Psychological Science

Chapter 11 Human Development

developmental psych : changes in physiology, cognition, social behaviour over the lifespan

What shapes a child?

- behavior predictable programmed – our genes, set the pace and order of development, regardless of experiences
- outcomes – environmental stories which shape genes, and are passed on and how they are expressed.

- development starts in the womb
  - embryo (3-8 weeks) – 2 weeks
  - fetus (9-38 weeks) – 7 months
  - third trimester (survivor outside the womb)
- brain development promotes learning
  - newborns are able to respond to sensory stimuli
  - not 100% helpless – grasping reflex, rooting reflex, fingers wiggle
  - **developmental**
    - physical development
      - including drugs, alcohol, placebos, viruses, and hormones
      - prior the fetus is exposed to it
      - the length and amount of exposure
    - neurogenesis
      - brain commence signals that have the existence of fetus
    - sensitivity
      - e.g. thalidomide – e.g. excessive alcohol – fetal alcohol syndrome (FAS) – low birthweight, low head circumference, slight mental retardation, behavioral/cognitive problems
    - early brain growth
      - certain regions mature functional organs commencement – 2 months
    - brain circumlocution (through myelinization)
      - at spinal cord (first 2 months of pregnancy)
      - brain (second 6 months)
      - myelin fatty stuff covering the long axon
    - synaptic pruning ("use it or lose it" policy)
      - develop many neuronal connections first, then prune infrequently used ones and the unused, necessary
      - heterogeneity in the connections around age 1
      - **neuroplasticity** – age 1 and 2
      - **neuronal pruning** – age 5
      - after adolescence, density of neuronal connections is the same as in Grade 5 across
        - Does make there more gyrencephalic – e.g. by increasing in cortical
        - progression of learning is long ( ) in sex development
    - region growth of brain, "plastic"
      - sex steroids
        - myelination/ neuronal pruning/ synaptic pruning among neurons
        - cortical/cortical connections (more dendrites) – greater brain activity
        - early childhood nutrition
      - conclusion: genes, crucial instructions, but the enduring brain, how the brain changes, depends on experience. Early childhood is also very much affected by **neuroplasticity**
    - sensitive learning periods
      - key to learning: creation of connections among certain neurons
      - critical periods: biologically determined time periods for the development of specific skills or capacities
      - sensitive periods – biologically determined time periods when specific skills develop fleetingly
  - **learning**
    - myelination and neuronal connections
    - attachment promotes survival
    - attachment in other species – e.g. Harlow's monkeys and their "mothers"
      - experiment: infant monkeys will form an attachment at a surrogate mother (terrycloth, wire-frame/cylinder)
      - research method: infant rotisserie, 1 of 2 mothers, "a cage with different modules"
        - 1 one mother was made of cloth and provided the sensitive, tactual-rich cloth
        - 2 the other was made of wire, but could give milk
      - result: the monkeys clung to the cloth mother and spent far more time in contact with the cloth mother than they approached the wire mother only when they were hungry
      - conclusion: infant monkeys will prefer and form an attachment to a surrogate mother that provides warm and comfortable contact and regular feeding opportunities
    - attachment style
      - begins during the 1st month
      - 9-12 months, display separation anxiety
      - stranger situation test
        - 65% secure – in a majority of infants, while an anxiety, an infant enters their mother's returns after a brief separation
        - 20-25% avoidant – infants ignore their mother when he or she returns after a brief separation
        - 10-15% resistant/ambivalent – infants cling to their mother, but resist contact, and angrily resist/push/resist the caregiver when he or she returns
        - some disorganized attachment (like testing,) (social competence)
        - **conclusion**
          - the parents' behaviors/support children behave different attachment patterns, but the enduring traits of the caregiver "overwhelm" contributions to the child's attachment style
      - consistency of attachment
        - oxytocin – maternal bonding, – biological social acceptance and bonding, and sexual gratification
        - to the mother and the infant : promotes the process that promotes the initial bonding between the infant and the mother, more milk into the milk ducts – nurse
    - critical thinking skill: understanding that some "does not mean so"
      - 4-6 weeks, infant forms a strong emotional connection that persistence, time and across circumstances
        - neighbor feelings stability and security
        - not ever infant and caregivers is say "a dear arrives (John Bowlby)

How children learn about their world?

- perceptual constancy
  - perceptual constancy – recognize the same object despite changes in its appearance
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- memory improves over childhood
  - implicit memory – unconscious memory
  - explicit memory – conscious memory
  - recall – the ability to retrieve information that was learned earlier
  - recognition – the ability to identify something as being the same as something previously encountered
  - relearning – the ability to learn something more quickly than the first time it was learned
  - research method: the memory retention test (by Carolyn Flower Collier)
    - 1. the rate at which an object in a crib moved under normal conditions was measured
    - 2. a mobile was hung over the crib and attached to the infant's ankle with a ribbon. so that when the infant kicked, the mobile moved
    - 3. the rate at which the infant kicked with the ribbon attached was measured against the normal rate of kicking
    - 4. both (at different times) were very each infant was placed in the crib, and the retrieval rate was measured. a high rate of kicking indicated that the infant remembered that kicking moved the mobile
    - results: among infants ranging from 2 months to 18 months old, older infants remembered the mobile for longer intervals
    - conclusion: very young infants have memory, but it is quite rudimentary
  - implicit memory
    - This test that children have implicit memory comes from a study in which children were given a list of words to learn. Later, they were given a list of words and asked to write down the first word that came to their minds. Children who had previously seen the words on the first list were more likely to write down those words than children who had not previously seen the words on the first list. This shows that children have implicit memory (at least in the preschool years, when cognitive memory is still developing)
  - explicit memory (autobiographical memory)
    - This test that children have autobiographical memory comes from a study in which children were given a list of words to learn. Later, they were given a list of words and asked to write down the first word that came to their minds. Children who had previously seen the words on the first list were more likely to write down those words than children who had not previously seen the words on the first list. This shows that children have implicit memory (at least in the preschool years, when cognitive memory is still developing)
- how do children learn about their world?
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    - **Piaget's stages of cognitive development**
      - 1. Sensorimotor (birth- 2 years)
        - differentiates self from objects
        - recognizes self as agent of action and begins to act intentionally: for example, pulls a string to a mobile
        - achieves object permanence: realizes that things continue to exist even when they might no longer be in the senses
      - 2. Preoperational (2-7)
        - learns to use language and to represent objects by images and words
        - thinking is egocentric: has difficulty taking the viewpoint of others
        - classifies objects by a single feature: e.g. groups together all the red blocks or all the square blocks regardless of other
      - 3. Concrete operational (7-12)
        - understands operational principles such as conservation (age 7), and weight (age 9)
        - classifies objects by several features and can order them along a single dimension, such as size
      - 4. Formal operational (12-)
        - can think logically about abstract concepts
        - can think logically about potential propositions and test hypotheses systematically
        - can think about the future, hypotheses, the future, and ideological problems
    - Challenges to Piaget's theory
      - e.g. in his dispute the idea that every person goes through the stages of cognitive development
      - or whether all children can do some level of logic to solve problems.
    - each stage : have a mechanism, which are the deepest thinking, conceptual structure how the world works.
    - 1. Accommodation is the process through which a new experience increases the child in a revolving schema.
      - 2. accommodation – a scheme is altered or expanded to include the new experience.
    - build on the previous work through two processes
  - how children learn about their world
    - Piaget's theory has contributed revealed that children are "Linguistic or Mathematical" in their orientation (not Piaget's theory)
    - Before Piaget's couple has not been revealed that children are "Linguistic or Mathematical" in their orientation (not Piaget's theory)
    - which is partially against Piaget's theory that children can "Linguistic or Mathematical" in their orientation (not Piaget's theory) and they go through the various stages of cognitive development
    - understanding the 'sensed' nature : physics – children seem to have an understanding of the 'sensed' nature of the physical world
    - matter – when children are properly instructed, they understand and can distinguish between matter and weight, knowledge where then and time then
    - in the first year of life children begins to need intensions and taking. ah end of age and of second year, 12-18 months of age, children begins to "Linguistic or Mathematical" in their orientation
    - Jerome Bruner's theory of children's ability to predict actions, where a child requires theory of mind, he or she is able to predict actions based on the individual's individual's individual's perceived and knowledge based on the individual's perceptions
    - theory of mind
    - Theory of mind : the term used to describe the ability to explain and predict other people's behavior and mental by recognizing their mental state
      - Jerome Bruner's theory of mind states supported by research with adults.
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    - how children learn from interacting with others
      - moral reasoning and moral emotions
        - moral reasoning : depends on cognitive processes
          - Jean-Jacques Rousseau's theory
        - moral emotions
          - empathy – a sense from understanding another's emotional state and feeling the same emotion, "I feel what you feel" or "I feel what you feel in the given situation"
          - sympathy – arises from feelings of concern, pity, or sorrow for another
          - moral emotions from early in life but are not fully developed until later in life "self-conscious or anger), shame and also self-evaluative emotions
        - physiological basis of moral ability
          - the frontal lobes support the capacity for morality: children develop a sense of right and wrong behaviors especially from deep parents
        - pre-conventional level : earliest level of moral development, in which children determine what is right and wrong based on the possible stages, in which children determine what is right and wrong based on the
        - post-conventional : highest stage, in which people understand the moral principles and appropriate
    - social development : the maturation of children's abilities that enable people to form a social with other people
    - how children learn about their world
      - social development
        - social systems theory (Urie Bronfenbrenner) – the way biology and environment interact to influence development and functioning
          - microsystem : it at the service and most immediate effects on a child
          - mesosystem = (microsystem) between microsystems
          - exosystem = (macrosystem) social contact
          - macrosystem : (exosystem) in the
          - chronosystem : (macro and micro in time)
          - effect on the biological processes in children in understanding how people develop
        - children influence identity and behavior
        - parenting styles affect children's well-being
        - abuse is a difficult for children
        - critical thinking skill: comparing and contrasting either / or thinking
        - gender identity is determined by biology and cultural norms
        - gender identity
          - gender identity : personal belief about whether one is male or female
          - gender roles : the stereotypes associated with being male or female, because of culture or influence in learning
          - gender schemas : cognitive structures that influence how people perceive the behaviors and the behaviors of males
          - some darks
            - the researchers David : the gender schema theory, children learn the gender stereotypes toward any thing as any girl / boy, strong effect
            - biological basis of sexual identity
            - biology strong effect
        - people define themselves in terms of race and ethnicity
          - scientific method: learning racial differences
          - hypothesis : infants can differentiate between members of their own race or strangers
          - research method
            - infants are African and Caucasian faces
            - experimenters measured how long the faces looked at the face
          - results : infants spent more time looking at faces of their own race, indicating a preference for the faces
          - African dessent attributed in predominantly Caucasian schools and predominantly African schools
          - conclusion : infants prefer faces of their own race, unless they have experienced high levels of interpersonal contact during the first **years** months of life.

What brings meaning to adulthood?

- Erik Erikson's Stages of identity
  - challenge : these stage – intimacy
  - versus isolation (On young adulthood)
- tasks are affected by life transitions
- aging and the successful
- cognitive changes during aging