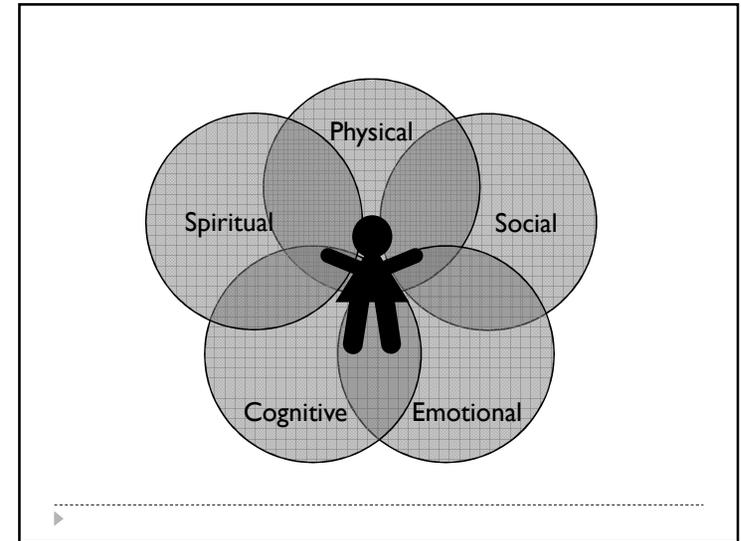


EDU 306
Infancy

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Physical Development of Infants

- ▶ **Physical Growth**
- ▶ **Development of Physical Senses**
- ▶ **Motor Skills (Movement)**
 - ▶ Reflexes
 - ▶ Learned Motor Skills

Physical Development: Growth

- ▶ Newborns typically lose about 5% of their birth weight in the first 2 weeks
 - ▶ Double birth weight by 5 months
 - ▶ Triple birth weight by 12 months
- ▶ Legs and arms grow faster than the trunk
- ▶ Head is 25% of adult size at birth and 75% of adult size by 12 months

Physical Development: Fostering Brain Growth

- ▶ Good nutrition
 - ▶ Warm physical contact
 - ▶ Exposure to:
 - ▶ Visual stimuli
 - ▶ Language/singing
 - ▶ Music
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- ▶

Physical Development: Senses

- ▶ **Visual abilities:** Newborns have very fuzzy vision that gradually develops until 2 years of age
 - ▶ Within 24 hours of birth, infants prefer photographs of their mothers to other women if they are familiar with their mother's voice
 - ▶ **Auditory abilities:** Well functioning at birth
 - ▶ Newborns prefer adult female voices
 - ▶ Prefer musical to non-musical sounds
 - ▶ Prefer their native language to other languages
 - ▶ **Taste and smell:** Well developed
 - ▶ Prefer sweet to sour tastes
 - ▶ Prefer breast milk to formula
 - ▶ Turn away from bad odors
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Physical Development: Reflexes

- ▶ **Reflex:** Automatic response triggered by specific stimuli
 - ▶ **Rooting Reflex:** Stroke the cheek and the baby will open its mouth and turn its head in the direction of the stroke
 - ▶ **Sucking Reflex:** Place any object in the baby's mouth, and it will suck.
 - ▶ **Grasping Reflex:** Touch the palm of the hand, and the baby will grasp the object, sometimes strong enough to hold the entire weight of the baby
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Physical Development: Reflexes

- ▶ **Reflexes, Continued**
 - ▶ **Stepping Reflex:** Support the baby under the arms and hold them so their feet touch a hard surface, and the baby moves their legs like they are walking
 - ▶ **Babinski Reflex:** Stroke the sole of the baby's foot, the toes will spread out and curl back in
 - ▶ Most reflexes disappear within the first year
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Physical Development: Milestones of Infant Motor Development

Motor Skill	Months when 50% of infants achieve	Months when 90% of infants achieve
Lift head when laying flat	1-2	3
Rolls over from side to back	2-3	5
Grasp an object	4-5	7
Rolls over from back to side	4-5	7
Sits without support	6-7	8
Stands while holding onto something steady	7-8	10
Crawls on hands and knees	7-8	11
Walks holding onto objects	9-10	13
Stands alone for few moments	10-11	13
Stands alone well	11	15
Walks alone	11-12	17
Jumps in place	23-24	30

There is cause for concern in a baby's development if...

Age	Key Milestones
By 3 months	Does not respond to loud noises Does not follow moving objects with eyes Does not grasp or hold objects Does not lift head well
By 7 months	Seems very still, with tight muscles Seems very floppy like a cloth doll Does not turn head to locate sound Does not roll over Cannot sit with help
By 12 months	Does not crawl Drags one side of body while crawling for more than 2 weeks Cannot stand when supported Does not point to objects or pictures
By 24 months	Cannot walk Walks only on toes Does not walk heel-to-toe after several months of walking

Physical Development: Physical Needs of Infants

- ▶ Adequate nutrition is vital, which is achieved by breastfeeding from a mother who is well nourished.
 - ▶ Compared to Formula-fed babies, Breastfed babies are:
 - ▶ Healthier
 - ▶ May be more intelligent
- ▶ Malnutrition leads to:
 - ▶ Physical under-development
 - ▶ Slow motor development
 - ▶ Attention problems
 - ▶ Lower intelligence

Physical Development: Sleep

- ▶ Newborns can sleep up to 20 hours per day
- ▶ By 6 months, babies sleep about 14 hours per day
- ▶ **IMPORTANT:** Babies should be laid to sleep on their backs.
 - ▶ Sleeping on the stomach or side is associated with Sudden Infant Death Syndrome (SIDS)
 - ▶ Sleeping on a fluffy mattress or pillow is also associated with SIDS

Physical Development: Health Needs for Infants

- ▶ Primary health needs include food, sleep, and comfort
- ▶ Immunizations are necessary before 2 years of age
- ▶ Caretakers need to provide safety from accidents such as falls, burns, and poisoning



Cognitive Development of Infants

- ▶ Memory
- ▶ Abstract Thinking: Symbolism (Object Permanence)
- ▶ Mathematics
- ▶ Language



Cognitive Development: Memory & Abstract Thinking

- ▶ **Memory** can last as long as:
 - ▶ 1 day by age 2 months
 - ▶ 1 week by 3 months
 - ▶ Longer than 2 weeks by 6 months
- ▶ **Object Permanence:** Object exists even when one cannot sense it → Mental symbolism
 - ▶ Phase 1: If an object disappears, will not search for it
 - ▶ Phase 2: Only search for object if partially hidden or the object is taken while the child was engaged
 - ▶ Phase 3: Will search for an object in its first hiding spot
 - ▶ Phase 4: Continue to search for an object until it is found



Cognitive Development: Language

- ▶ **3 months:** The baby begins to coo (“ooh, aah”)
- ▶ **6-7 months:** Babbling, consists of repeated consonant-vowel combinations
 - ▶ Playing with language is a way of practicing speaking
- ▶ **9 months:** 1) Understand about 20-30 words
 - ▶ 2) Use gestures to communicate
- ▶ **12-14 months:** 1) Says first word
 - ▶ 2) Respond to simple verbal requests
- ▶ **18-24 months:** Word spurt, when children’s vocabulary begins to rapidly increase
- ▶ **24 months:** Uses 2 to 4 word sentences



Cognitive Development Fostering Language Development

- ▶ The most important factor in a child's language development is the amount of language that child is exposed to.
 - ▶ Talk to infants
 - ▶ Read to infants
 - ▶ Children whose parents read out loud to them:
 - Show more interest in reading
 - Have larger vocabularies
 - Learn to read faster
 - ▶ *National Centre for Education in Maternal and Child Health* recommends beginning to read to children at 2 months old.
 - ▶ Sing to infants
 - ▶ Respond to infants' attempts at language



Cognitive Development: Fostering Cognitive Development in Infants

Category	Sample Item
Parent is responsive to child	Spontaneously speaks to child at least twice
Parents accept the child	Parent caressed, kissed, or hugged child at least once
Safe physical environment	There is a play area for the child that is safe and free of hazards
Provide appropriate play materials	Parent provides toys and/or interesting activities for child during the visit
Parent involvement with the child	Parent ensures the child is supervised and/or frequently looks at the child
Variety in daily stimulation	Child is able to get out to explore different environments

▶ From the HOME Inventory for Infants and Toddlers.

Social and Emotional Development

- ▶ Express Emotions
- ▶ Understanding Others' Emotions
- ▶ Emotional Self-Regulation
- ▶ Form Social Relationships



Emotional Development: Express Emotions

- ▶ Infants have limited emotional expression, including happiness, sadness, and anger
- ▶ Happiness: Smiling
 - ▶ **Newborns:** Only smile while sleeping
 - ▶ **5 weeks:** Smile while awake after gentle stimulation
 - ▶ **2-3 months:** Smile when they see human faces
 - ▶ **3-4 months:** Begin to laugh
 - ▶ **1 year:** More consistent in expressing joy



Emotional Development: Express Emotions

- ▶ Crying: Newborns cry when in pain, hungry, or uncomfortable
 - ▶ Sadness appears mostly by the absence or unresponsiveness of a warm and involved caregiver
 - ▶ Anger begins to develop around 6 months
 - ▶ Complex emotions such as pride, guilt, and embarrassment emerge in the 2nd year of life
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Emotional Development: Emotional Self-Regulation

- ▶ **Emotional Self-Regulation:** Ability to control the intensity and expression of emotional reactions
 - ▶ Newborns have almost no strategies for controlling their emotions
 - ▶ Infants learn strategies to control emotions such as not looking at a distressing object
 - ▶ Development of language helps children control their emotions because they can tell others about their needs
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Social Development: Attachment Theory

- ▶ A child has an innate need to form a secure relationship with an adult (called an “attachment”)
 - ▶ **Secure Attachment:** Baby is relaxed and confident with their caregiver, knowing they can depend on their caregiver for comfort and protection when needed
 - ▶ If this attachment is disrupted in the first two years of life, then the child can suffer permanent damage socially, emotionally, and cognitively
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Social Development: Attachment Theory

- ▶ The quality of attachment to caregivers in infancy influences the quality of later relationships
 - ▶ A secure attachment is important for positive relationships in future life
 - ▶ Children with secure attachments are more sociable, less aggressive, and more empathetic with other children
 - ▶ Adolescents with secure attachments have more intimate friendships, have higher self esteem, and better grades
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Social Development:
Fostering a Secure Attachment

- ▶ Understand the baby's cues that signal what the baby needs
 - ▶ Try to always meet the baby's need for food and rest.
 - ▶ Talk, laugh, and play with the baby
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Revision

- ▶ Describe at least four types of reflexes and learned motor skills in infancy.
 - ▶ Explain what caregivers must do to meet the physical needs of infants.
 - ▶ Explain the process of language development in infancy, and what caregivers can do to improve language development.
 - ▶ Explain the emotions that infants display.
 - ▶ Describe Attachment Theory and how parents can foster a secure attachment in their children.
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