The Final Exam...

✔ Wednesday May 14
✔ 3:30 pm
✔ On D2L, taken in this room
Announcements

- The final Aplia gauntlet:
  - Chapter 9 Aplia due tonight!
  - Chapter 12 Aplia due next Monday
  - Chapter 13 Aplia due next Wednesday
    (final day of class)
- Final Exam is May 14, 3:30 pm
- More experiments going up daily!
- Look for enhancement to Grade-query Tool to assist you in predicting your final grade
  - I will update tonight to give you an estimate of exactly how many points you yet need to obtain for various final grades
Development
I. Overview

A. Emotional & Intellectual development nearly lifelong
B. **Nature vs. nurture**
   (or more aptly, Nature **AND** Nurture)
# Developmental Psychology

<table>
<thead>
<tr>
<th>Issue</th>
<th>Details</th>
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<tbody>
<tr>
<td>Nature/Nurture</td>
<td>How do genetic inheritance (<em>our nature</em>) and experience (<em>the nurture we receive</em>) influence our behavior?</td>
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<tr>
<td>Continuity/Stages</td>
<td>Is development a gradual, continuous process or a sequence of separate stages?</td>
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<td>Stability/Change</td>
<td>Do our early personality traits persist through life, or do we become different persons as we age.</td>
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Maturation

- Brain Development guided by genes, with abilities developing in sequence (e.g., attend, babble, talk)
- Experience with environment interacts with this trajectory
Maturation

Synaptic growth occurs at different times in brain systems involved with sensation, language, and higher cognitive functions (judgment, reasoning). We produce many more synapses than we need, then retain only those that are used, in a “use it or lose it” fashion. Exposing children to stimulating environments helps them reach their maximum intellectual potential.
Motor Development

First, infants begin to roll over. Next, they sit unsupported, crawl, and finally walk. But varies by culture depending on emphasis.
III. Maturation = critical periods and stimulation occurring during these periods.

A. Critical (sensitive) periods (e.g. Visual, Language)
III. Maturation = critical periods and stimulation occurring during these periods.

A. Critical (sensitive) periods (e.g. Visual, Language)

B. Evidence for critical periods for development of emotional health as well (Skeels & Dye [1939] classic study)
Infants thought to be “MR” (mean IQ of 64) moved from orphanage to “MR” institution for adolescent females.

One year later, infants had normal IQ’s and could be adopted.

30 years later, compared to a control group (not moved).

11 of 13 transferred adopted, all self-supporting; median education 12th grade, improved 29 IQ points.

Control group: 36% institutionalized and unemployed; IQ decreased 26.2 points.

Skeels & Dye (1939); Skeels, 1966
IV. Piaget's stages of COGNITIVE development.

A. Sensorimotor - birth to about 2 years
B. Preoperational 2-7 yrs
C. Concrete operational 7-12 yrs
D. Formal operational 12 and up
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| Sensorimotor stage           | Birth to age 2  | •“Here and now” rather than past and future  
                              |                  | •Exploration through moving and sensing  
                              |                  | •Object permanence            |
| Preoperational stage         | 2-6 years       | •Language acquisition  
                              |                  | •Egocentrism  
                              |                  | •Illogical reasoning          |
| Concrete operational stage   | 6-12 years      | •Logical reasoning  
                              |                  | •Mastery of conservation problems  
                              |                  | •“Learn by doing”             |
| Formal operational stage     | 12 years and above | •Abstract reasoning  
                              |                  | •Idealism  
                              |                  | •Improved problem solving     |
Sensorimotor Stage: Object Permanence

http://www.youtube.com/watch?v=BFUInSY2CeY
## Piaget’s Stages of Cognitive Development

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Piaget's Conservation Task

I

A
B
C

II

A
B
C
Which has more, row A or row B, or do they both have the same?

Now which has more, row A or row B, or do they both have the same?
Piaget’s Conservation-of-Liquid Task
Clip A

Length: 1:20

Source: Worth Publishers
Criticism of Piaget

- Small database!
- Development continuous, not rigid stages
- Piaget underestimated abilities at many stages
  - Example: Infants (sensorimotor stage) know when laws of physics appear to be violated, can "count"
  - Example: 3 y.o. kids (preoperational) can use a model of a room to find objects in the real room
  - Example: 4 year old kids solve theory of mind task
Solving this task requires knowing that others may have different beliefs than our own.
V. Emotional and social development: Attachment

A. Definition: A deep emotional bond that an infant develops with its primary caretaker

1. Contact Comfort = the innate pleasure derived from close physical contact

2. Forms the basis of the infant’s first attachment
V. Emotional and social development: Attachment

B. Characteristic phases of attachment in children (fairly consistent across cultures)
   1. by 3-4 mo. child prefers certain people; Can recognize faces from memory
   2. 8-12 mo. stranger shyness/anxiety
V. Emotional and social development: Attachment

C. Harlow's monkey experiments - terry cloth and wire mother
Monkeys, like humans, need and want contact
Figure 4. Wire and cloth mother surrogates.
Social Development

Harlow’s Surrogate Mother Experiments
Monkeys preferred contact with the comfortable cloth mother, even while feeding from the nourishing wire mother
Social Development

Monkeys raised by artificial mothers were terror-stricken when placed in strange situations without their surrogate mothers.
V. Emotional and social development: Attachment

C. Harlow's monkey experiments
   1. The inimitable Harry Harlow:
   2. From Harry about his treatment of Animals

*If my work will point ... out [the importance of parental nurturing] and save only one million human children, I really can't get overly concerned about 10 monkeys*

Harry Harlow quoted in *Love at Goon Park*, 2002, Deborah Blum
600 N Park
V. Attachment

D. Bowlby's and Ainsworth's studies of attachment and separation in humans
V. Attachment

D. Bowlby's and Ainsworth's studies of attachment and separation in humans

1. Bowlby's signs of separation: protest, despair, withdrawal
2. Ainsworth's Strange situation paradigm
   a. secure attachment
   A parent-infant relationship in which the baby is secure when the parent is present, distressed by separation, and delighted by reunion.

   b. insecure attachment
   A parent-infant relationship in which the baby clings to the parent, cries at separation, and reacts with apathy or anger to reunion.

   1. insecure/avoidant attachment
   2. insecure/ambivalent attachment
F. Childrearing – what’s “best?”

1. Treat as “little adults?”

2. Behaviorism (J. B. Watson quote):

   There is a sensible way of treating children. Treat them as though they were young adults. Dress them, bathe them with care and circumspection. Let your behavior always be objective and kindly firm. NEVER hug and kiss them, never let them sit in your lap. If you MUST, kiss them once on the forehead and then say goodnight. Shake hands with them in the morning. Give them a pat on the head if they have made an extraordinarily good job of a difficult task. Try it out. In a week's time you will find how easy it is to be perfectly objective with your child and at the same time kindly. You will be utterly ashamed of the mawkish, sentimental way you have been handling it.

3. The recognition of children’s emotional and attachment needs is now part of recommended child-rearing (thanks, in part, to Harry Harlow)
VI. Moral development

A. How do children learn ideas of right & wrong?

B. Kohlberg

1. Level I Preconventional morality
   - Punishment orientation
   - Reward orientation

2. Level II Conventional morality
   - Good Boy/Girl orientation: approval of others
   - Authority orientation: Rules, laws, avoid guilt, moral righteousness

3. Level III Postconventional morality
   - Social Contract orientation: good for common good; maintain respect
   - Ethical principle orientation: abstract principles upheld, even if unpopular with others or against norms and laws
As moral development progresses, the focus of concern moves from the self to the wider social world.

- **Postconventional level**: Morality of abstract principles: to affirm agreed-upon rights and personal ethical principles.
- **Conventional level**: Morality of law and social rules: to gain approval or avoid disapproval.
- **Preconventional level**: Morality of self-interest: to avoid punishment or gain concrete rewards.