COLUMBIA UNIVERSITY
IN THE CITY OF NEW YORK

Science of Psychology

PSYW1001 Section 2 MW
8:40-9:55 Fall 2012

Wednesday, November 7

Development

Announcements

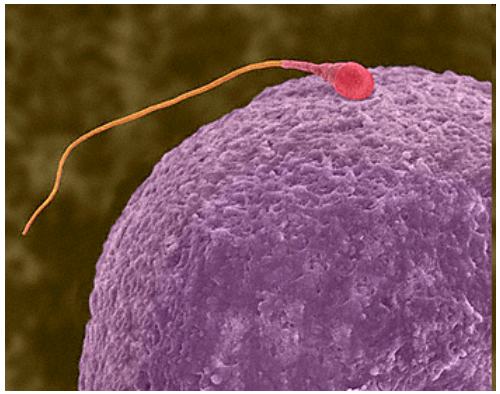
- Exam on Monday, November 12
  - Will cover the second half of memory through development
- Make-up lecture will be scheduled for hurricane cancellation
  - Date and location TBA
- Written Assignment Due Friday, Nov 16th by 5pm
  - Late assignments will only be accepted until Nov. 23
  - Late assignments only receive half credit.
  - Read directions carefully and include all three required files.
- Get your experiments done!
  - Spots become scarce after Thanksgiving

Lifespan Development

- Development: It's not just for children any more!

- Developmental psychology
  - Continuity and change
  - Development lasts from conception to death
    - Different issues for different parts of the lifespan

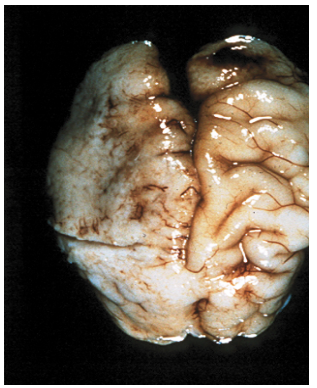
Physical Development

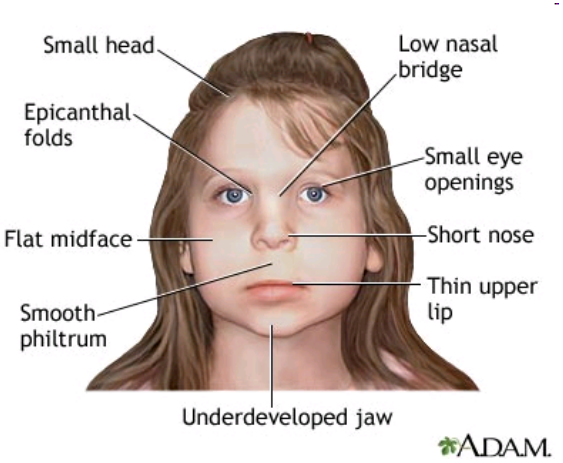


- Starts from conception
  - Egg meets sperm
    - XX = girl baby; XY = boy baby
      - Determined by 23 chromosome in sperm
    - 40 weeks later baby appears
  - Nature versus nurture in utero
- Our discussion will focus on normal pregnancy and development

Prenatal Environment

- What happens in abnormal environment in utero?
  - Teratogens
  - Fetal alcohol syndrome
    - significance of "syndrome"



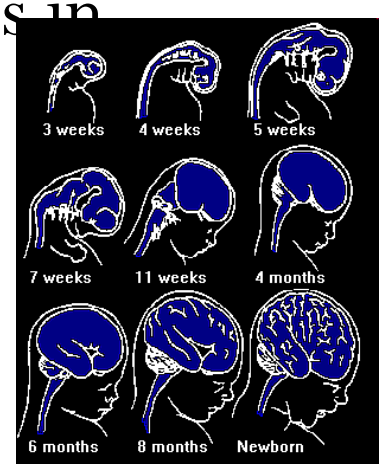


Effects of Early Environment

- Sensitive, or Critical Periods
  - Best time for experience
  - Mandatory time for experience
- More complex behaviors also seem to occur during specific times of development
  - Attachment, language
  - Sensory and motor development
- Not necessarily a closed window!!!!

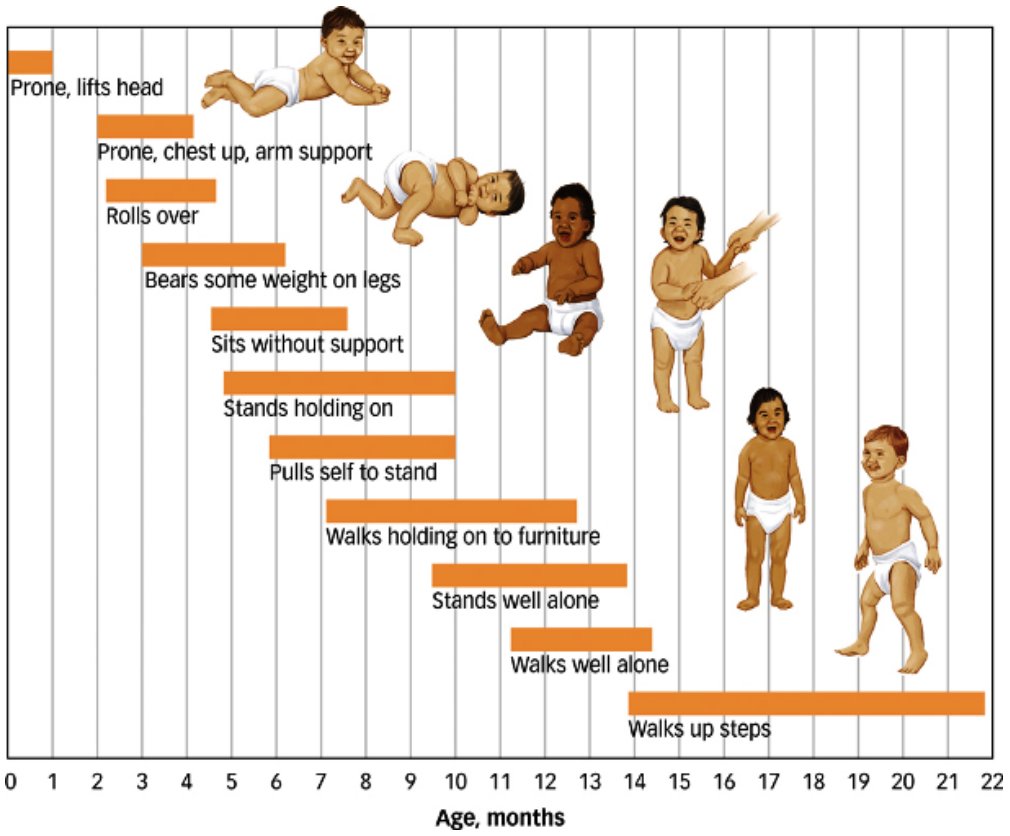
Growth patterns

- Brain development
  - Continues through adolescence
- Overall physical growth also continues
  - Growth spurts
    - ages of 2, 6, 10, and 14 (sometimes later)
- Human parental care for up to two decades in humans (or more?)



Perceptual and Motor Development

- Infancy
- Perceptual and motor development
- Reflexes
- Cephalocaudal rule
- Proximodistal rule



Genetic Roots of Cognitive Capacities

- Are you the product of your genes?
  - Sort of…..
  - Adopted children tend to compare more closely to biological parents
- Genes strongly influence intellectual development
- Similar genetic background → similar intellectual development
- BUT….
  - deprived environment can hinder genetic potential

What's the big difference?

- Historically, children seen as miniature adults
- Jean Piaget
  - Child's thinking was qualitatively different from that of adults
  - Proposed a series of stages of intellectual growth

Piagetian Stages

- Sensorimotor Stage:
  - from birth to age 2 years
  - children experience the world through movement and senses and learn object permanence
  - Schemas: assimilation, accommodation
- Preoperational Stage:
  - from ages 2 to 7
  - acquisition of motor skills
- Concrete Operational Stage:
  - from ages 7 to 11
  - children begin to think logically about concrete events
- Formal Operational Stage:
  - after age 11
  - development of abstract reasoning

The Preoperational Period

- With development of object permanence comes *representational thought*
- Marks end of Sensorimotor stage
- Beginning of Preoperational stage
- Emergence of new schemas:
  - Operations
  - Ability to manipulate objects according to a set of rules
  - Emerge slowly, over several years

You know you're preoperational when……

- Conservation

- Conservation:
  - Concept of transformation processes
  - Required for concrete and formal operations

Was Piaget right?

- Yes and no……
  - Increasingly clear that babies may comprehend *more* than Piaget thought
  - Some of his specific claims about stages and infant "knowledge" not supported
  - Transition between stages is not as "step-wise" as Piaget thought

Infant Comprehension

- How to test babies?
  - What can an infant tell us?
  - Habituation paradigms
- Infants display comprehension of *occlusion*

- Videos

Study Questions

- When does development begin? When does it end?
- Describe some of the things that can influence development before birth.
- What is fetal alcohol syndrome? Is there a critical period for this syndrome?
- Describe the difference between critical and sensitive periods. Use learning a second language as an example.
- Describe the cephalocaudal rule and the proximodistal rule of development.
- Genes and the environment each play an important role in development. Explain why and how this statement is true.
- Are children miniature adults? Describe how Piaget would answer this question.
- If you haven't in the previous question, describe all the stages of development according to Piaget.
- What is the role of schemas in development (according to Piaget)?
- Describe the video demonstration of conservation shown in lecture. What stage of development do you think this child is in and why?
- Was Piaget right?

Study Questions

- In the video shown in lecture what was the dependent variable used to study infant comprehension? When were the babies surprised?
- In the video shown in class children don't always demonstrate an understanding that the knowledge they have is not necessarily shared by everyone. What demonstrations were used to demonstrate this? (hint: there were at least 2 different examples; "ropes" and the muffins)

You'll need to reference your text to answer the following questions:

- Describe the four attachment styles observed in Mary Ainsworth's strange situation paradigm?
- According to Piaget, what are the three shifts that characterize moral development?
- Discuss Kohlberg's theories of the development of morality.
- What does the Trolley Problem tell us about our moral judgments?
- What developmental changes occur in adolescence?
- What is adulthood? What declines in adulthood? How can adults compensate for these declines?