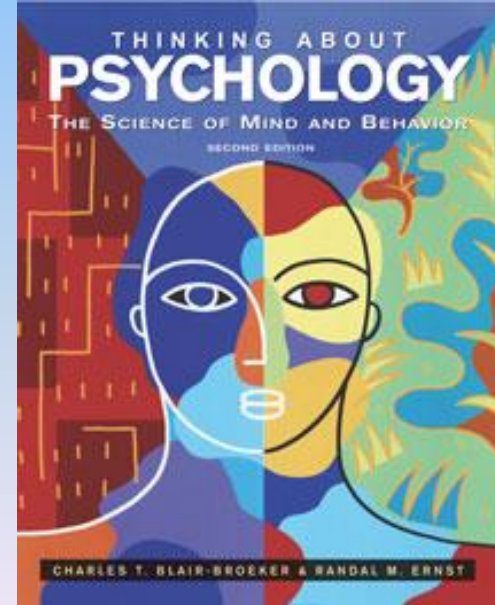


Thinking About Psychology: The Science of Mind and Behavior 2e

Charles T. Blair-Broeker
Randal M. Ernst



Developmental Domain



Life-Span Development Chapter



Module 14

Prenatal and Childhood Development

Module 14: Prenatal and Childhood Development

The Beginnings of Life:

Prenatal Development

Prenatal Development

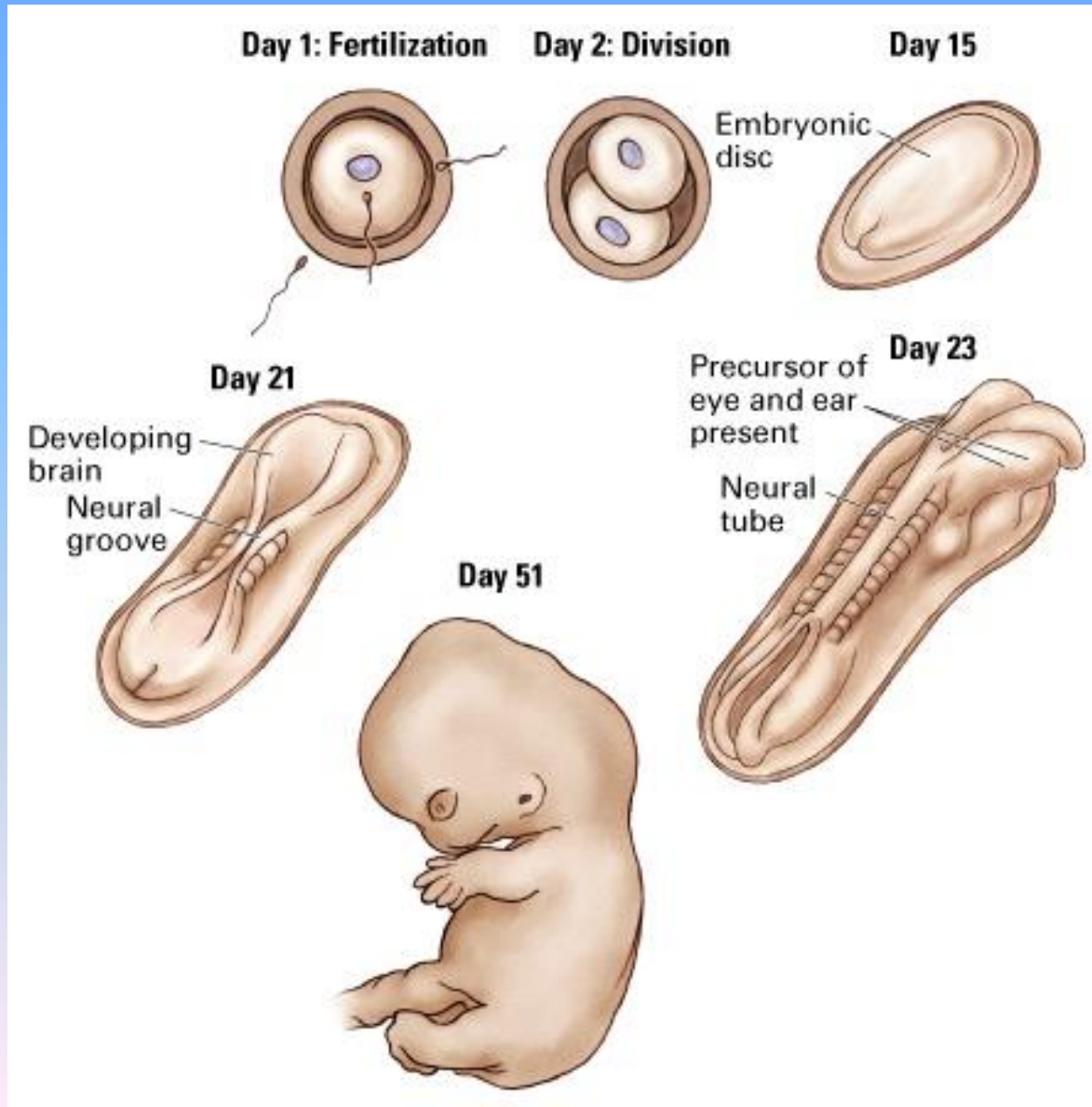
- Prenatal defined as “before birth”
- Prenatal stage begins at conception and ends with the birth of the child.



Zygote

- A fertilized egg
- The first two weeks are a period of rapid cell division.
- Attaches to the mother's uterine wall
- At the end of 14 days becomes an embryo

Prenatal Development



Embryo

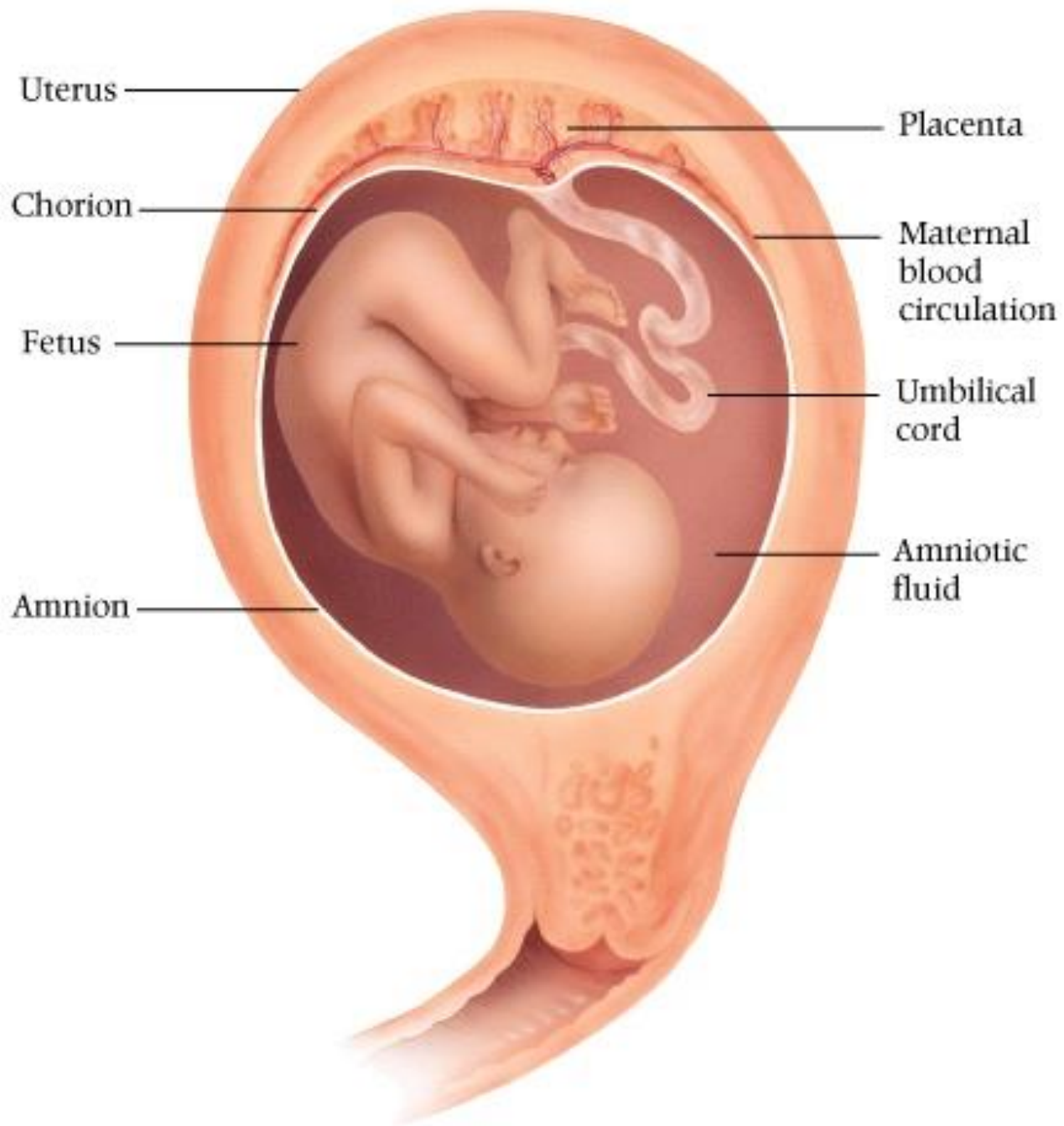
- Developing human organism from about 2 weeks after fertilization until the end of the eight week
- Most of the major organs are formed during this time.
- At the end of the eight week the fetal period begins.

Fetus

- Developing human organism from nine weeks after conception to birth

Placenta

- A cushion of cells in the mother by which the fetus receives oxygen and nutrition
- Acts as a filter to screen out substances that could harm the fetus



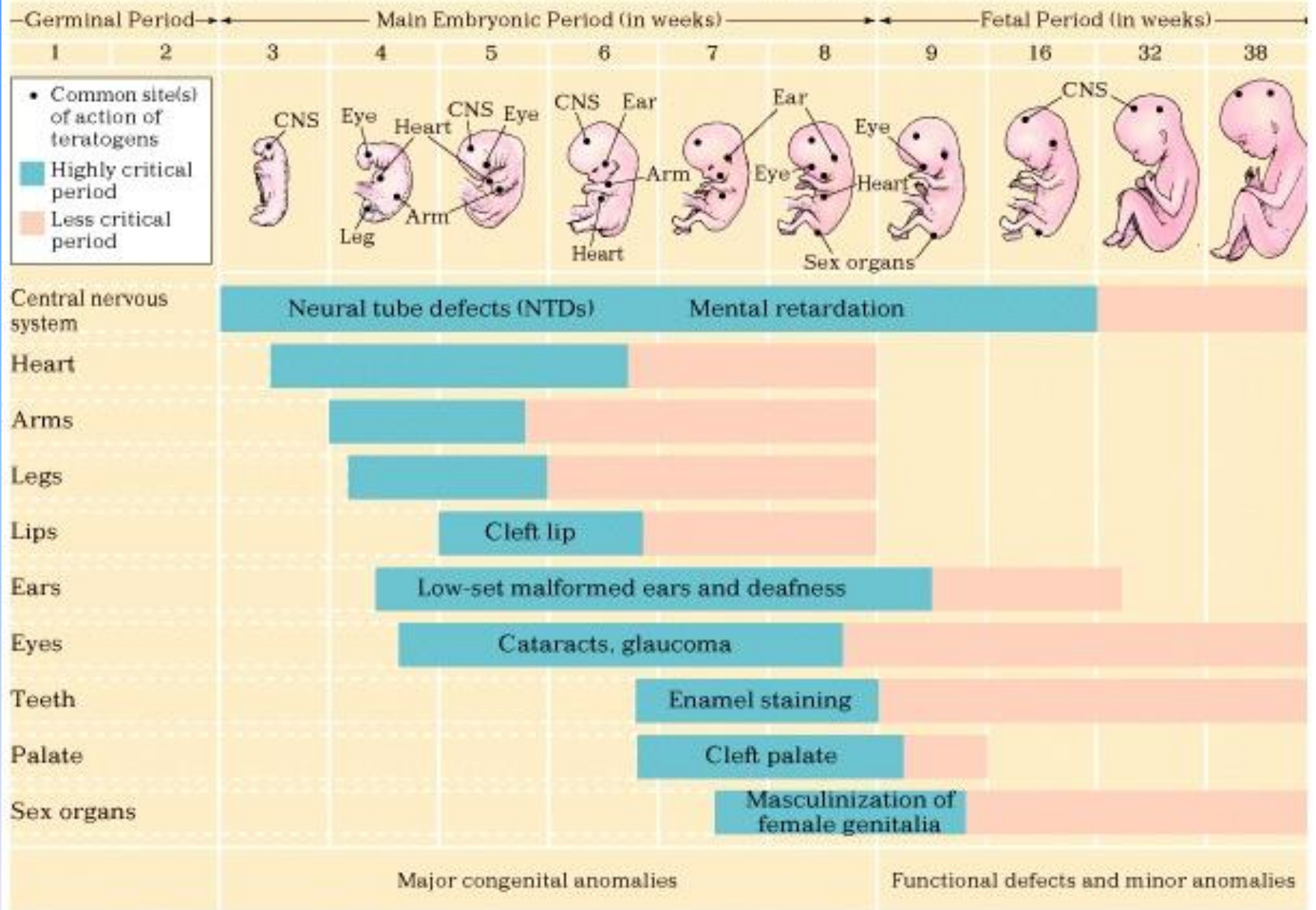
Prenatal Development

- Play “Teratogens and Their Effects on the Developing Brain and Mind”
(12:44) Segment #12 from The Mind: Psychology Teaching Modules (2nd edition)

Teratogens

- Substances that cross the placental barrier and prevent the fetus from developing normally
- Includes: radiation, toxic chemicals, viruses, drugs, alcohol, nicotine, etc.

Birth Defects from Teratogens: Time of Exposure and Effects on Major Organs



Source: Adapted from Moore & Persaud, 1998.

Prenatal Brain Development

- Play “The Effects of Hormones and the Environment on Brain Development” (6:50) Module #2 from The Brain: Teaching Modules (2nd edition)

Fetal Alcohol Syndrome (FAS)

- Physical and cognitive abnormalities that appear in children whose mothers consumed large amounts of alcohol while pregnant



Alcohol

- Play “Teratogens and Their Effects on the Developing Brain and Mind”
(12:44) Segment #12 from The Mind: Psychology Teaching Modules (2nd edition)

Module 14: Prenatal and Childhood Development

The Beginnings of Life: The Newborn

Development in Infancy and Childhood



Happy Tuesday!

- 1. Bell Work (please get out some notebook paper)**
- 2. Notes on development in infancy and childhood**
- 3. Silent Reading (please grab a magazine, newspaper, or book of your choice)**



When can a child...?

- 1. Laugh**
- 2. Pedal a tricycle**
- 3. Sit without support**
- 4. Feel ashamed**
- 5. Walk unassisted**
- 6. Stand on one foot for 10 seconds**
- 7. Recognize and smile at mother or father**
- 8. Kick ball forward**
- 9. Think about things that cannot be seen**

- 1. Laugh (2 months)**
- 2. Pedal a tricycle (24 months)**
- 3. Sit without support (5–6 months)**
- 4. Feel ashamed (2 years)**
- 5. Walk unassisted (12 months)**
- 6. Stand on one foot for 10 seconds (4 1/2 years)**
- 7. Recognize and smile at mother or father (4–5 months)**
- 8. Kick ball forward (20 months)**
- 9. Think about things that cannot be seen (12+ months)**

Rooting Reflex

- **Baby's tendency, when touched on the cheek, to open the mouth and search**
- **Is an automatic, unlearned response**



Let's Watch!

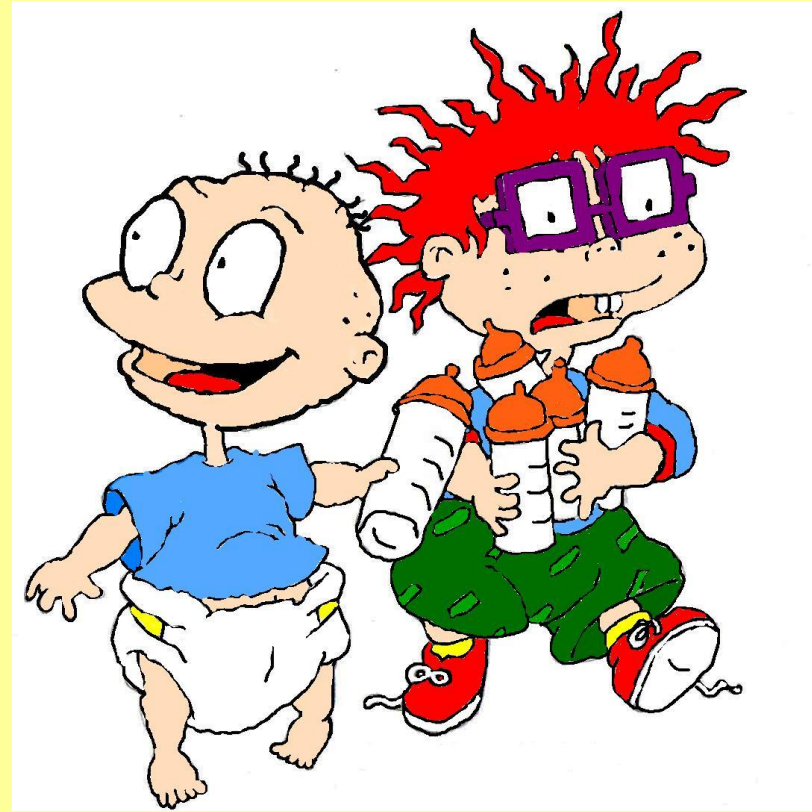
- http://www.youtube.com/watch?v=v7_Y_jg2soc

Temperament

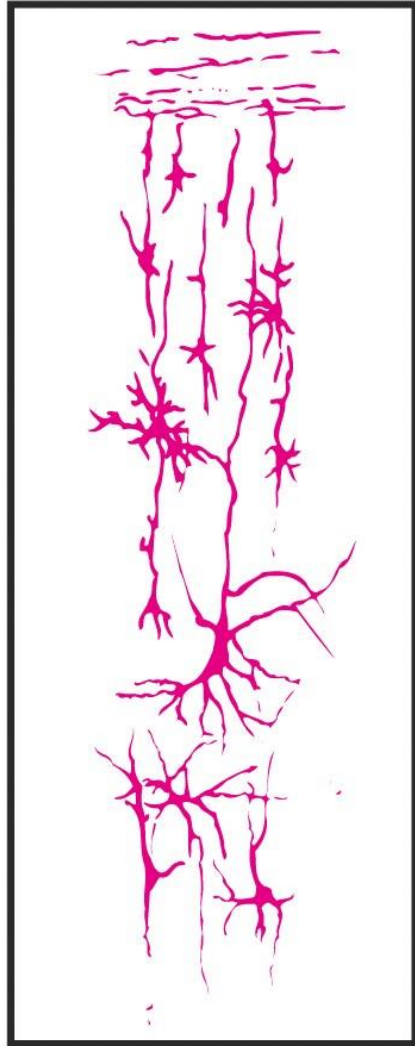
- **Person's characteristic emotional excitability**
- **A child might be:**
 - **An “easy” or “difficult” baby**
- **Carries through a person's life**

Infant, Toddler, Child

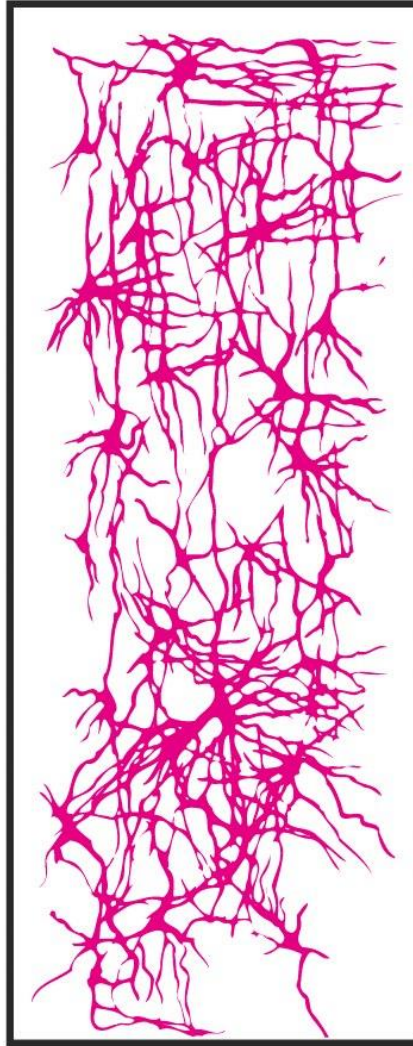
- **Infant: First year**
- **Toddler: 1 year to 3 years of age**
- **Child: Span between toddler and teen**



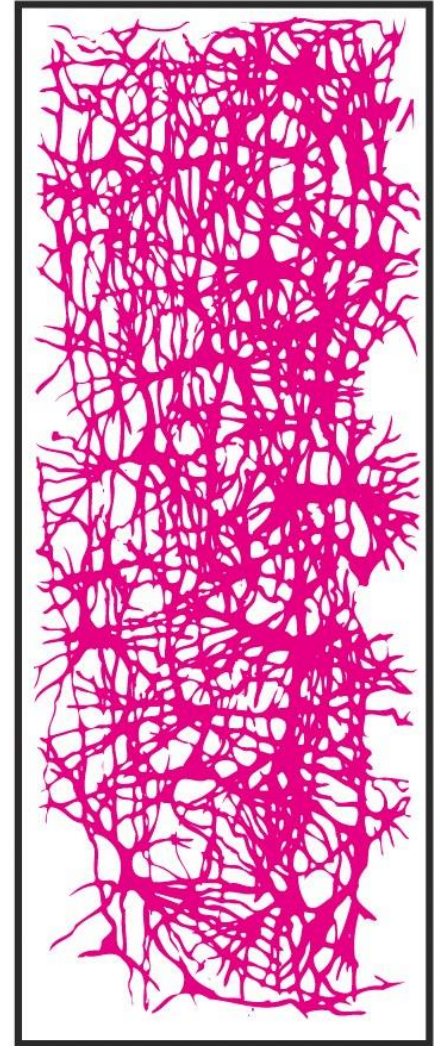
Neural Development



At birth



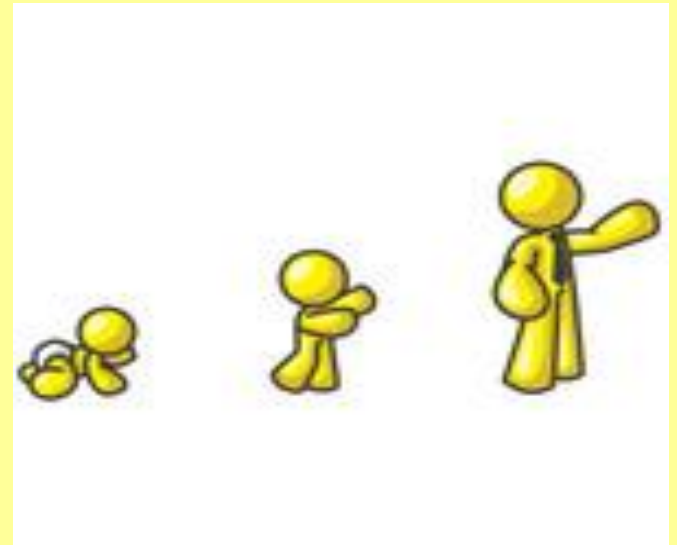
3 months



15 months

Maturation

- **Biological growth processes that enable orderly changes in behavior**



APGAR Test

**A: Activity or muscle
(muscle movement)**

P: Pulse

(over 100 beats per minute)

**G: Grimace or reflex irritability
(sneeze and cough when
mucus is suctioned).**

A: Appearance

R: Respiration



Reflexes at Birth

Babinski Reflex: Toes flare and curl when foot is touched.



Moro Reflex: Arms thrust out and the back arches in response to surprise, noise or movement.



Plantar Reflex: Toes curl in when the ball of the foot is pressed.

Swimming Reflex: If submerged in water for a short period, babies hold their breath and pump their arms and legs.

Stepping Reflex: Feet move up and down (as if walking) when held over a flat surface.

Let's Watch!

- <http://www.youtube.com/watch?v=rjnQhno3LA4>

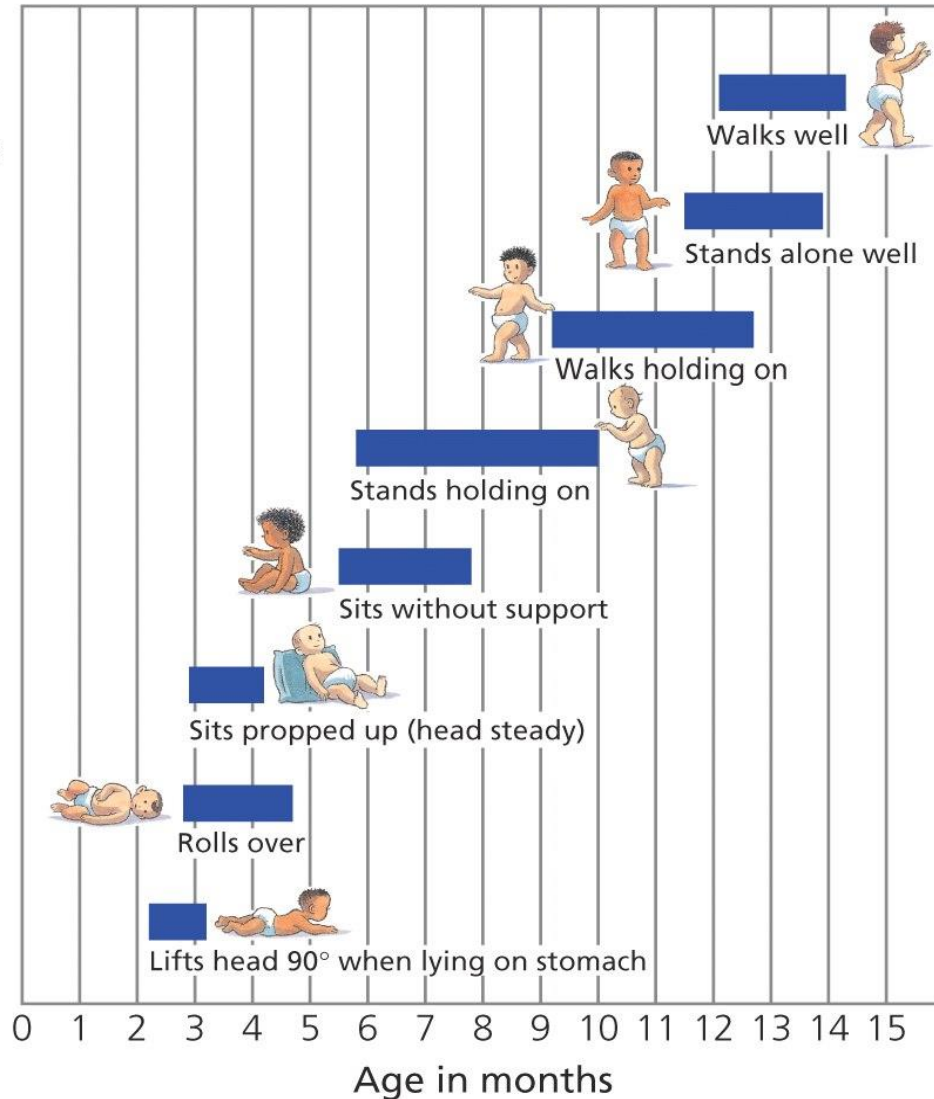
Motor Development

**Includes all
physical skills
and muscular
coordination**



Motor Development

Stages of motor development



Cognition

- **All the mental activities associated with thinking, knowing, and remembering**
- **Children think differently than adults do**



Schemas

- **Concepts or mental frameworks that people use to organize and interpret information**
- **Sometimes called schemes**
- **A person's “picture of the world”**



Assimilation



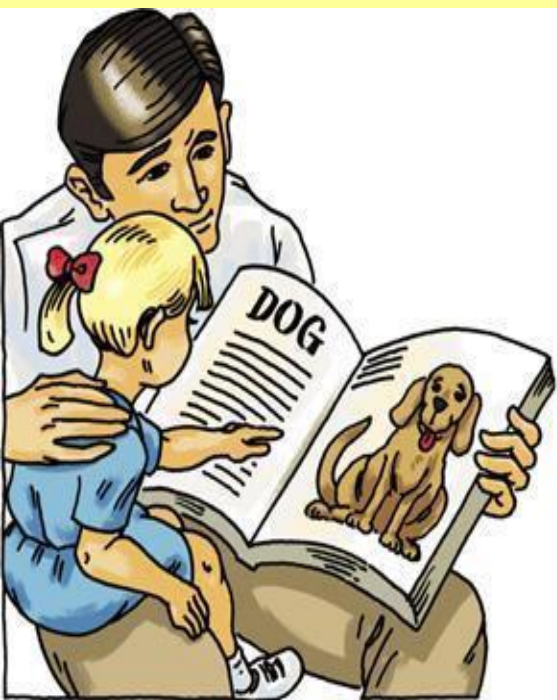
- **Interpreting a new experience within the context of existing schemas**
- **The new experience is similar to other previous experiences**

Accommodation

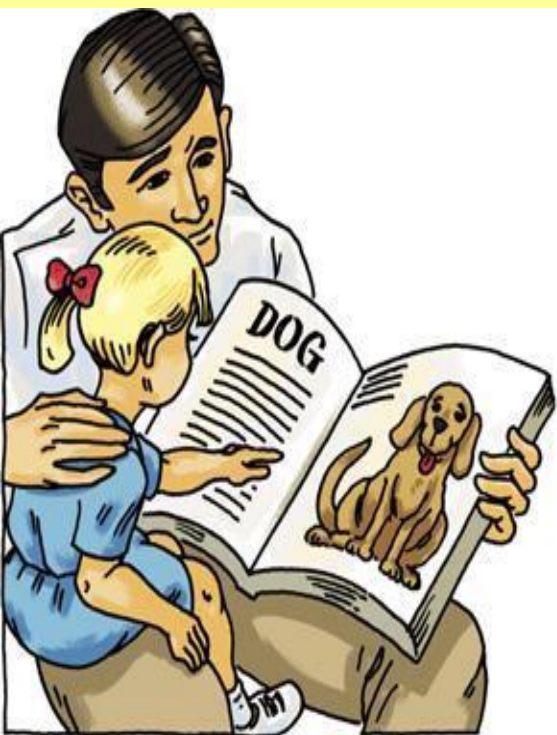
- **Adapting current schemas to incorporate new information**
- **The person's schemata must be changed to accommodate it**

http://www.youtube.com/watch?v=q2_vNvEI5Aw

<http://www.youtube.com/watch?v=zfW-g4pyrHU>



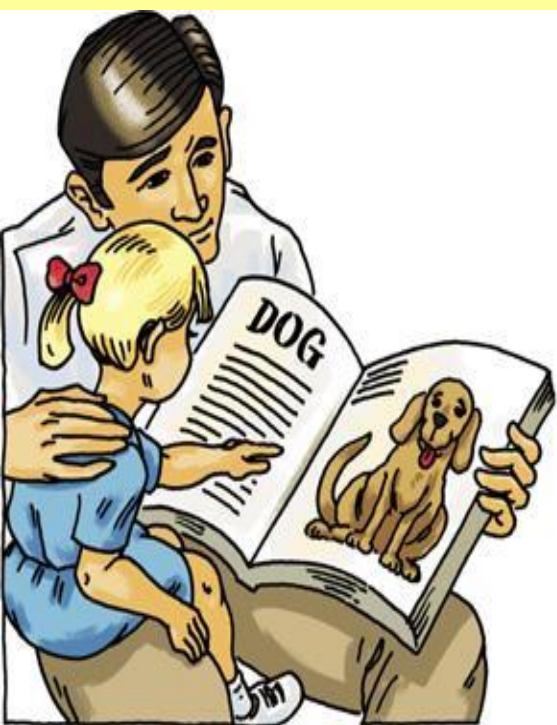
Two-year-old Jocelyn has learned the schema for “dog” from her picture books.



Two-year-old Jocelyn has learned the schema for "dog" from her picture books.



Jocelyn sees a cat and calls it a "dog." She is trying to assimilate this new animal into an existing schema. Her mother tells her, "No, it's a cat."



Two-year-old Jocelyn has learned the schema for "dog" from her picture books.



Jocelyn sees a cat and calls it a "dog." She is trying to assimilate this new animal into an existing schema. Her mother tells her, "No, it's a cat."



Jocelyn accommodates her schema for 4-legged animals and continues to modify that schema to include different kinds of dogs and cats in the neighborhood.

HAPPY GROUNDHOG DAY!
PLEASE GRAB THE HANDOUT ON
THE STOOL!



- 1. What occurs once in a minute, twice in a moment, but never in an hour?**
- 2. What can you catch but not throw?**
- 3. What gets wetter the more it dries?**
- 4. Forward I am heavy, backward I am not. What am I?**
- 5. What goes around the world but stays in the corner?**
- 7. Light as a feather there is nothing in it. The strongest man can't hold it much more than a minute. What is it?**
- 8. What object has keys that open no locks, space but not room, and you can enter but not go in?**

- 1. The letter M**
- 2. A cold**
- 3. A towel**
- 4. A ton**
- 5. A stamp**
- 6. A breath**
- 7. A keyboard**

PIAGET'S STAGES OF COGNITIVE DEVELOPMENT



Jean Piaget

- **Pioneer in the study of developmental psychology**
- **Introduced a stage theory of cognitive development**



SENSORIMOTOR STAGE

- **From birth to about age two**
- **Child gathers information about the world through sensory impressions and motor activities**



OBJECT PERMANENCE

- Awareness that things continue to exist even when you cannot see or hear them
- “Out of sight, out of mind”



PREOPERATIONAL STAGE

- **From about age 2 to age 6 or 7**
- **Children learn to use language but cannot think logically**

<http://www.youtube.com/watch?v=whT6w2jrWbA&feature=related>



EGOCENTRISM

- **The inability to take another person's point of view**
- **Includes a child's inability to understand that symbols can represent other objects**

<http://www.youtube.com/watch?v=OinqFgslbh0&feature=related>



OTHER DEVELOPMENTAL EVENTS

- Pretend Play
- Language Development



CONCRETE OPERATIONAL STAGE

- **From about age 6 to 11**
- **Child gain the mental skills that let them think logically about concrete events**
- **Learn conservation**



<http://www.youtube.com/watch?v=gA04ew6Oi9M&feature=relat>

CONSERVATION

- **An understanding that certain properties remain constant despite changes in their form**
- **The properties can include mass, volume, and numbers.**

CONSERVATION



A



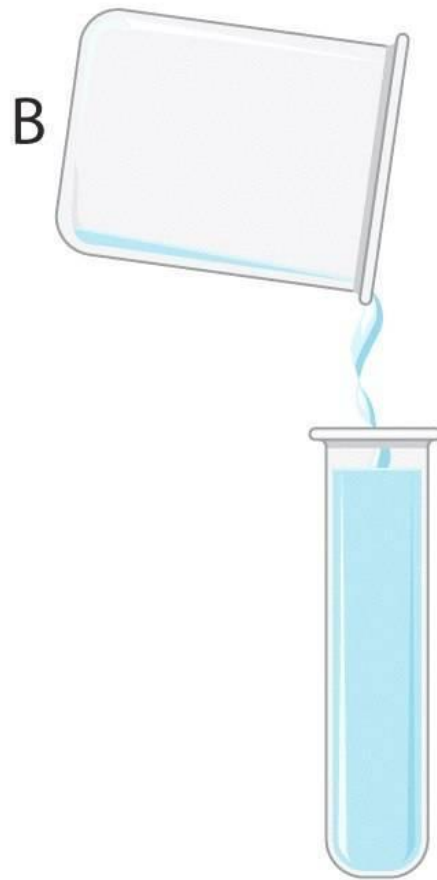
B



A



B



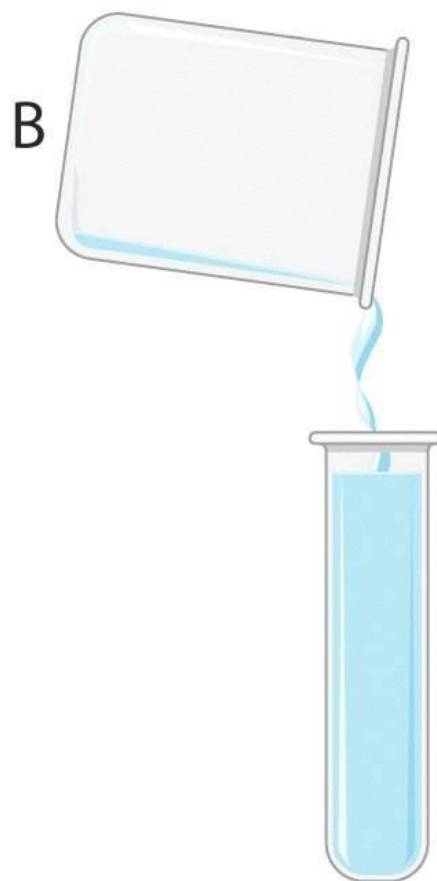
C



A



B



C










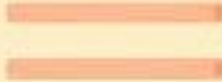




A



C

Tests of Various Types of Conservation

| Type of conservation | Initial presentation | Transformation | Question | Preoperational child's answer |
|----------------------|--|--|-------------------------------|--|
| Liquid | Two equal glasses of liquid.  | Pour one into a taller, narrower glass.  | Which glass contains more? | The taller one.  |
| Number | Two equal lines of checkers.  | Increase spacing of checkers in one line.  | Which line has more checkers? | The longer one.  |
| Matter | Two equal balls of clay.  | Squeeze one ball into a long, thin shape.  | Which piece has more clay? | The long one.  |
| Length | Two sticks of equal length.  | Move one stick.  | Which stick is longer? | The one that is farther to the right.  |

FORMAL OPERATIONAL STAGE

- **About age 12 on up**
- **Children begin to think logically about abstract concepts and form strategies about things they may not have experienced**
- **Can solve hypothetical problems (What if.... problems)**

<http://www.youtube.com/watch?v=zjJdcXA1KH8&feature=related>

DEVELOPMENTAL EVENTS

- **Abstract logic**
- **Potential for moral reasoning**



ASSESSING PIAGET'S THEORY

- Piaget underestimated the child's ability at various ages.
- Piaget's theory doesn't take into account culture and social differences.



Play-doh Activity!

Maturation

Motor Development

Cognition

Schema/Assimilation

Accommodation

Sensorimotor

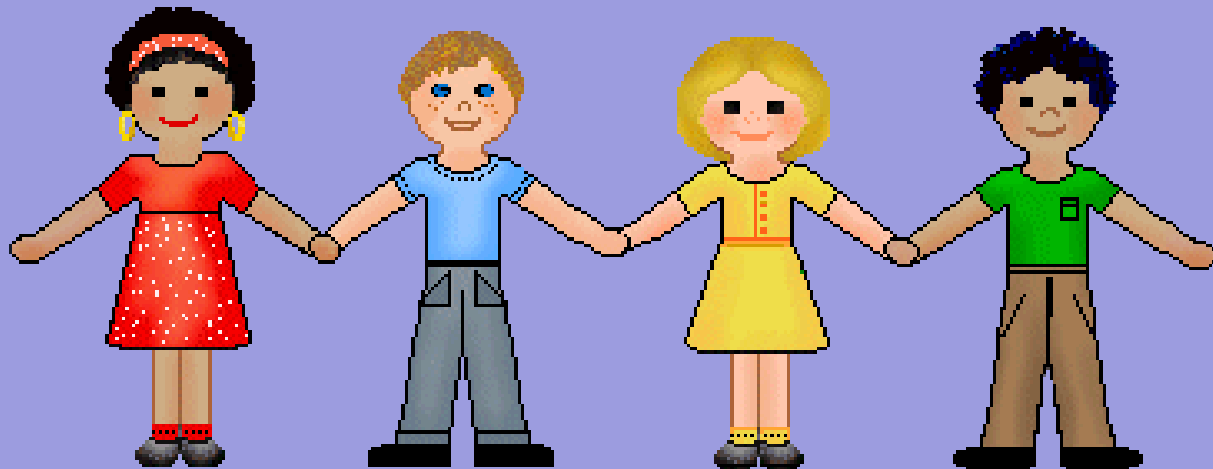
Preoperational

Concrete Operational

Formal Operational



Social Development in Infancy and Childhood



Stranger Anxiety

- **The fear of strangers that infants commonly display**
- **Begins around 8 months of age**



Attachment

- **Emotional tie with another person**
- **Seek closeness**
- **Distress during separation**
- **Body contact, familiarity, and responsiveness**



Harry Harlow

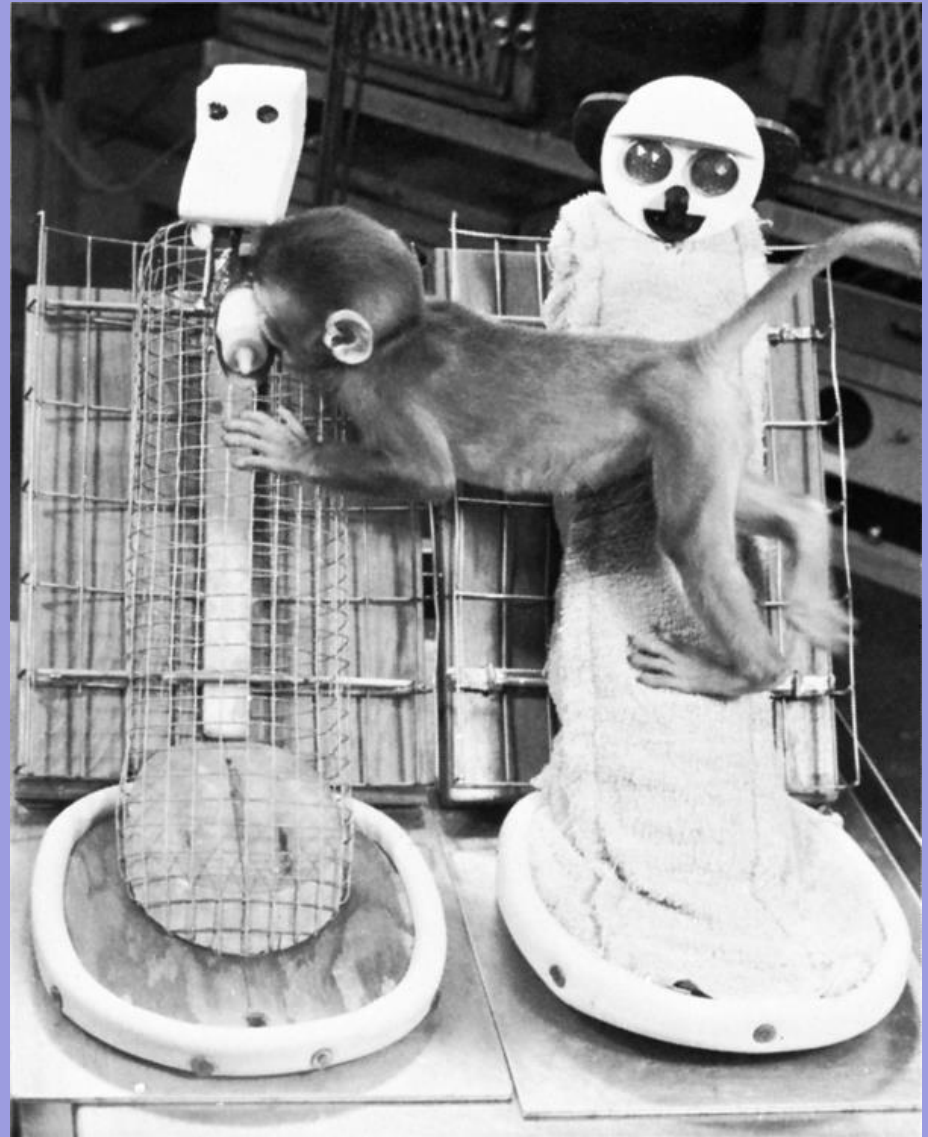
- **Research with infant monkeys**
- **How body contact relates to attachment**
- **The monkeys had to choose between a cloth mother or a wire mother that provided food**



Harry Harlow

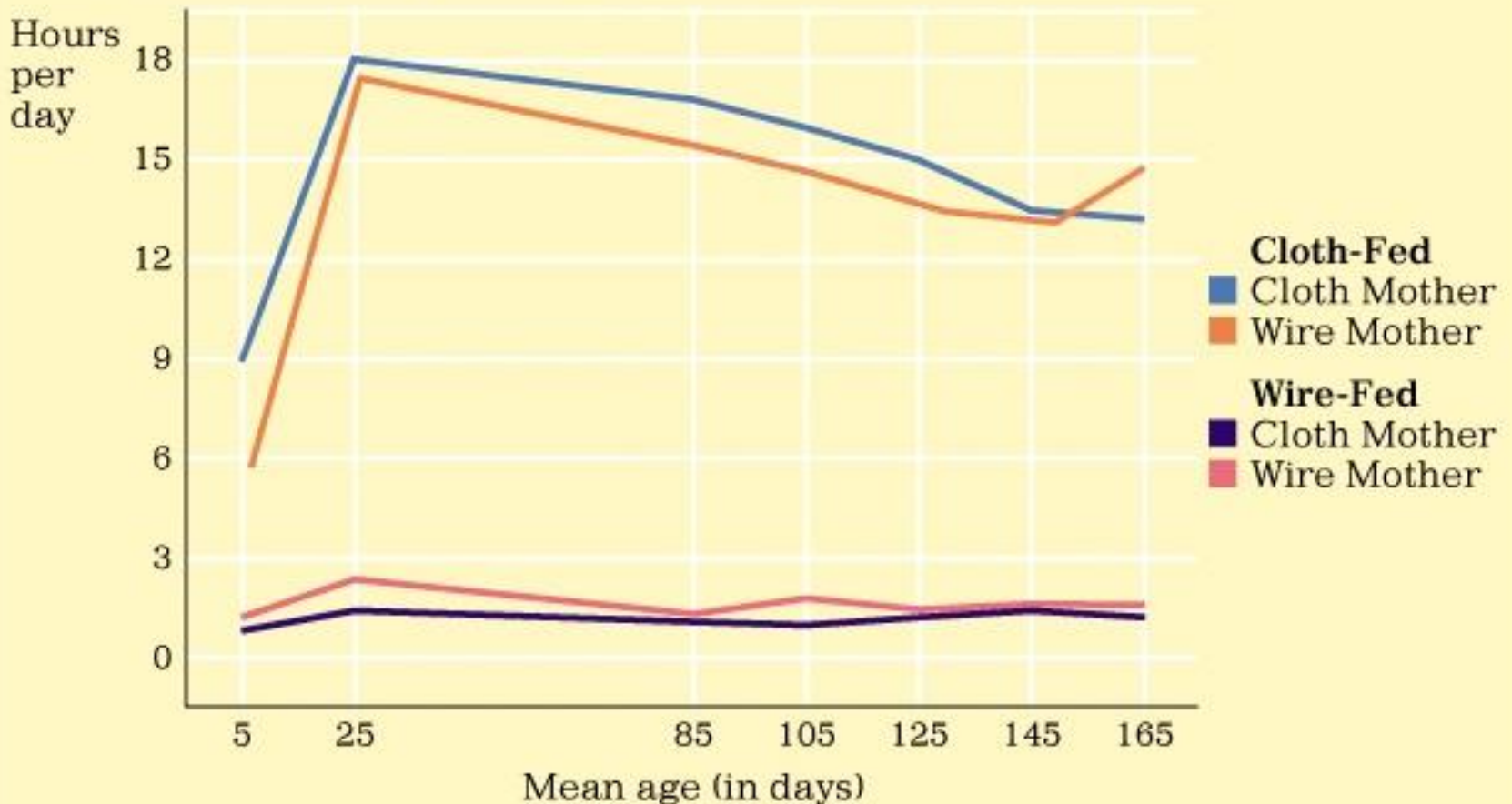
- **The monkeys spent most of their time by the cloth mother.**

<http://www.youtube.com/watch?v=KlfOecrr6kl>



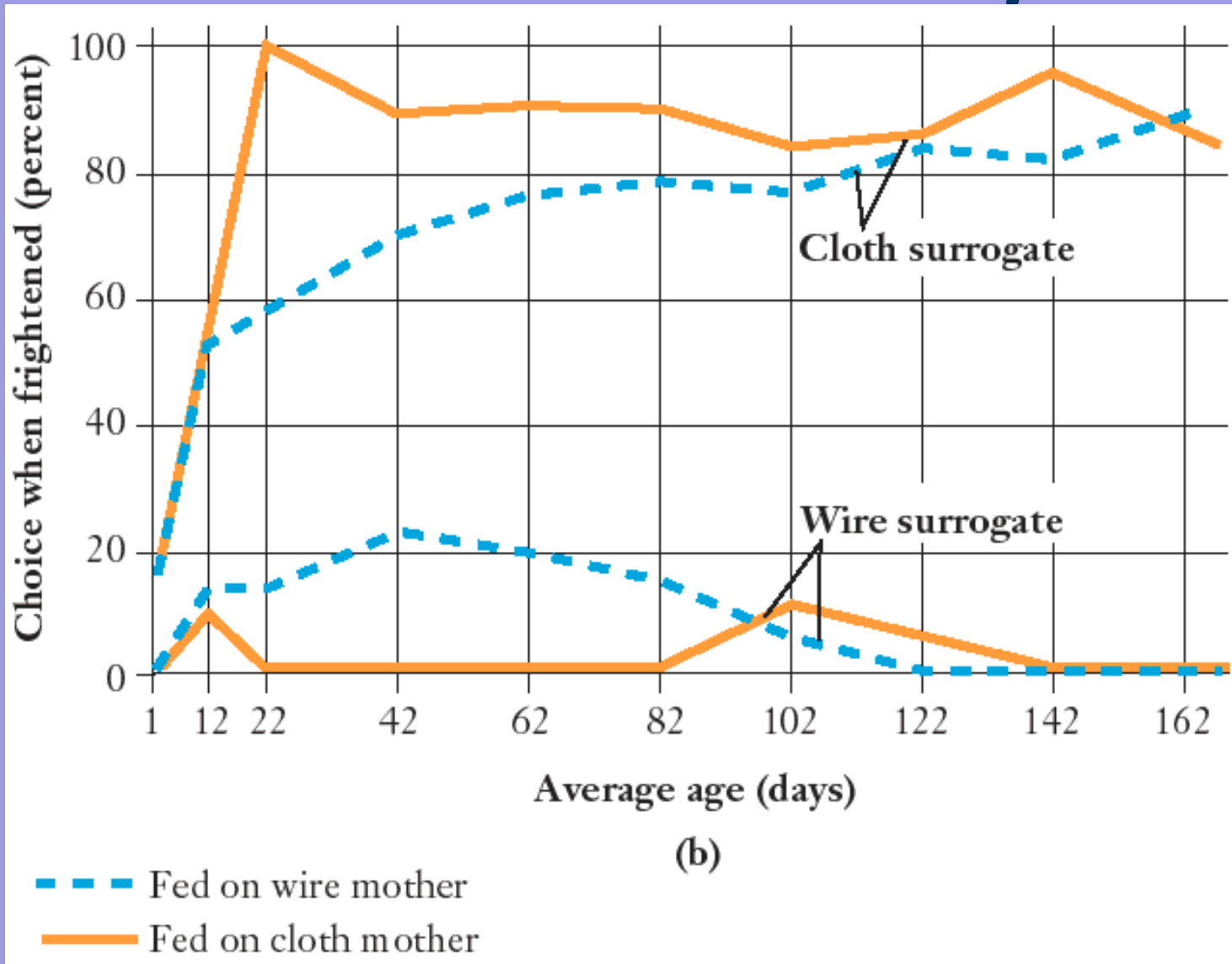
Harry Harlow

Time Infant Monkeys Spent on Cloth and Wire Mothers



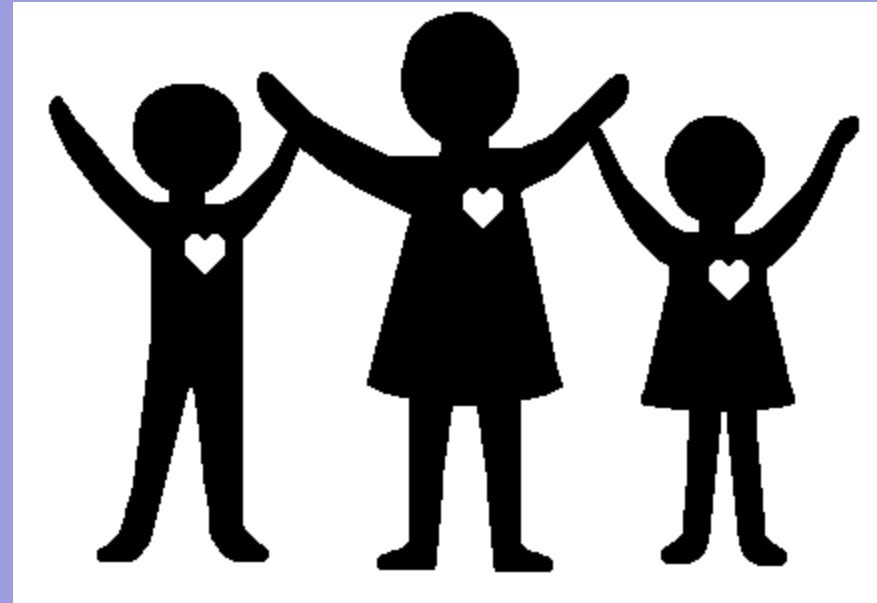
Source: Adapted from Harlow, 1958.

Harlow's Study



Familiarity

- **Sense of contentment with that which is already known**
- **Infants are familiar with their parents and caregivers.**



Imprinting

- **A process by which certain animals form attachments during a critical period early in life**



<http://www.youtube.com/watch?v=eqZmW7uIPW4&feature=related>

Konrad Lorenz

- **Studied imprinted behaviors**
- **Goslings are imprinted to follow the first large moving object they see.**



Critical Period



- **Shortly after birth when an organism's exposure to certain stimuli produces proper development**

<http://www.youtube.com/watch?v=bWzO8DtRd-s&feature=related>

Responsiveness

- **Responsive parents are aware of what their children are doing.**
- **Unresponsive parents ignore their children--helping only when they want to.**

Securely or Insecurely Attached

- **Securely attached – children will explore their environment when primary caregiver is present**
- **Insecurely attached – children will appear distressed and cry when caregiver leaves. Will cling to them when they return**

Effects of Attachment

- **Secure attachment predicts social competence.**
- **Deprivation of attachment is linked to negative outcome.**
- **A responsive environment helps most infants recover from attachment disruption.**



Parental Patterns



Authoritarian Parenting

- **Marked by imposing rules and expecting obedience**
- **Low in warmth**
- **Discipline is strict and sometimes physical.**
- **Communication high from parent to child and low from child to parent**
- **Maturity expectations are high**

Permissive

Indulgent/indifferent

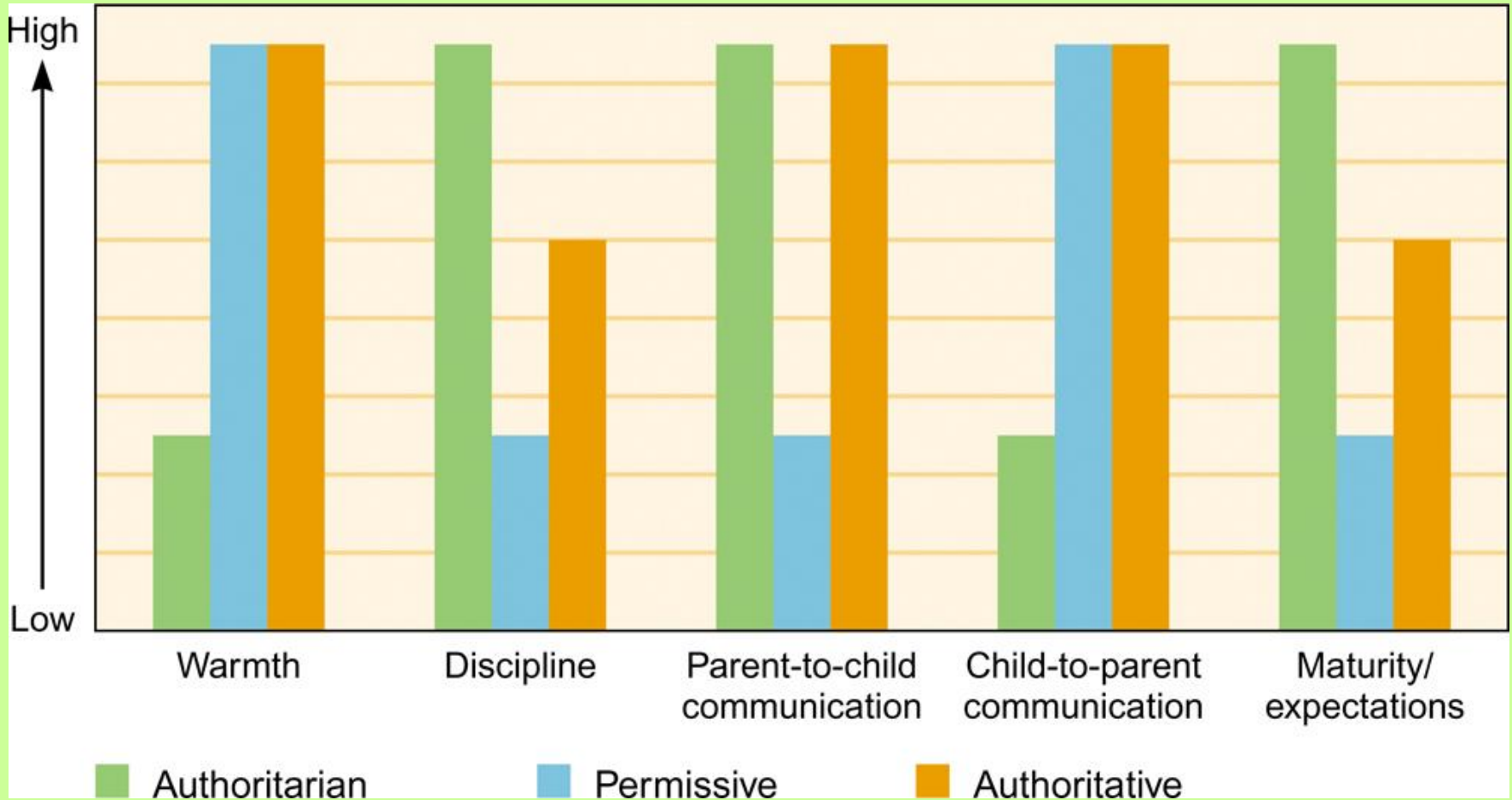
Parenting

- **Marked by submitting to children's desired, making few demands, and using little punishment (both)**
- **High in warmth but rarely discipline (indulgent)**
- **Communication is low from parent to child but high from child to parent (indifferent)**
- **Expectations of maturity are low (both)**

Authoritative Parenting

- **Marked by making demands on the child, being responsive, setting and enforcing rules, and discussing the reason behind the rules**
- **High in warmth with moderate discipline**
- **High in communication and negotiating**
- **Maturity expectations are moderate**

Parenting Styles



Module 4: Prenatal and Childhood Development

Three Key Developmental Issues

Continuity and Stages

- How much of behavior is continuous and how much follows a more stage like development?

Stability and Change

- What developmental traits remain stable over time, and which change?