

## Piaget's Cognitive Development Stages

- (1) Sensorimotor Intelligence (0-2 yrs)
  - Child from birth to 2 explores world through senses and motor acts
  - Rapid cognitive development, but not conceptual knowledge
  
- (2) Preoperational Thought (2-7 yrs)
  - Conceptual thinking and problem solving become evident with rapid period of language development

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## Piaget's Stages (cont'd)

- (3) Concrete Operations (7-11 yrs)
  - Logical thinking develops and enables problem solving for concrete and physical problems
  
- (4) Formal Operations (11-15 yrs)
  - Cognitive abilities become fully developed
  - Abstract thought emerges
  - Mental problem solving
  - Reasons and logical thinking

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## Object Permanence

- **Object Permanence**  
(def.) the concept that objects exist separate or outside of the child  
key to representation
  
- **Substage 1 (0-1 mo.)**
  - no indication that child knows objects are separate
  - reflexive looking, grasping, sucking objects
  
- **Substage 2 (1-4 mos.)**
  - sensory awareness only
  
- **Substage 3 (4-8 mos.)**
  - able to anticipate position of objects in movement
  - searches when partially hidden

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## Object Permanence (cont'd)

- **Substage 4 (8-12 mos.)**
  - finds when sees hidden
  - "remembers" objects - may look in "usual" place
  - able to manipulate objects, knows shape is constant
- **Substage 5 (12-18 mos.)**
  - sequential displacements if seen, still can trick child
- **Substage 6 (18-24 mos.)**
  - fully developed
  - represents objects in mind

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## Causality

- **Causality**  
(def.) concept of cause and effect  
leads to idea that child can produce behaviors with predictable effects or events  
leads to intention which drives communication
- **Substage 1 (0-1) and Substage 2 (1-4)**
  - egocentric, no concept
- **Substage 3 (4-8)**
  - still very egocentric- "child is cause of all actions"
  - repeats pleasurable actions, but no attn to effects
- **Substage 4 (8-12)**
  - knows other people cause effects in familiar situations

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## Causality (cont'd)

- **Substage 5 (12-18)**
  - knows that others are cause agents in new situations
  - generalization of knowledge
- **Substage 6 (18-24)**
  - development of representation allows child to represent cause-effect in mind
  - uses cause-effect to problem solve

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### Means-End

- **Means-end**
  - like causality
  - ultimately allows problem-solving
  - (def.) knowledge of goals or ends and knowledge of means or ways to reach goals
  - language is a means to achieve goals
- **Substage 2 (1-4)**
  - grasping, but not means-end
- **Substage 3 (4-8)**
  - repeats means-end actions (e.g., shakes rattle), but occurs by chance first
- **Substage 4 (8-12)**
  - now able to plan behavior (e.g., move pillow to find toy)
- **Substage 5 (12-18)**
  - trial & error experimentation
  - some creativity
- **Substage 6 (18-24)**
  - fully developed intentionality
  - plans series of behaviors
  - "terrible twos"

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### Imitation

- **Imitation** (def.) attend to model and duplicate
- **Substage 1 (0-1)**
  - "vocal contagion" with crying
- **Substage 2 (1-4)**
  - "mutual imitation"
  - repeats care giver imitation of child's vocalization
- **Substage 3 (4-8)**
  - "systematic imitation"
  - motor imitations of others if in child's repertoire and sees self
- **Substage 4 (8-12)**
  - imitates new behaviors, but usually similar to old and doesn't have to see self

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### Imitation (cont'd)

- **Substage 5 (12-18)**
  - tries to imitate anything and everything
- **Substage 6 (18-24)**
  - "deferred imitation" now present
  - able to imitate event observed earlier, able to represent and store for later retrieval

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### Play

- **Play**
  - "symbolic play" includes the ability to represent one object with another
- **Substage 2 (1-4)**
  - sensorimotor activities are the precursors to play
- **Substage 3 (4-8)**
  - interacting with people
  - repeated actions on toys
- **Substage 4 (8-12)**
  - development of other skills (i.e., means-end) results in differentiated play
- **Substage 5 (12-18)**
  - discovers how to operate toys
- **Substage 6 (18-24)**
  - symbolic play develops

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### Summary of Symbolic Play Development - (Patterson & Westby, 1998)

- **By 18 months**
  - Autosymbolic play
- **By 2 years**
  - Acts on dolls and others
  - Related serial acts (multischeme)
- **By 3 years**
  - Sequences of related serial acts in play
  - Talks to doll as if person
- **By 4 years**
  - attributes emotions to dolls
  - imaginary props, fantasy, multiple roles

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### Critique of Piaget

- **Infants exhibit skills earlier than Piaget**
  - use of habituation studies, sucking paradigms
  - object permanence knowledge by 3 1/2 mos
  - deferred imitation by 9 mos
- **Cognitive development is based on more than just sensorimotor experiences**
  - some innate changes, some social interaction influences, some watching/listening, but not direct contact
- **Debate of stage theory**
  - development is continuous with individual variation

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## Vygotsky

- Vygotsky believed that children's cognitive development is heavily influenced by environment and culture
- A "sociocultural" perspective
- learning is an interactive experience
- language viewed as central to cognition
- "private speech" concept
- development is continuous progression, not stage-like

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## Private Speech (Vygotsky)

- Private Speech is when child talks to self
- Piaget called this "egocentric speech"
- Vygotsky viewed development of private speech as point where language influenced thought
- development = first out loud, then whisper or mutter, lastly internal, so "private speech" becomes speech in thought form
- important for mediating problem-solving
- self-talkers are more attentive, fully engaged, and successful in task completion

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## Vygotsky (cont'd)

- Zone of Proximal Development
  - The space in which child benefits from help from others for learning
  - space between child's current knowledge and knowledge which is too advanced
- Scaffolding
  - amount of support provided by an adult to a child in learning
  - aspect of facilitating dialogues
  - adjusted as needed for child

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