1.2 Development and Learning Domain

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.
- Cells start to differentiate and specialize

Around the tenth day, the zygote attaches to the uterine wall

- At the end of 14 days the zygote becomes an embryo

Genes

- **The biochemical units of heredity that make up the chromosomes.**
- Direct the process of differentiation

Prenatal Development

Embryo

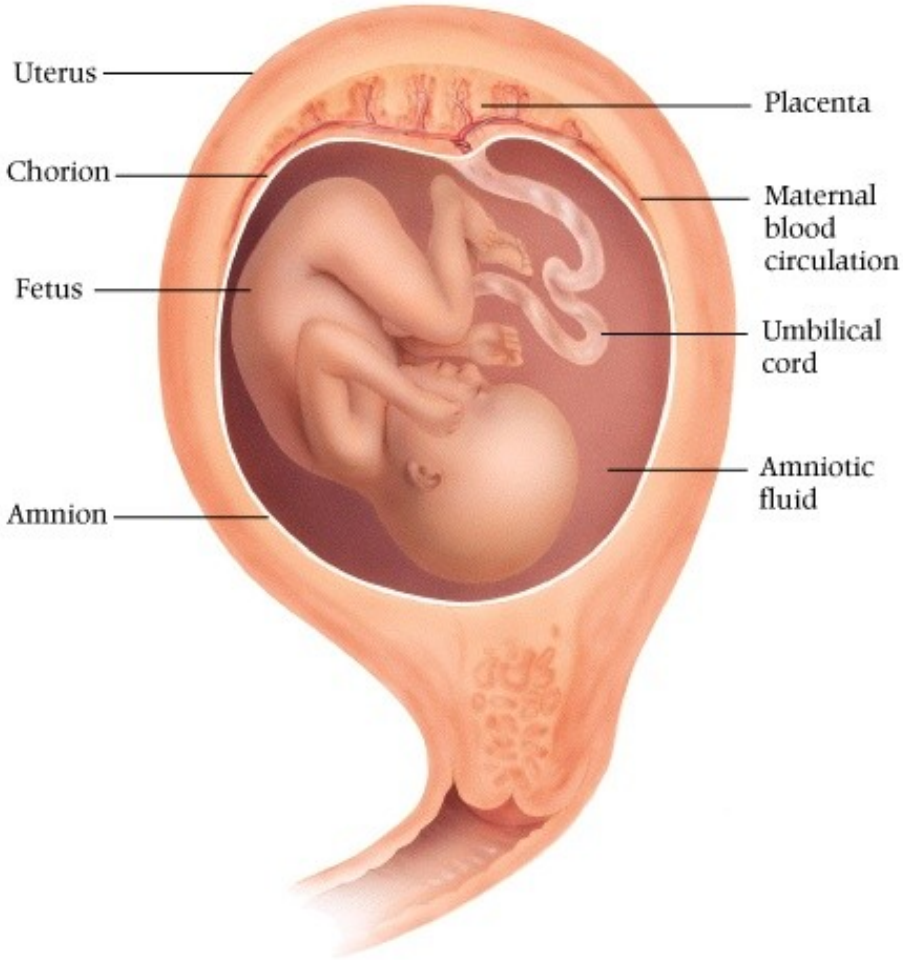
- **A developing human organism from about 2 weeks after fertilization until the end of the eighth week.**
- Most of the major organs are formed during this time.
- At the end of the eight week the fetal period begins.

Fetus

- **A developing human organism from nine weeks after conception to birth.**

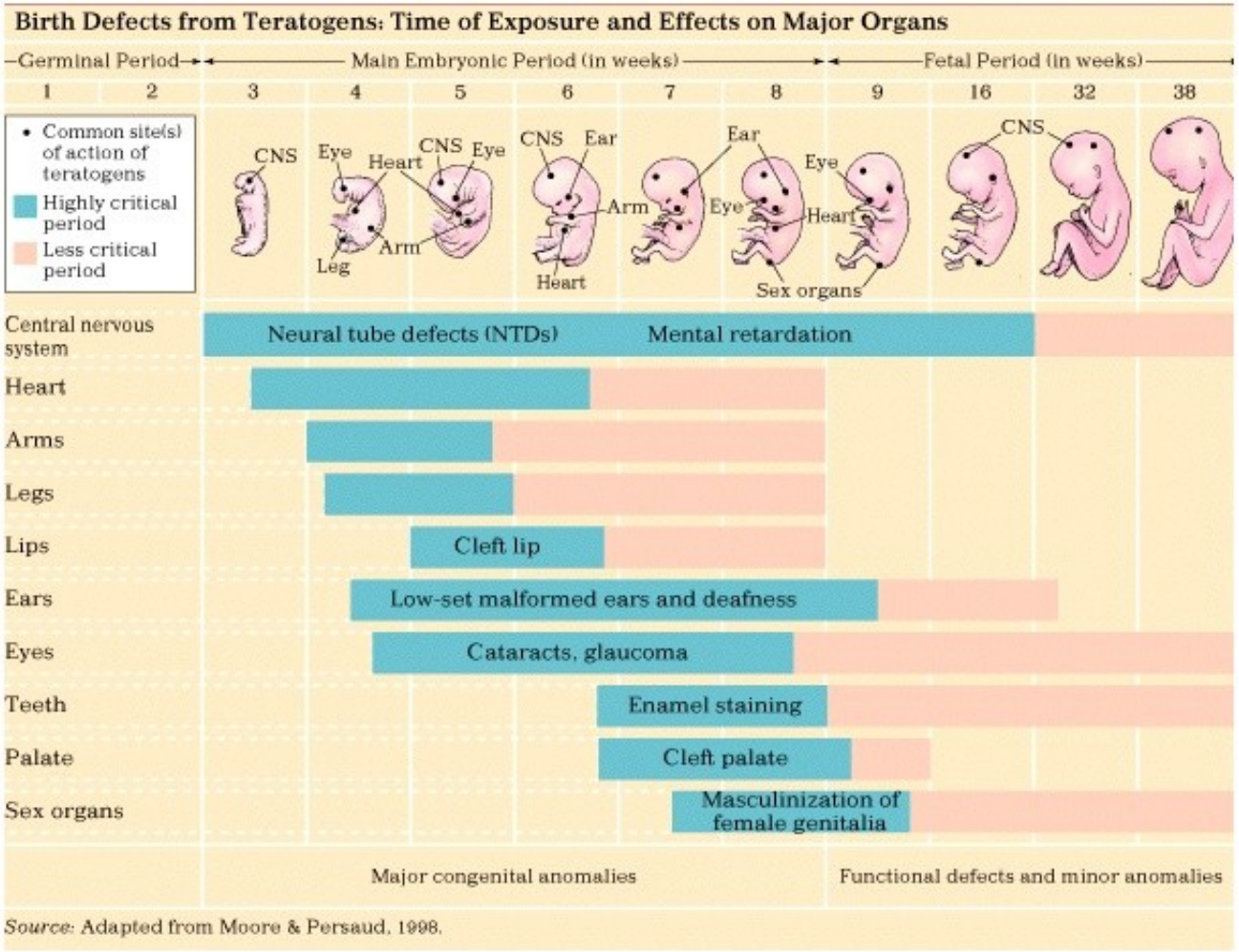
Placenta

- 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


Uterus
Chorion
Fetus
Amnion
Placenta
Maternal blood circulation
Umbilical cord
Amniotic fluid

Teratogens

- **Substances that cross the placental barrier and prevent the fetus from developing normally.**
- Includes: radiation, toxic chemicals, viru
alcohol, nicotir



Source: Adapted from Moore & Persaud, 1998.

Fetal Alcohol Syndrome (FAS)

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

The Beginnings of Life: The Newborn

Reflex

- an automatic, unlearned response
- Sucking, swallowing and grasping reflexes are present in a newborn

Rooting Reflex

- A baby's tendency, when touched on the cheek,
- to open the mouth and
- search for the nipple.

Temperament

- **A person's characteristic emotional excitability.**
- A child might be:
  - An "easy" or "difficult" baby
- Temperament shown in infancy appears to carry through a person's life.

Physical Development in Infancy and Childhood

Infant, Toddler, Child

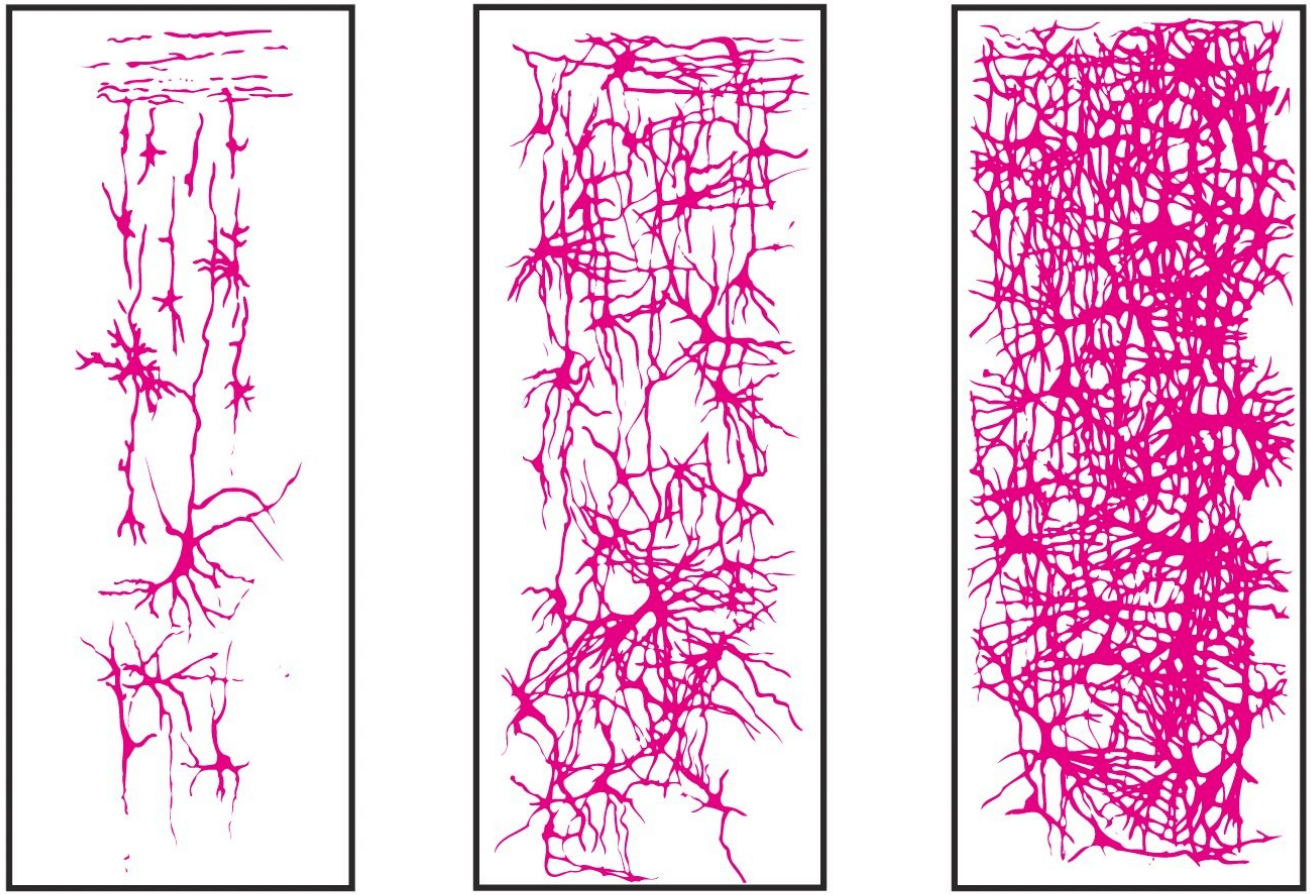
- Infant: First year
- Toddler: From about 1 year to 3 years of age
- Child: Span between todd and teen

Physical Development in Infancy and Childhood: The Developing Brain

Maturation

- **Biological growth processes that enable orderly changes in behavior.**
- Some changes are genetic
- Some changes are due to the environment
- The most neurological growth is seen from ages 3 to 6

Neural Development



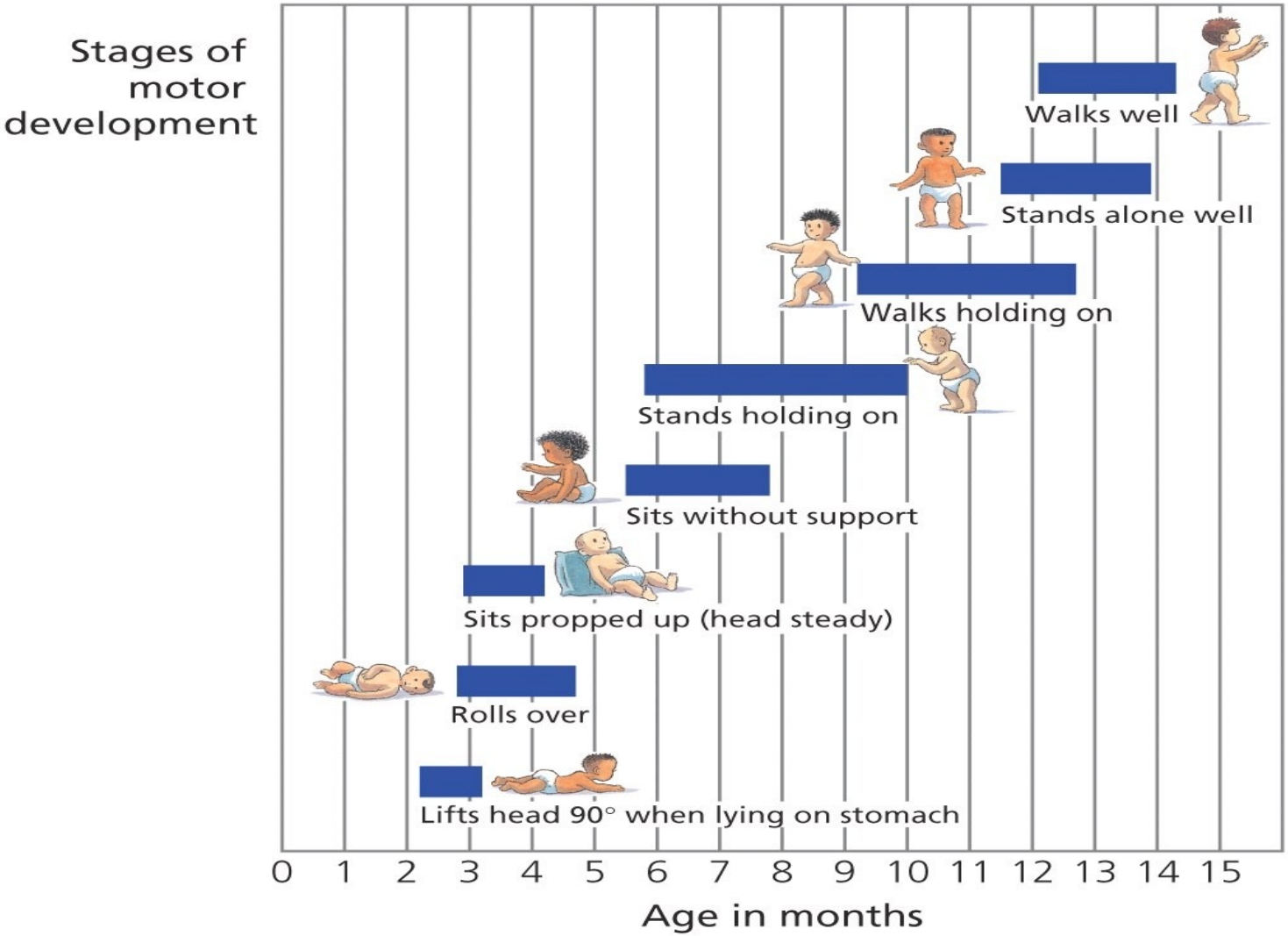
At birth 3 months 15 months

Physical Development in Infancy and Childhood: Motor Development

Motor Development

- Includes all physical skills and muscular
- Learning to wa

Motor Development



Cognitive Development in Infancy and Childhood

Developmental Psychology

- **A subfield of psychology that studies physical, cognitive, and social changes throughout the life span.**
- More than just child development

Jean Piaget (pee-ah-ZHAY)

- **Pioneer in the study of developmental psychology who introduced a stage theory of cognitive development that led to a better understanding of children's thought processes.**
- Proposed a theory consi s of cognitive developmen

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 new experience is so novel the person’s schemata must be changed to accommodate it

Assimilation/ Accommodation

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

Assimilation/ Accommodation

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."

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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.

Cognitive Development in Infancy and Childhood: Sensorimotor Stage

4 cognitive stages

1. Sensorimotor Stage

- **In Piaget's theory, the stage**
- **(from birth to about 2 years of age)**
- **during which infants learn about the world through sensory impressions and motor activities.**
- Child learns object permanence

Object Permanence

- **The awareness that things continue to exist even when you cannot se**
them.
- "Out of sight,
out of mi

2.Preoperational Stage

- **In Piaget's theory, the stage**
- **(from about age 2 to age 6 or 7 years of age)**
- **during which a child learns to use language**
- **but cannot yet think logically.**

Egocentrism

- **In Piaget's theory, the inability of the preoperational child to take another person's point of view or**
- **to understand tha symbols represent other objects**

"It's too late, Roger—they've seen us."

3.Concrete Operational Stage

- **In Piaget's theory, the stage of cognitive development**
- **(from about age 6 to 11 years of age)**
- **during which children gain the mental skills that let them think logically about concrete events.**
- Learn conservation

Conservation

- **The principle (which Piaget believe to be a part of concrete operational reasoning)**
- **that properties such as mass, volume and number remain the same**
- **despite changes in the forms of objects.**

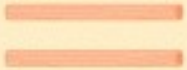
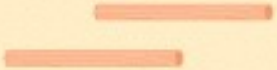
Conservation

Conservation

Conservation

Types of Conservation Tasks

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.

4. Formal Operational Stage

- **In Piaget's theory, the stage of cognitive development**
- **(beginning about age 12)**
- **during which people begin to think logically about abstract concepts and form strategies about things they may not have experienced.**
- Can solve hypothetical problems (What if.... problems)

Assessing Piaget's Theory

Piaget's Stages of Cognitive Development

Typical Age Range	Description of Stage	Key Developmental Events
Birth to nearly 2 years	***Sensorimotor*** Experiencing the world through senses and actions (looking, touching, mouthing, and grasping)	• Object permanence
About 2 to 6 or 7 years	***Preoperational*** Representing things with words and images but lacking logical reasoning	• Pretend play • Egocentrism • Language development
About 6 or 7 to 11 years	***Concrete operational*** Thinking logically about concrete events; grasping concrete analogies and performing arithmetical operations	• Conservation • Mathematical transformations
About 12 through adulthood	***Formal operational*** Abstract reasoning	• Abstract logic • Potential for mature 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.

Stranger Anxiety

- **The fear of strangers that infants commonly display,**
- **beginning around 8 months of age.**

Social Development in Infancy and Childhood: Attachment

Attachment

- **The emotional tie with another person shown by seeking closeness to the caregiver and showing distress on separation.**
- Body contact, familiarity, and responsiveness all contribute to attachment.

Familiarity

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

Imprinting

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

Responsiveness

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

Social Development in Infancy and Childhood: Effects of Attachment

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

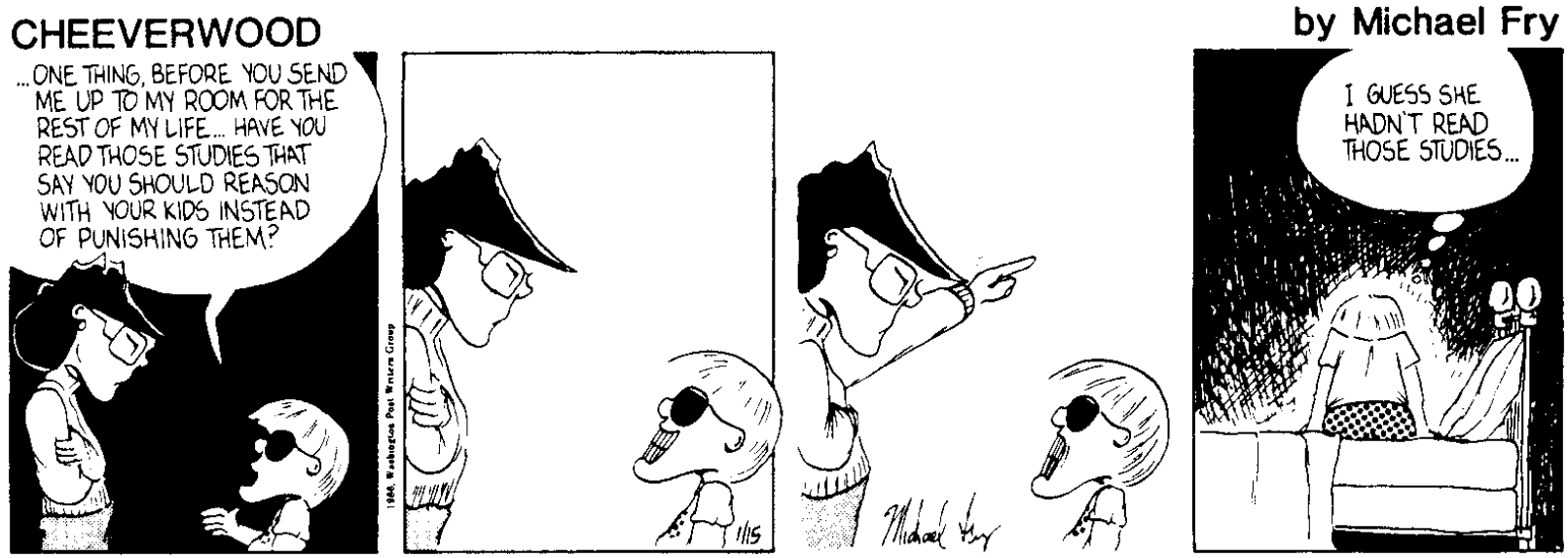
Effects of Attachment

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

Social Development in Infancy and Childhood: Parenting Patterns

Parental Patterns

- Baumrind's three main parenting styles
  - Authoritarian parenting
  - Permissive parenting



Authoritarian Parenting

- **A style of 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.

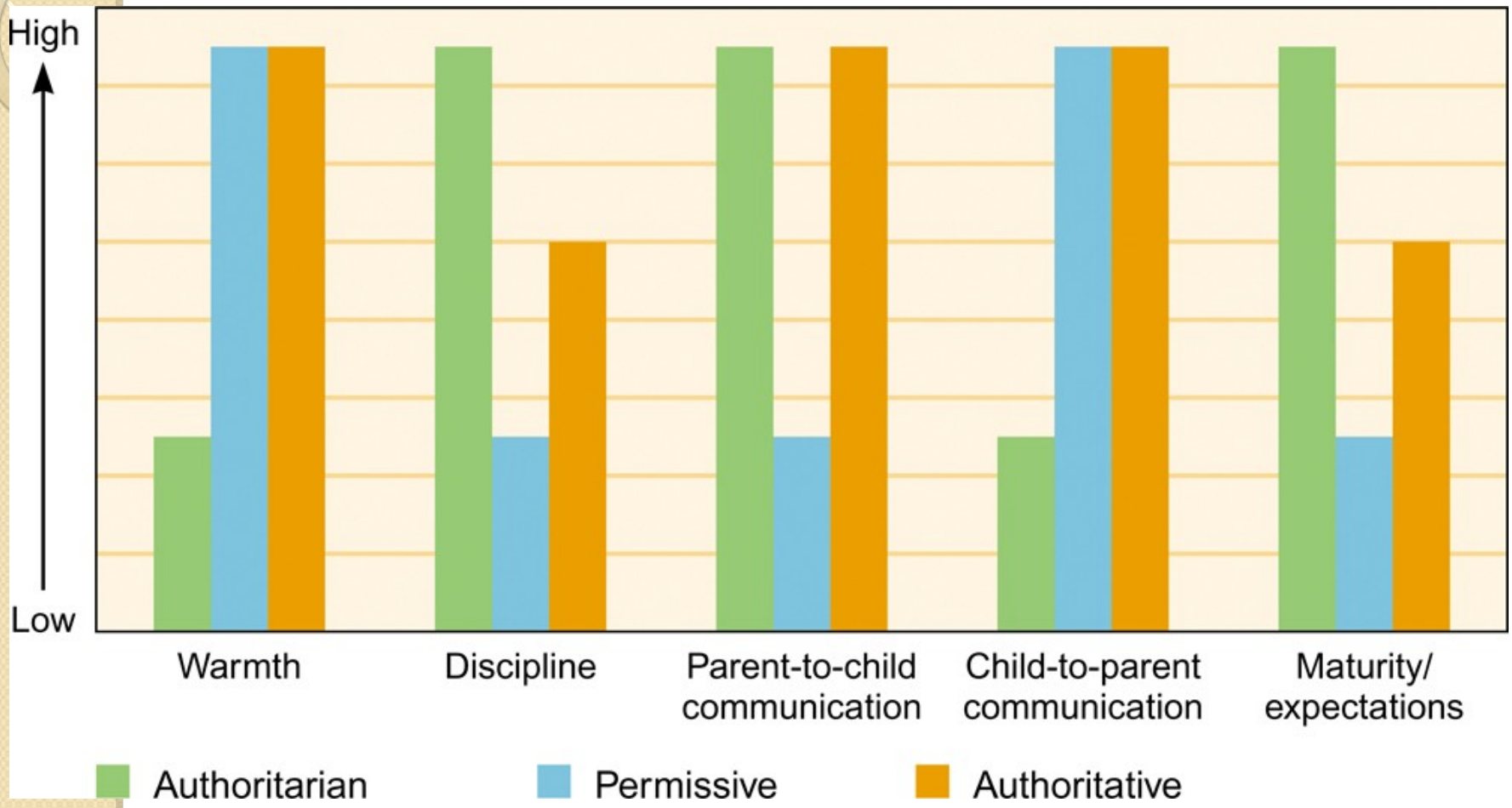
Permissive Parenting

- **A style of parenting marked by submitting to children's desires, making few demands, and using little punishment**
- High in warmth but rarely discipline
- Communication is low from parent to child but high from child to parent.
- Expectations of maturity are low.

Authoritative Parenting

- **A style of 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



Three Key Developmental Issues

1,Continuity and Stages

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

2,Stability and Change

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

3, Nature and Nurture

- How much of our behavior is due to nature and how much is due to nurture?
- How do nature and nurture interact in development?

The End