9/13/14

Physical & Cognitive Development in Infancy

I. Physical & Sensory Changes
   a. Reflexes (2)
      i. Humans born with many adaptive reflexes that help with survival
         1. Sucking reflex; withdrawal from painful stimulus; eye-pupil action
         2. Weak/absent in neonates…suggests brain dysfunction/need for more tests
      ii. Primitive reflexes: controlled by less sophisticated parts of brain (medulla/midbrain); disappear within 1st year
         1. Ex: moro/startle reflex; Babinski reflex (tickle baby's foot and toes flare out and then curl); if happens to adult, abnormal
         2. If persist past 6-8 months, may be neurological problem in baby
   b. Behavioral states
      i. Five diff stages of sleep/wakefulness in neonates
         1. Deep sleep, quiet awake, active awake, crying, fussing
      ii. Measure infant's behavior using actometer, spectrograph, blood tests, saliva
   c. Sensory changes
      i. Vision – visual acuity (@ birth: 20/200 to 20/400) and 20/20 @ about 6 months
         1. Color vision → birth to 1 month; red, green, blue
         2. Tracking objects → babies less than 2 months track for brief periods if object moves slowly toward and away
      ii. Hearing and other sense – auditory acuity
         1. improves up to teens; better than visual acuity, high-pitched sounds
         2. detecting location of sound improves w/ age. Can judge general direction
         3. smell (unlimited variations) & taste (sour, sweet, bitter, umami): studied less than vision and hearing; smell and taste related

II. Perceptual & Cognitive Changes
   a. Perceptual Development
      i. Young infants make distinctions among sounds, sights, feelings
      ii. Infant looks at edges of object…sharp contrast btwn light and dark
      iii. Many abilities and preferences are inborn; one set of standardized experimental procedures used to come to such

conclusions is preference technique…which one does baby look at length

iv. Another procedure utilizes repeated exposure to same visual or auditory stimulus
v. Habituation: automatic reduction in strength of response to repeated stimulus; adaptive
vi. Dishabituation: learning to respond to familiar stimulus as if new
vii. Depth perception: judge of how far away object is; develops slowly
viii. Complex visual skill: integrate visual information from both eyes @ same time (visual cliff pic)
ix. As gain motor skills, gain depth perception

III. Cognitive development

a. Piaget's view -- baby at sensorimotor stages; baby who assimilates/accommodates is engaging in thinking
b. Object permanence: ability to understand that objects still exist even when not visible (fully developed at 1 yr)