations are common (e.g., "I goed to the store").
- Syntax Rules: Begin forming wh- questions, though errors like "What Mommy is doing?" are common.
- Pragmatics: Rapid vocabulary growth (18 months–6 years). By age 4–6, children adapt language to context (e.g., speak differently to adults vs. peers).
- Egocentric Speech: Young children may not consider the listener's perspective, but this improves with age.
- Private Speech (Vygotsky): Children often talk aloud to themselves during tasks. Over time, this internalizes into silent thought. Even teens use it when solving tough problems.

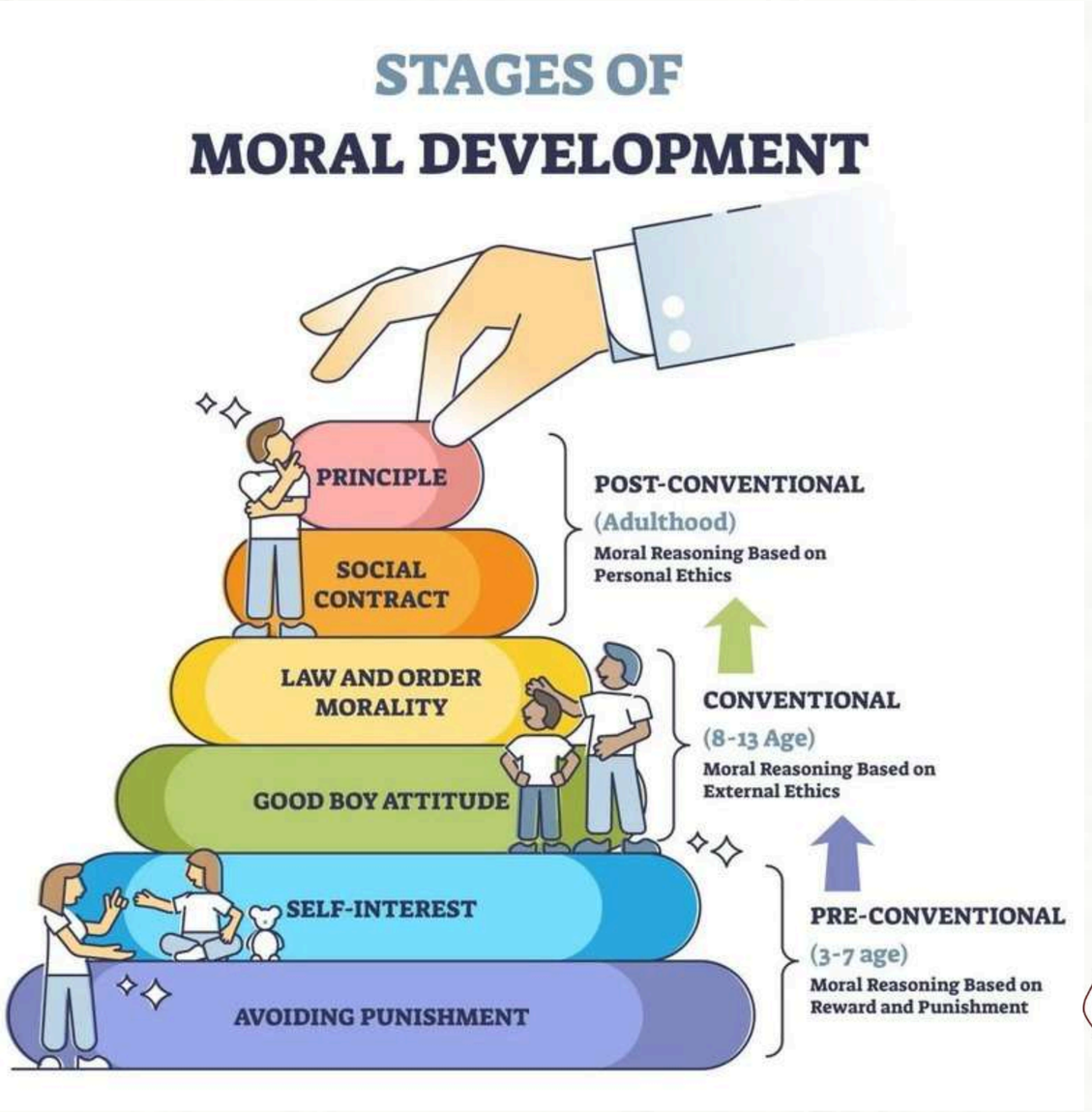
05

MORAL DEVELOPMENT

"Moral development refers to the process through which children acquire standards of right and wrong and develop feelings of concern for others, moral reasoning, and behavior consistent with moral standards."

-Kail and Cavanaugh (2010)

KOHLBERG'S THEORY OF MORAL DEVELOPMENT



Pre-Conventional Level (Early Childhood - 4 to 10 years)

→ Morality is based on rewards and punishments.

Stage 1: Obedience and Punishment Orientation

- → Children obey rules to avoid punishment.
- Example: "If I break the rule, I'll get scolded."

Stage 2: Individualism and Exchange

- → Right actions are those that serve personal needs.
- Example: "If I help you, you'll help me."

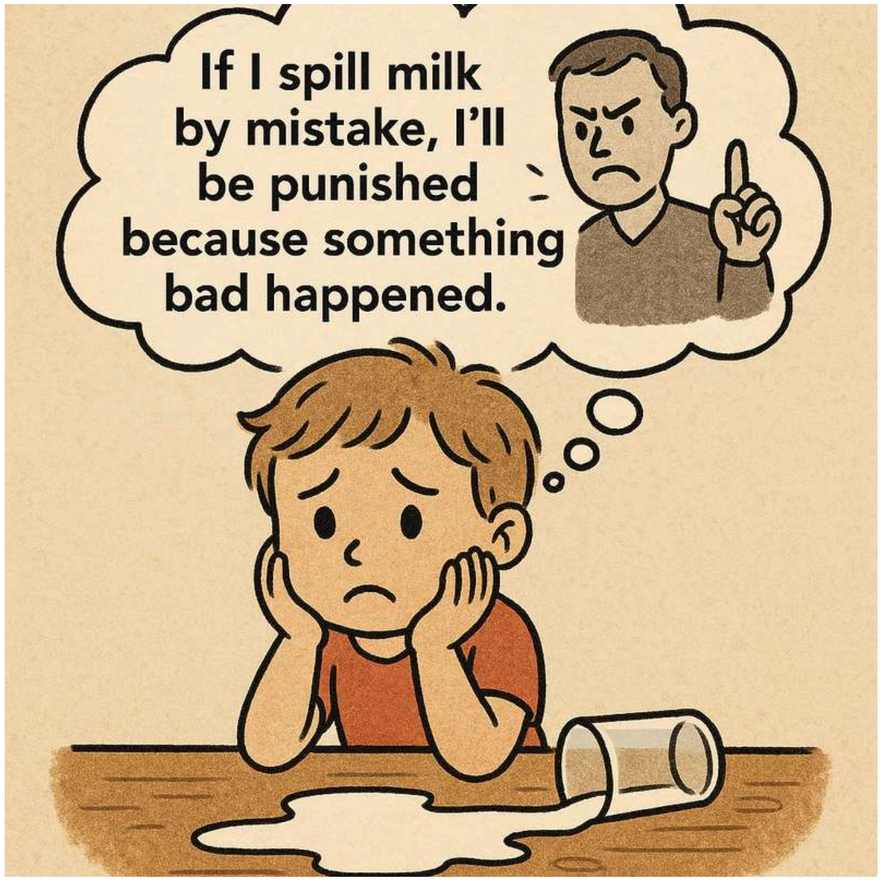
STAGES OF MORAL DEVELOPMENT BY JEAN PIAGET

Jean Piaget studied how children's moral thinking develops with age. He divided moral development into three main stages (sometimes explained as two broad stages but including a transitional phase). These stages are based on how children understand rules, justice, and intention behind actions.

Heteronomous Morality (Moral Realism) — 4 to 7 years

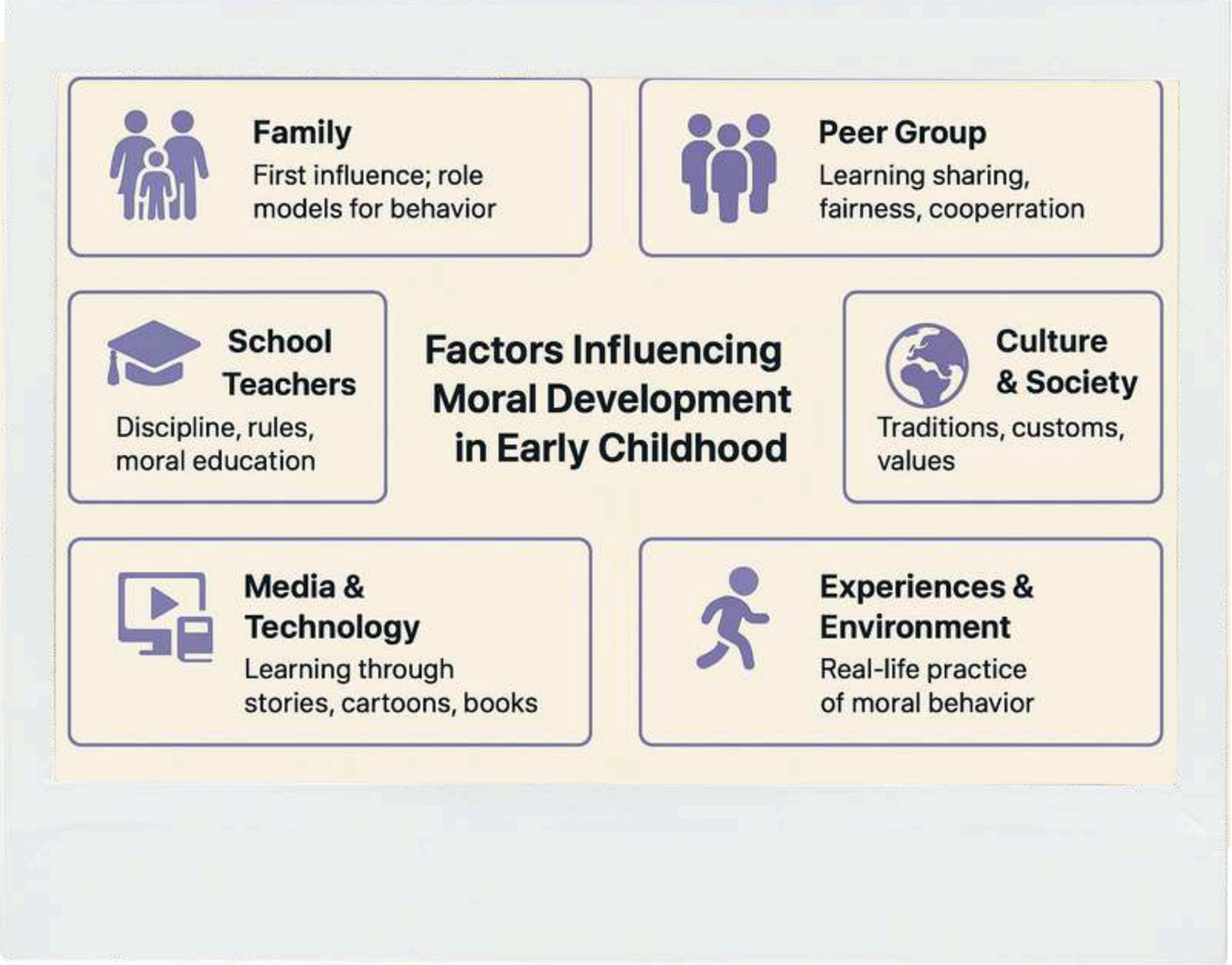
- Rules are fixed and unchangeable.
- Obeying rules to avoid punishment.
- Belief in immediate justice
  (Wrong acts will be punished.).
- Focus on consequences more than intention.

Example:



FACTORS AFFECTING MORAL DEVELOPMENT IN EARLY CHILDHOOD:

- Family
- Peer Group
- School & Teachers
- Culture & Society
- Media & Technology
- Experiences & Environment
- Religion & Spirituality



THANK YOU!