



# The stages of cognitive development across life span



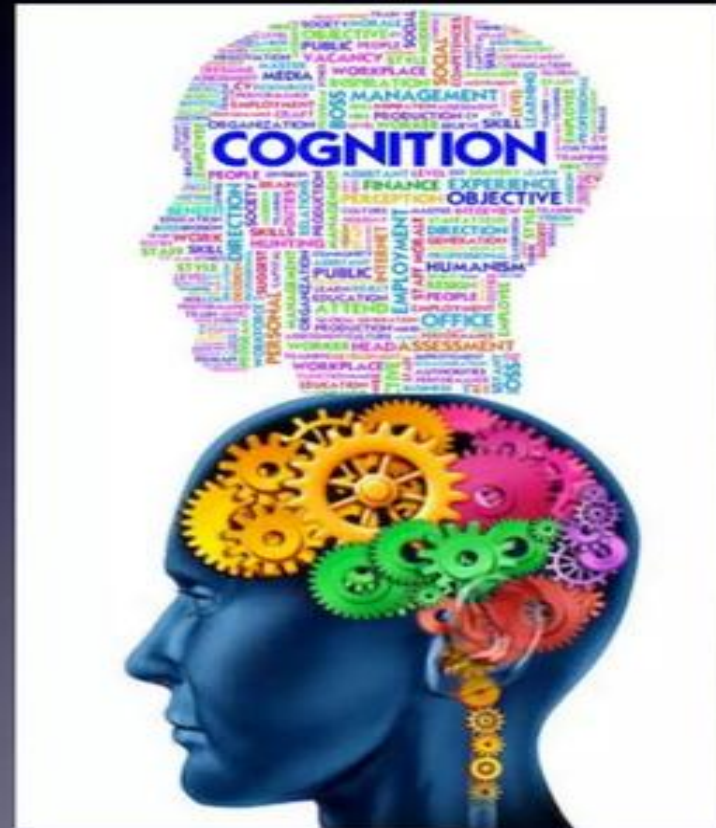
# Outline



- What is Cognition?
- What is cognitive development?
- Four stage of Cognitive development
- Information processing during childhood
- Role of culture in cognitive development
- Erikson's Stages of Psychosocial Development

# What is Cognition?

- The term cognition is derived from the latin word "cognoscere" which means "to know" or "to recognise" or "to conceptualise".
- Cognition is "the mental action or process of acquiring knowledge and understanding through thought, experience, and the senses."

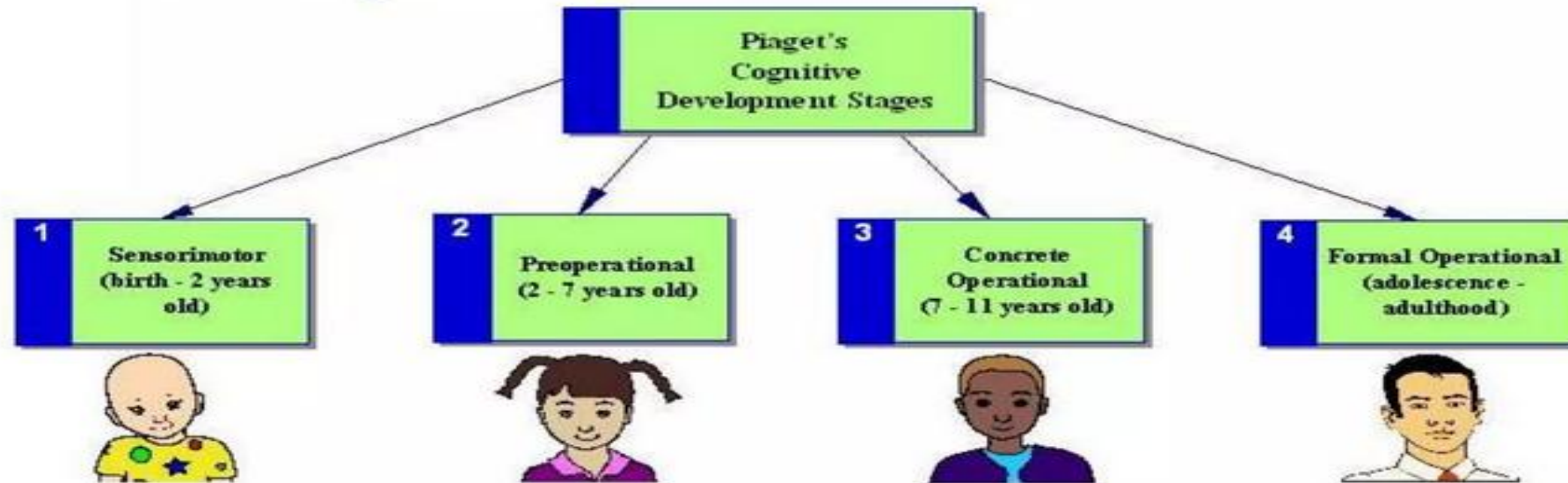


# What is Cognitive Development?

- Cognitive Development is the emergence of the ability to think and understand.
- The acquisition of the ability to think, reason and problem solve.
- It is the process by which people's thinking changes across the life span.
- Piaget studied Cognitive Development by observing children in particular, to examine how their thought processes changed with age.
- It is the growing apprehension and adaptation to the physical and social environment.



# The Four Stages Of Development



# The Sensorimotor Stage (Birth to 2 yrs)

## - Infancy



- Infants construct an understanding of the world by coordinating **sensory** experiences (seeing, hearing) with **motor** actions (reaching, touching).
- Develop Object Permanence (**memory**) - Realize that objects exist even if they are out of sight.
- Infants progress from reflexive, instinctual actions at birth to the beginning of problem solving (**intellectual**) and symbolic abilities (**language**) toward the end of this stage.



# Preoperational Stage (2-7 yrs) -Toddler and Early Childhood



- This stage begins when the child starts to use symbols and language. This is a period of developing language and concepts. So, the child is capable of more complex mental representations (i.e, words and images). He is still unable to use 'operations', i.e,logical mental rules, such as rules of arithmetic. This stage is further divided into 2 sub-stages :
- **Preconceptual stage (2-4 yrs)** : Increased use of verbal representation but speech is egocentric. The child uses symbols to stand for actions; a toy doll stands for a real baby or the child role plays mummy or daddy.
- **Intuitive stage (4-7 yrs)** : Speech becomes more social, less egocentric. Here the child base their knowledge on **what they feel or sense to be true**, yet they cannot explain the underlying principles behind what they feel or sense.



The following are the key features of this stage :

- **Egocentrism:** The child's thoughts and communications are typically egocentric (i.e, about themselves or their own point of view). Eg.: "if i can't see you, you also can't see me". It is the inability to see the world from anyone else's eyes. It is well explained by Piaget as Three Mountain Task.
- **Animism:** Treating inanimate objects as living ones. Eg.: children dressing and feeding their dolls as if they are alive.
- **Concentration:** The process of concentrating on one limited aspect of a stimulus and ignoring other aspects. It is noticed in Conservation. **Conservation** on the other hand is the knowledge that quantity is unrelated to the arrangement and physical appearance of objects. Children at this stage are unaware of conservation.



Piaget's "3 mountains" egocentrism test:  
"Draw how the mountains would look from the doll's point of view."





# Concrete Operational Stage (7-12 yrs) -Childhood and Early Adolescence



The concrete operational stage is characterized by the appropriate use of logic. Important processes during this stage are :

- **Seriation:** The ability to sort objects in an order according to size, shape or any other characteristic. Eg.: if given different-sized objects, they may place them accordingly.
- **Transitivity:** The ability to recognize logical relationships among elements in a serial order. Eg.: if A is taller than B and B is taller than C, then A must be taller than C.
- **Classification:** The ability to group objects together on the basis of common features. The child also begins to get the idea that one set can include another. Eg.: there is a class of objects called dogs. There is also a class called animals. But all dogs are also animals, so the class of animals includes that of dogs.

- **Decentring:** The ability to take multiple aspects of a situation into account. Eg.: the child will no longer perceive an exceptionally-wide but short cup to contain less than a normally-wide, taller cup.
- **Reversibility:** The child understands that numbers or objects can be changed, then returned to their original state. Eg.: the child will rapidly determine that if  $4+4=8$  then  $8-4=4$ , the original quantity.
- **Conservation:** Understanding that the quantity, length or number of items is unrelated to the arrangement or appearance of the object or item.
- **Elimination of Egocentrism:** The ability to view things from another's perspective.
- The child **performs operations:** combining, separating, multiplying, repeating, dividing etc



# Formal Operational Stage (12 yrs & above) -Adolscence and Adulthood




- The thought becomes increasingly flexible and abstract, i.e, can carry out systematic experiments.
- The ability to systematically solve a problem in a logical and methodological way.
- Understands that nothing is absolute; everything is relative.
- Develops skills such as logical thought, deductive reasoning as well as inductive reasoning and sytematic planning etc.
- Understands that the rules of any game or social system are developed by a man by mutual agreement and hence could be changed or modified.
- The child's way of thinking is at its most advanced, although the knowledge it has to work with, will change.





# Information Processing During Childhood

- Cognitive development (information processing)- age related improvement in children's attention, their abilities to explore and focus on features of the environment and their memories
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# The Role of Culture in Cognitive Development

## **Sociocultural Perspective**

How we develop, particularly how we learn and think is primarily a function of the social and cultural environment in which we are trained. Emphasizes what makes people different thinkers rather than what we share in common.

Consider the differences between children who grow up in a technologically driven society and children who grow up in a hunter-gatherer type of society in Africa...

According to Piaget, children will solve problems relevant to their daily lives using species-specific cognitive mechanisms that develop according to a species-typical schedule.

- However, Sociocultural theorists see cognitive development very differently Cognitive development is close from culture
- Furthermore...Culture is transmitted to children by their parents and other members of society. Children's intellectual processes are developed to handle tasks and problems important to the particular surroundings. Sociocultural theory addresses how children come to understand their and function in their social world.
- Lev Vygotsky Russian Psychologist (1896 – 1934), died at 38 from Tuberculosis. His writing in the 20's and 30's emphasized that development is guided by adults interacting with children, with culture determining how, where, and when these interactions take place.



# Erik Erikson: The Father of Psychosocial Development

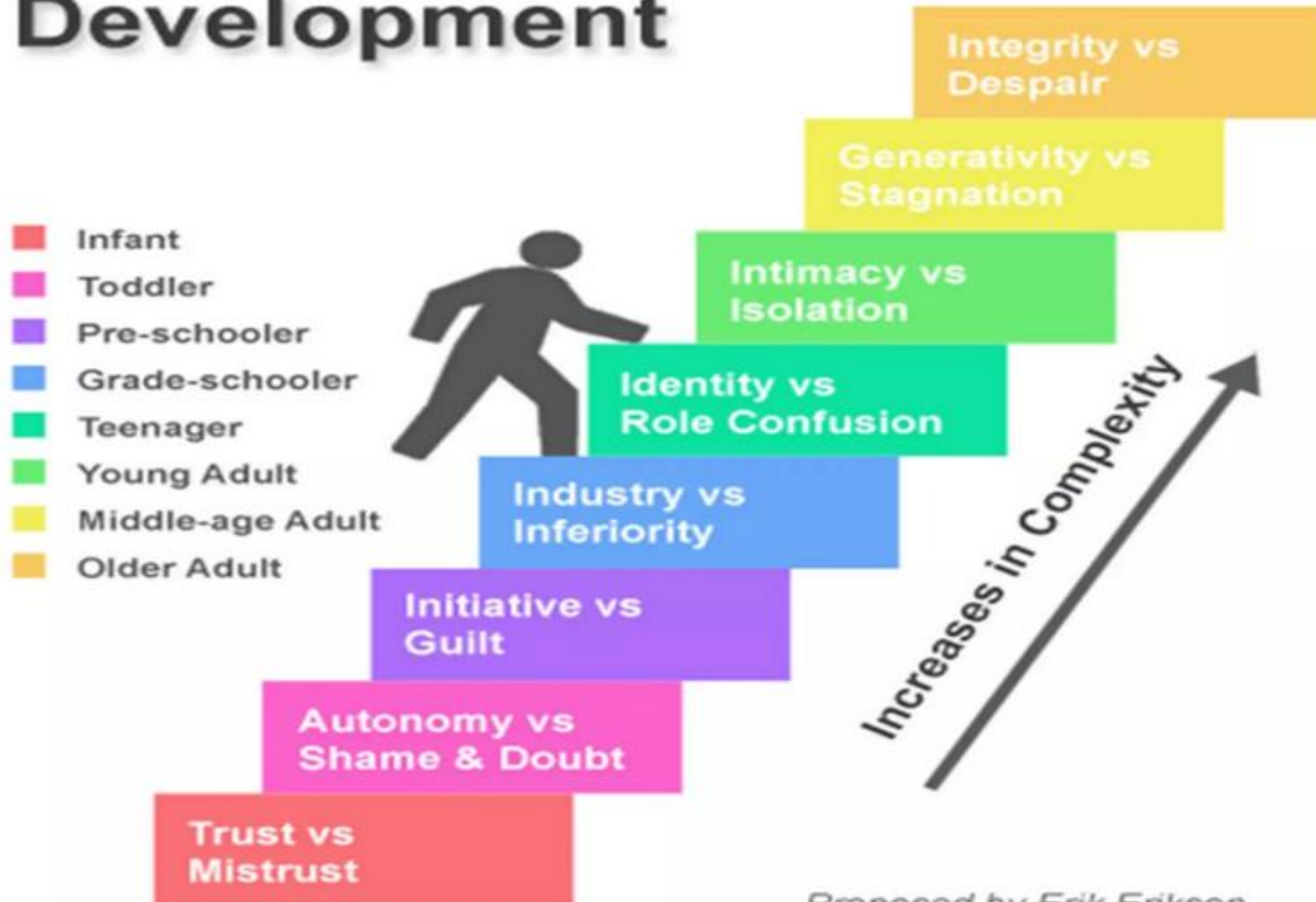
“Children love and want to be loved and they very much prefer the joy of accomplishment to the triumph of hateful failure. Do not mistake a child for his symptom”



**- Erik Erikson**



# Stages of Psychosocial Development



*Proposed by Erik Erikson*



# Stage 1

Stage	Basic Conflict	Important events	Outcome
Infancy Birth to 18 months	Trust vs Mistrust	Feeding	Children develop a sense of trust when caregivers provide reliability, care and affection. A lack of this will lead to mistrust





## Stage II

Stage	Basic conflict	Important event	Outcome
Early Childhood	Autonomy vs Shame and doubt	Toilet Training	Children need to develop a sense of personal control over physical skills and a sense of independence, Success leads to feelings of autonomy, failure results in feelings of shame and doubt.



## Stage III

Stage	Basic conflict	Important event	Outcome
Preschool (3 to 5 years)	Initiative vs Guilt	Exploration	Children need to begin asserting control and power over the environment. Success in this stage leads to a sense of purpose. Children who try to exert too much power experience disapproval, resulting in a sense of guilt



## Stage IV

Stage	Basic conflict	Important event	Outcome
School Age (6 to 11 Years)	Industry vs Inferiority	School	Children need to cope with new social and academic demands. Success leads to a sense of competence, while failure results in feelings of inferiority





# Stage V

Stage	Basic conflict	Important event	Outcome
Adolescence (12 to 18 years)	Identity vs Role confusion	Social relationship	Teens need to develop a sense of self and personal identity. Success leads to an ability to stay true to yourself, while failure leads to role confusion and a weak sense of self



# Stage VI

Stage	Basic conflict	Important event	Outcome
Young adulthood (19 to 40 years)	Intimacy vs Isolation	Relationships	Young adults need to form intimate, loving relationships with other people. Success leads to strong relationships, while failure results in loneliness and isolation.



# Stage VII

Stage	Basic conflict	Important event	Outcome
Middle adulthood (40 to 65 years)	Generativity vs Stagnation	Work and Parenthood	Adults need to create or nurture things that will outlast them, often by having children or creating a positive change that benefits of usefulness and accomplishment, while failure results in shallow involvement in the world.





# Stage VIII

Stage	Basic conflict	Important event	Outcome
Maturity (65 to death)	Integrity vs despair	Reflection on life	Older adults need to look back on life and feel a sense of fulfillment. Success at this stage leads to feelings of wisdom, while failure results in regret, bitterness, and despair.

