PSYC100 GENERAL PSYCHOLOGY

DEVELOPMENTAL PSYCHOLOGY

LEARNING OUTCOMES

- Early experiences and attachment
- Development of self concept
- Cognitive development and Piaget’s Theory
- Zone of Proximal Development - Vygotsky

I - What is attachment?

- According to Kagan *et al*. (1978), an attachment is: *... an intense emotional relationship that is specific to two people, that endures over time, and in which prolonged separation from the partner is accompanied by stress and sorrow.*
- Our first attachment acts as a *prototype* (or model) for all later relationships.
- Harlow’s experiments with monkeys
- John Bowlby
- Mary Ainsworth

Harlow’s monkey experiments

- To study whether attachment in infants is based on **biological needs (feeding)** or **emotional comfort (contact and security)**.
- https://www.youtube.com/watch?v=-Qi7txH1KzY
- https://www.youtube.com/watch?v=OrNBEhzjg8I
- **Monkeys overwhelmingly preferred the cloth mother**, even though she provided **no food**.
- They only went to the wire mother briefly **to feed**, then immediately returned to the cloth mother.

Surrogate Mother	Description	Provided Milk?
Wire Mother	Bare wire frame	✅ Yes (bottle attached)
Cloth Mother	Covered in soft terry cloth	❌ No (no milk)

Harlow’s follow-up studies

1. Isolation studies: Monkeys raised in total isolation (no mother, no peers) became **emotionally disturbed**, **socially withdrawn**, and often **self-harming**; When reintroduced to others, they were fearful or aggressive and struggled to mate or care for offspring.
2. Partial isolation studies: Monkeys could see and hear others but not touch them; Still developed **abnormal behaviors**, showing that **physical affection and social contact** are crucial.

CONCLUSIONS:

- Attachment is not just about feeding — it’s about security, comfort, and love.
- Touch and emotional warmth are essential for healthy psychological development.
- Lack of attachment can lead to severe long-term emotional damage.

John Bowlby (1950s-60s)

- Bowlby, a British psychologist, was the first to propose that attachment is an **innate biological system** that evolved to ensure survival (evolutionary).
- He argued that children are born with an instinct to seek closeness to a caregiver when they feel threatened, frightened, or ill.
- The caregiver provides a **secure base** from which the child can explore the world and a **safe haven** for comfort.
- The critical period for forming primary attachment according to Bowlby is roughly from birth to about **3 years of age**
- https://www.youtube.com/watch?v=f1Jw0-LExyc

John Bowlby (1950s-60s)

- Bowlby believed that infants display a strong innate tendency to become attached to one particular adult female (not necessarily the natural mother).
- For Bowlby (1951): *Mother love in infancy is as important for mental health as are vitamins and proteins for physical health.*
- Although Bowlby didn't deny that children form multiple attachments, he saw attachment to the mother as being *unique*: it's the first to develop and is the strongest of all.
- However, Schaffer and Emerson showed that multiple attachments seem to be the rule rather than the exception. FATHERS!

Mary Ainsworth (1970s)

- Ainsworth expanded Bowlby's theory with her **"Strange Situation"** experiment (1970s), which observed how infants reacted to separations and reunions with their mothers.
- Studied how infants (12-18 months old) form attachments and react to separation and reunion with their caregiver.
- Identified 4 main attachment styles.

Step	Who’s in the room	What happens	What psychologists observe
1	Parent + baby	Parent and baby enter room.	Infant’s willingness to explore.
2	Parent + baby	Baby explores with parent nearby.	Use of parent as a secure base.
3	Parent + baby + stranger	Stranger enters, talks to parent, then approaches baby.	Reaction to stranger.
4	Baby + stranger	Parent quietly leaves.	Separation anxiety.
5	Parent + baby	Parent returns, comforts baby; stranger leaves.	Reaction to reunion.
6	Baby alone	Parent leaves baby completely alone.	Separation distress.
7	Baby + stranger	Stranger re-enters, offers comfort.	Ability to be soothed by stranger.
8	Parent + baby	Parent returns again.	Second reunion response.

Findings of SSE

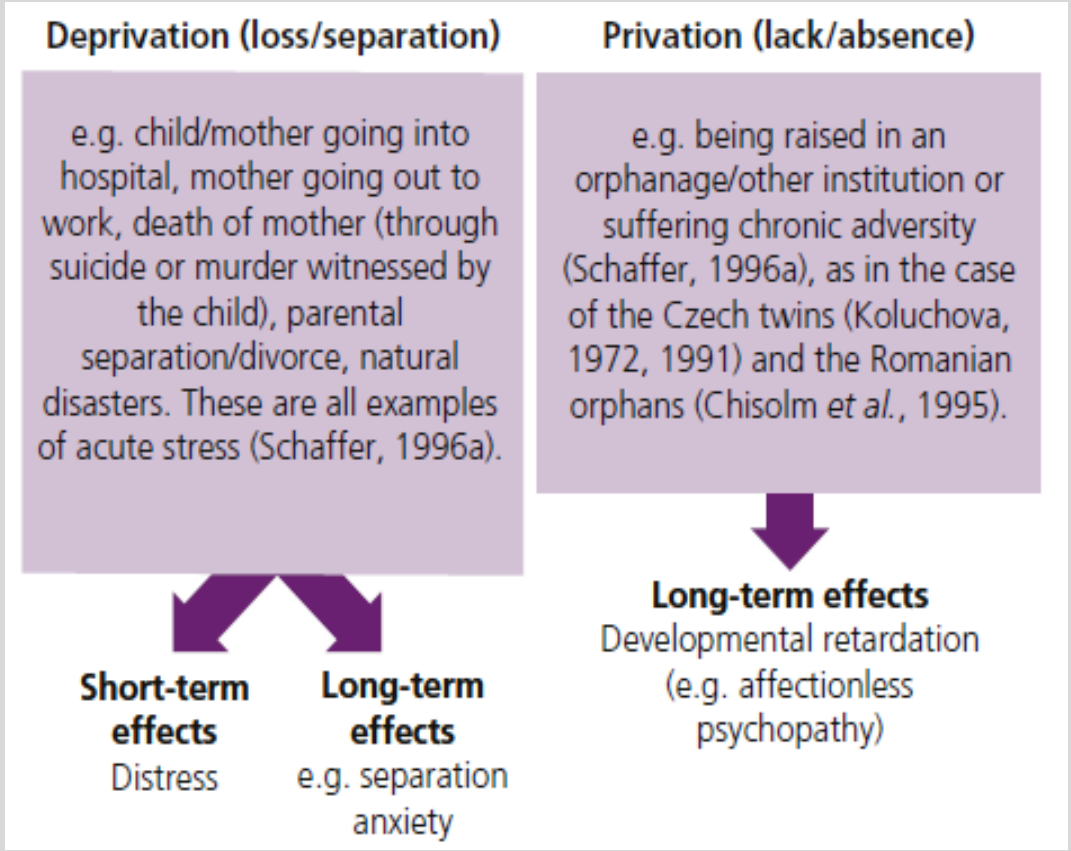
Attachment Type	% of Infants	Key Behaviors
Secure	~65%	Explores freely with caregiver as secure base; distressed when caregiver leaves; easily comforted upon return.
Insecure-Avoidant	~20%	Explores freely; shows little distress when caregiver leaves; avoids or ignores caregiver upon return.
Insecure-Resistant (Ambivalent)	~10–15%	Clings to caregiver, little exploration; highly distressed when caregiver leaves; seeks comfort but also resists it upon return.
Disorganized *(added later)*	~5–10%	Contradictory or confused behavior (e.g., approaching but looking away); often linked to trauma or neglect.

https://www.youtube.com/watch?v=QTsewNrHUHU

Four attachment styles

Attachment Style	Child Behavior	Later Adult Traits
Secure	Distressed when caregiver leaves, comforted when they return	Trusting, emotionally stable, comfortable with intimacy
Avoidant (Insecure-avoidant)	Indifferent to caregiver's departure/return	Emotionally distant, values independence, avoids closeness
Ambivalent / Resistant (Insecure-ambivalent)	Very distressed when separated, not easily comforted	Clingy, overly dependent, fears abandonment
Disorganized	Confused or contradictory behaviors	Fearful of intimacy, trauma-related patterns

Deprivation and Privation



Key Study 32.3

Growing up with tuberculosis (Bowlby *et al.*, 1956)

- Bowlby *et al.* studied 60 children aged 7–13 years who'd spent between five months and two years in a tuberculosis (TB) sanatorium (which provided no substitute mothering) at various ages up to 4. About half had been separated from their parents before they were 2 years old.
- When compared with a group of non-separated 'control' children from the same school classes, the overall picture was that the two groups were more similar than different.
- The separated children were more prone to 'daydreaming', showed less initiative, were more over-excited and rougher in play, concentrated less well, and were less competitive. But they weren't more likely to show affectionless psychopathy, regardless of when their separation had occurred (before or after 2).

Are the effects of privation reversible?

- Yes!

1. **Case studies of children who've endured extreme early privation, often in near complete isolation.**

e.g. Czech twins

2. **Studies of late adoption**

e.g. Romanian orphanages

Czech Twins (Andreas and Petr, discovered 1972, age ~7)

After their mother died, their stepmother locked them in a cellar or unheated room with almost no human contact, light, or stimulation until age 7 (along with an older brother who was less affected).

At discovery: almost no speech, severe intellectual disability (IQ ~40), autistic-like behaviors, no social attachment.

Outcome after intensive rehabilitation: dramatic recovery. By adolescence their IQs rose to low-normal range (~90–100), they developed normal language and social relationships, finished school, and lived relatively normal adult lives.

Romanian Orphanages

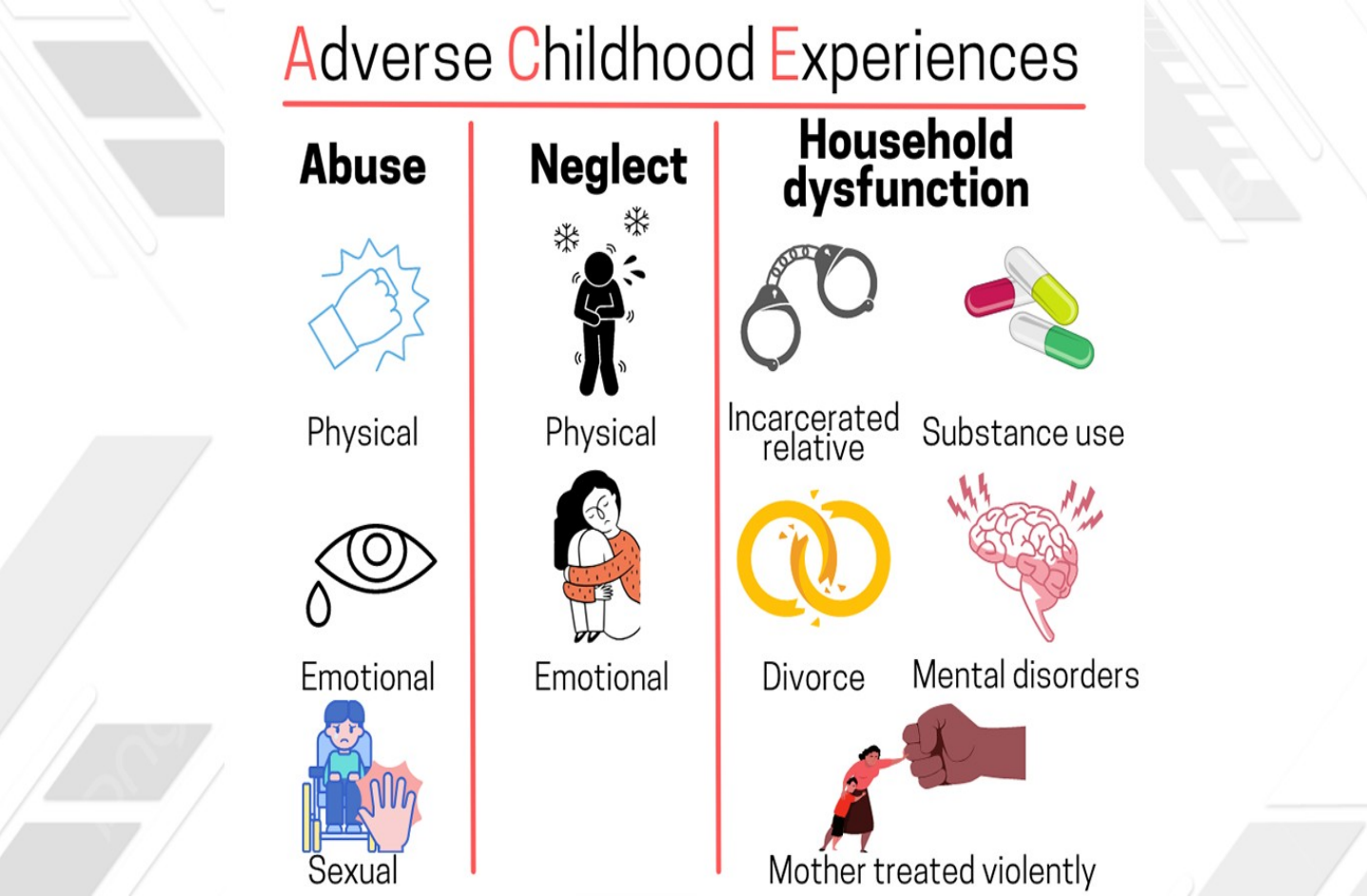
Led by Michael Rutter, Jana Kreppner, and others since the early 1990s.

Background: After the 1989 fall of Ceaușescu in Romania, the world discovered thousands of children in state orphanages with extreme deprivation:

Almost no caregiver interaction (ratios sometimes 1:30–1:60 for infants); Minimal language exposure, little play, severe malnutrition in early years; Many children spent months/years lying in cots with almost no stimulation.

There is a clear sensitive period: deprivation lasting beyond **roughly 6 months** markedly increases risk; **beyond 24 months the risk is very high**.

ACE and attachment



Attachment theory and Adverse Childhood Experiences (ACEs) are two deeply interconnected concepts in psychology and health research, both highlighting the profound, long-term impact of early life experiences on an individual's physical and mental well-being, as well as their relationships throughout life.

II – The Self Concept

- ‘Self ’ and ‘self-concept’ are used interchangeably to refer to an individual’s overall self-awareness.
- According to Murphy (1947), ‘the self is the individual as known to the individual’.
- Components of the self-concept are self-image (**WHO AM I**?), self-esteem (**HOW I FEEL ABOUT MYSELF**?), ideal-self (**WHO I WANT TO BE**?).

Developmental changes in the self-concept

- During the first few months, the baby gradually distinguishes itself from its environment and from other people.
- According to Maccoby (1980), babies are able to distinguish between themselves and others on two counts:

1. their own fingers hurt when bitten (but they don't have any such sensations when they're biting their rattle or their mother's fingers)

2. probably quite early in life, they begin to associate feelings from their own body movements with the sight of their own limbs and the sounds of their own cries.

- Gallup (1977) studies on chimps

Key Study 33.1

Mirror, mirror … (Gallup, 1977)

- Gallup, working with preadolescent, wild-born chimps, placed a full-length mirror on the wall of each animal's cage. At first, they reacted as if other chimps had appeared – they threatened, vocalised, or made conciliatory gestures. But after three days this had almost disappeared. They then used their images to explore themselves (for example, picking up food and placing it on their face, which couldn't be seen without the mirror) (see Figure 33.6).
- After ten days' exposure, each chimp was anaesthetised and a bright red spot was painted on the uppermost part of one eyebrow ridge, and a second spot on the top of the opposite ear, using an odourless, non-irritating dye.
- When the chimp had recovered from the anaesthetic, it was returned to its cage, from which the mirror had been removed, and it was observed to see how often it touched the marked parts of its body. The mirror was then replaced, and each chimp began to explore the marked spots around 25 times more often than it had done before.
- The procedure was repeated with chimps that had never seen themselves in the mirror, and they reacted to the mirror image as if it were another chimp (they didn't touch the spots). So, the first group had apparently learned to recognise themselves.
- Lower primates (monkeys, gibbons, and baboons) are unable to learn to recognise their mirror images.

Figure 33.6 Chimpanzees learn to use mirrors to explore parts of their bodies they cannot usually see

- Lewis and Brooks-Gunn (979) have used modified forms of Gallup's technique with 6- to 24-month-old children. The mother applies a dot of rouge to the child's nose (while pretending to wipe its face), and the child is observed to see how often it touches its nose. It is then placed in front of a mirror, and again the number of times it touches its nose is recorded. While touching the dot was never seen before 15 months, between 15 and 18 months, 5–25 per cent of infants touched it, and 75 per cent of the 18- to 24-month-old infants did.

III – Cognitive development

- According to Piaget, cognitive development occurs through the interaction of innate capacities with environmental events, and progresses through a series of *hierarchical, qualitatively different, stages*.

1) All children pass through the stages in the same sequence without skipping any or regressing to earlier ones
2) The stages are also the same for everyone irrespective of culture (they're *universal*).
3) Underlying the changes are certain *functional invariants*, fundamental aspects of the developmental process which remain the same and work in the same way through the various stages. The most important of these are *assimilation and accommodation*.
4) The principal cognitive structure that changes is the *schema* (plural *schemas* or *schemata*).

Assimilation and accommodation

- Assimilation is the process of taking in new information and fitting it into existing schemas (mental categories) without changing those schemas.
  - E.g. A child knows about dogs: they're furry, have four legs, and bark. When the child sees a cat for the first time, they might call it a *"dog"* because it also has four legs and fur. The child is assimilating the new animal into their *existing "dog" schema.*
- Accommodation is the process of modifying existing schemas or creating new ones when new information doesn't fit the old schema.
  - E.g. After being corrected that the cat is *not* a dog, the child learns that cats meow and have different behaviors. The child then creates a new "cat" schema separate from "dog." This is accommodation — adjusting the schema to include new distinctions.

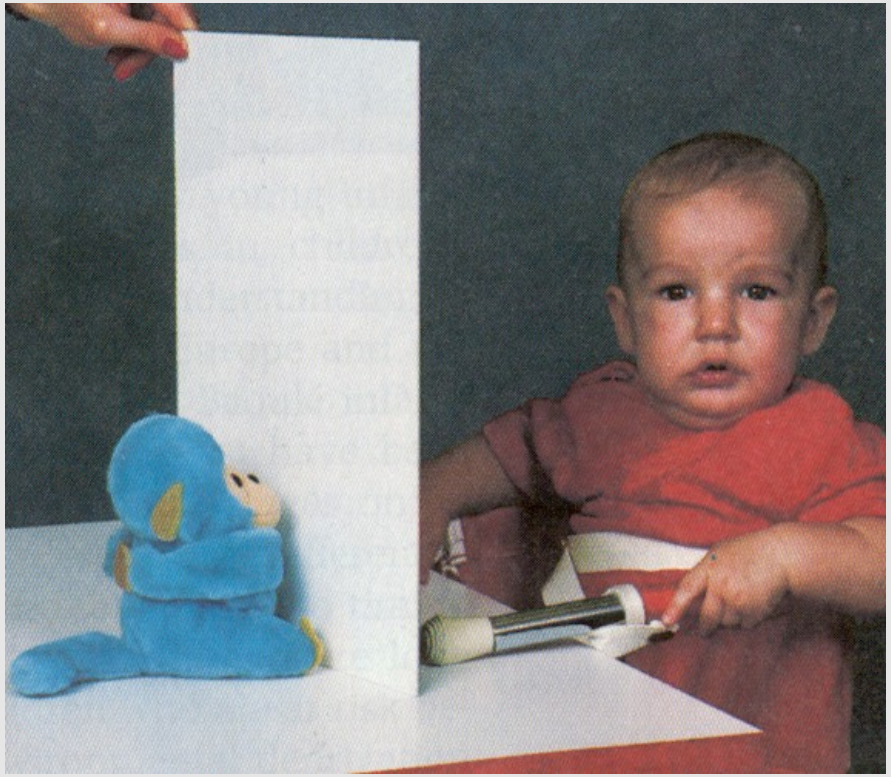
Stages of cognitive development (Piaget, 1952)

Stage	Approximate ages
Sensorimotor	0–2 years
Pre-operational	2–7 years
Concrete operational	7–11 years
Formal operational	11 years onwards

Sensorimotor Stage

- 0-2 yrs
- Infants understand their world primarily through sensory experiences and physical (motor) interactions with objects
  - Object Permanence: the understanding that an object continues to exist even when it cannot be seen
  - Piaget claimed that infants younger than **9 months** do not have a mental representation of objects

Object permanence



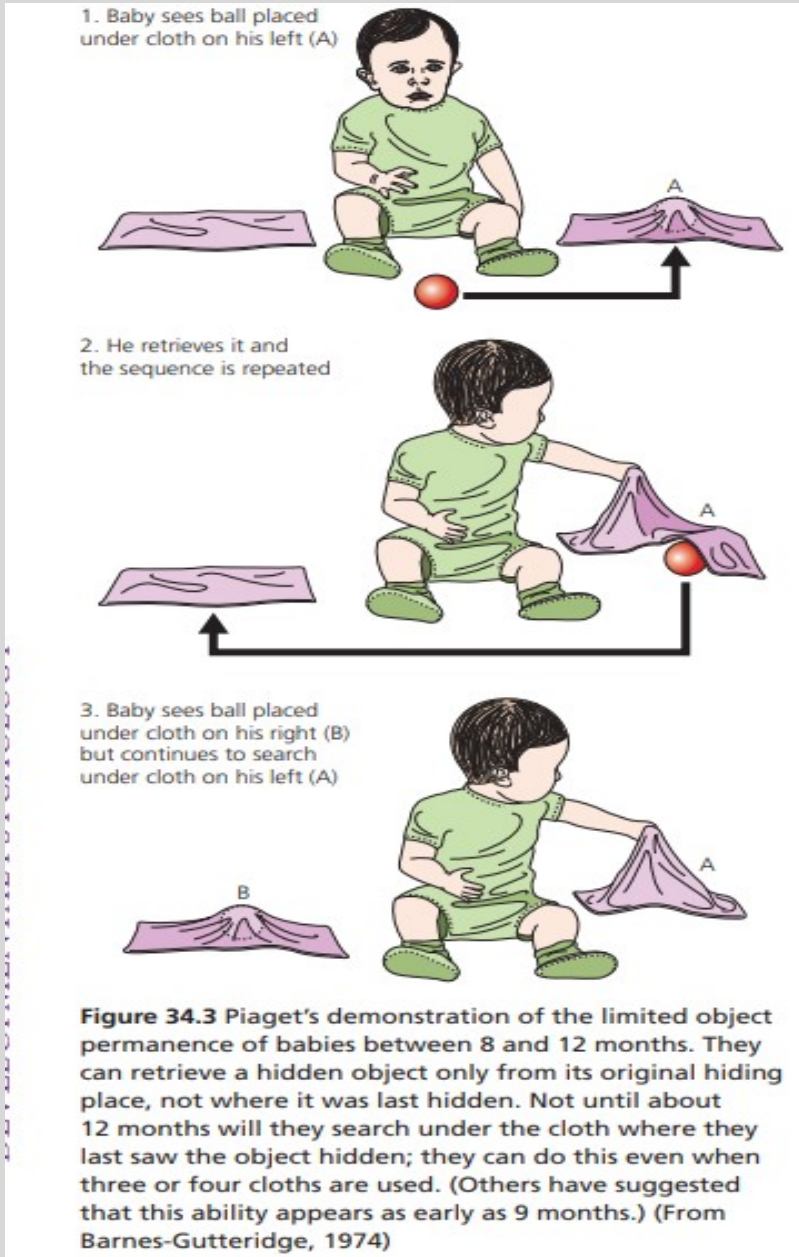


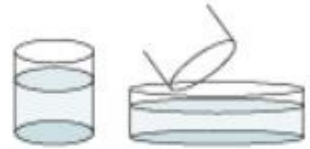
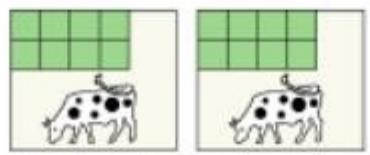
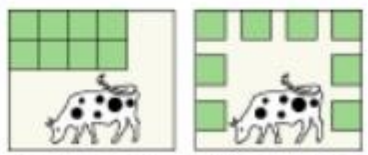
Figure 34.3 Piaget's demonstration of the limited object permanence of babies between 8 and 12 months. They can retrieve a hidden object only from its original hiding place, not where it was last hidden. Not until about 12 months will they search under the cloth where they last saw the object hidden; they can do this even when three or four cloths are used. (Others have suggested that this ability appears as early as 9 months.) (From Barnes-Gutteridge, 1974)

Pre-operational stage

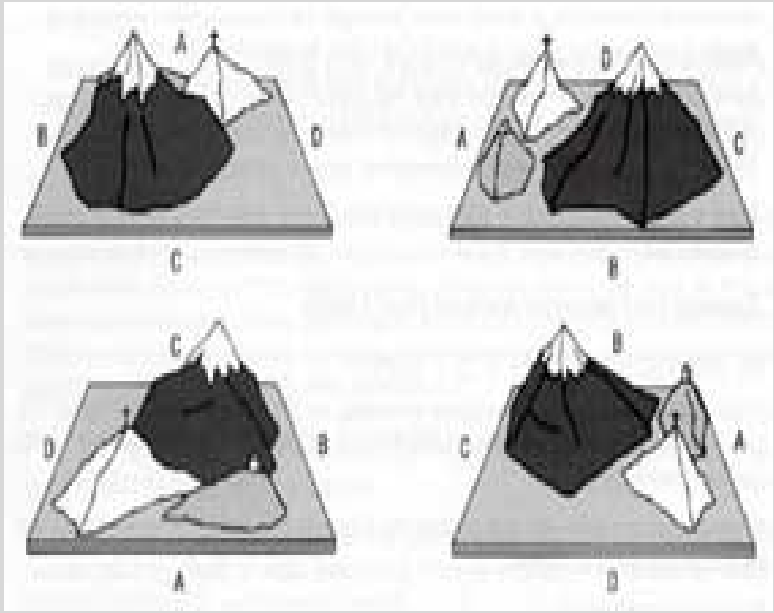
- 2-7 yrs
- The world is represented symbolically through words and mental images; no understanding of basic mental operations or rules
  - No understanding of **Principle of Conservation**: basic properties of objects stay the same even though their outward appearance may change *e.g. water in differently shaped glasses*
  - **Egocentrism***:* difficulty in viewing the world from someone else's perspective *e.g. three mountains task*
  - **Irreversibility***:* cannot mentally reverse actions *e.g. pouring back the water into glass A*
  - **Animism***:* the belief that inanimate objects are capable of actions and have lifelike qualities *e.g. the sidewalk was mad and made them fall down*

Example: Principle of Conservation

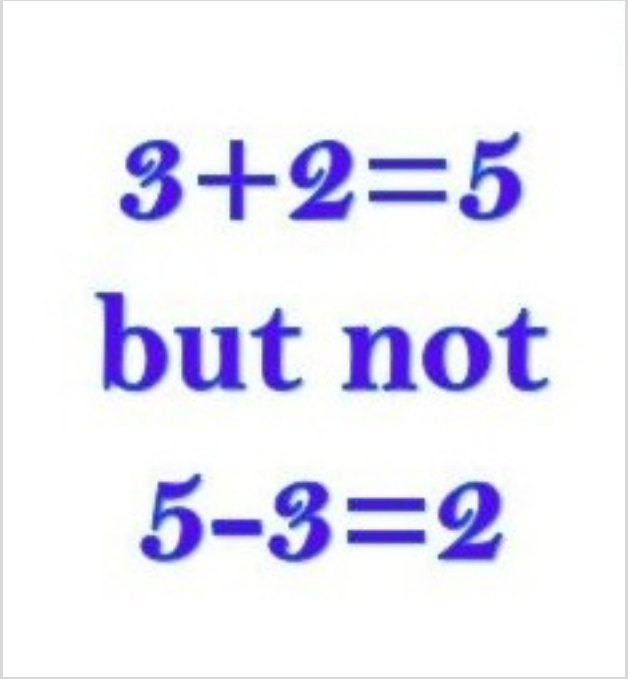

1
TÜRK LİRASI
(2009)

Type of Conservation	Starting Configuration	Transformation	Final Configuration
Liquid quantity	 *Is there the same amount of water in each glass?*	*Pour water from one glass into a shorter, wider glass.*	 *Now is there the same amount of water in each glass, or does one have more?*
Number	 *Are there the same number of pennies in each row?*	*Stretch out the top row of pennies, push together the bottom row.*	 *Now are there the same number of pennies in each row, or does one row have more?*
Length	 *Are these sticks the same length?*	*Move one stick to the left and the other to the right.*	 *Now are the sticks the same length, or is one longer?*
Mass	 *Does each ball have the same amount of clay?*	*Roll one ball so that it looks like a sausage.*	 *Now does each piece have the same amount of clay, or does one have more?*
Area	 *Does each cow have the same amount of grass to eat?*	*Spread out the squares in one field.*	 *Now does each cow have the same amount to eat, or does one cow have more?*

Example: Egocentrism

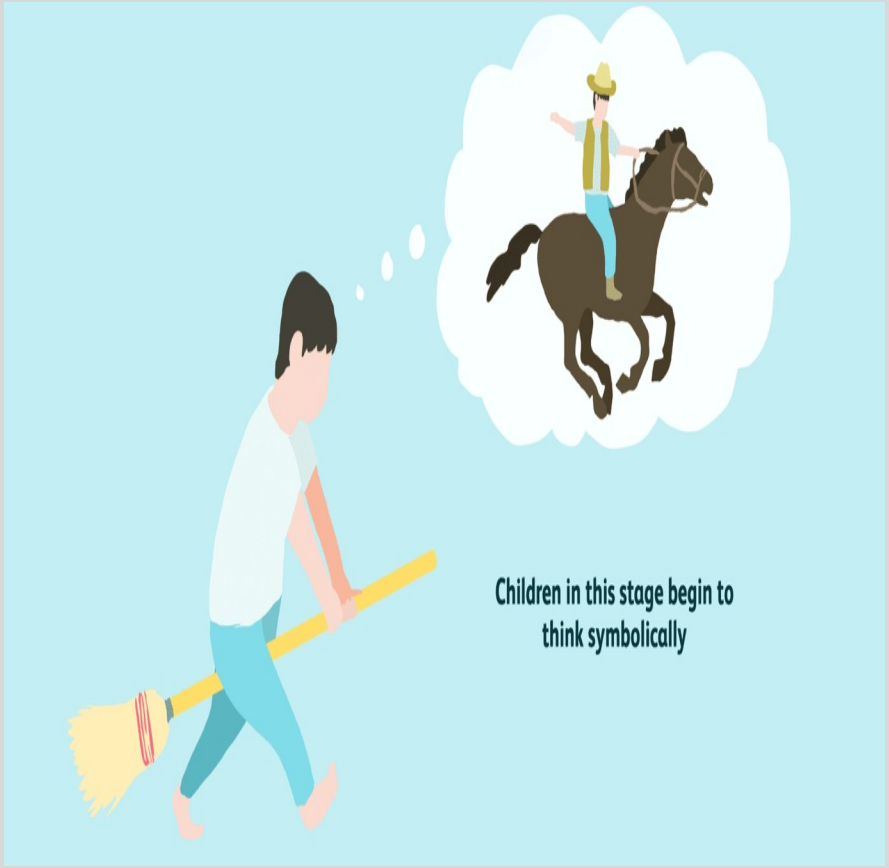


Example: Irreversibility



The child cannot mentally reverse the action and understand that the water could be poured back to look the same..

Example: Animism



Concrete operational stage

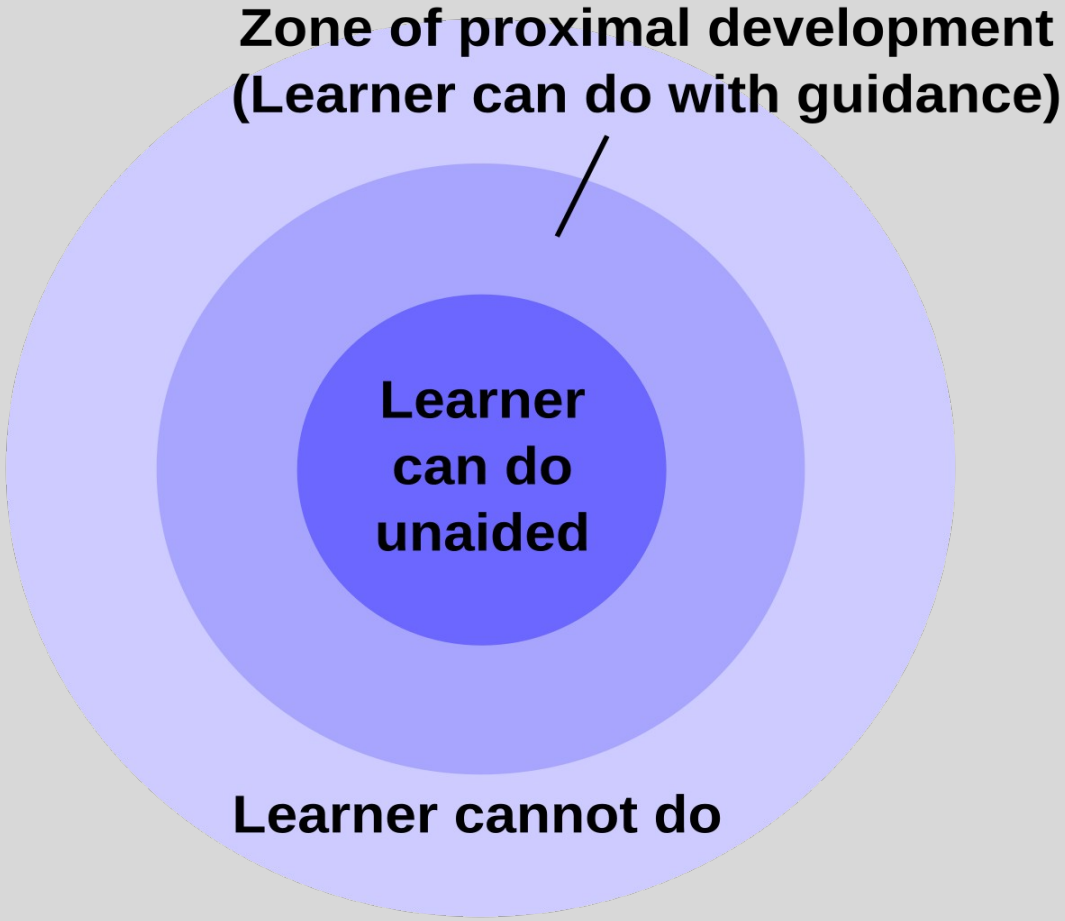
- 7-11 yrs
- The child is now capable of performing logical operations, but only in the presence of actual objects. They can conserve, and show reversibility and more logical classification. They are less ego-centric.
- One remaining problem for the concrete operational child is *transitivity tasks*. For example, if told that ‘Alan is taller than Nigel, and Nigel is taller than Charlie’ and asked whether Alan or Charlie is taller, children under 11 cannot solve this problem entirely in their heads. They can usually only solve it using real (or concrete) objects (such as dolls).

Formal operational stage

- 11 + yrs
- Children are able to think logically and systematically about both concrete and abstract problems, form hypotheses, and test them in a thoughtful way

An alternative model?

- Vygotsky, in contrast to Piaget (and the information-processing approach), sees the child as a participant in an interactive process, by which socially – and culturally – determined knowledge and understanding gradually become individualised.
- **Zone of Proximal Development**
  - **Scaffolding -** The help provided by a more knowledgeable other within the ZPD



Lecture summary

- Attachment and key figures (Harlow, Bowlby, Ainsworth); attachment styles
- Self-concept (Gallup’s study)
- Cognitive development and Piaget’s Theory (Four stages, assimilation and accommodation)
- Vygotsky - ZPD