



Life Span Development I

Chapter 9

CLASS OBJECTIVE:

What factors influence prenatal development?

Test Your Knowledge!

True or False?

-Most babies are born healthy and most hazards can be avoided. **TRUE!**

-There are very few prenatal factors that can harm a developing person. **FALSE!**

-Prenatal exposure to a dangerous substance is only harmful in the first trimester of the pregnancy.

FALSE!

-Research has proven that drinking alcohol (in any amount) during pregnancy is safe. **FALSE!**

Is the prenatal environment that important??

- YES! There are many factors that can negatively impact the developing person.
- Teratogens are substances that can lead to birth defects or even death during the prenatal period.

Think on your own...

What are some factors that could influence prenatal development?



What are some factors that would influence prenatal development?

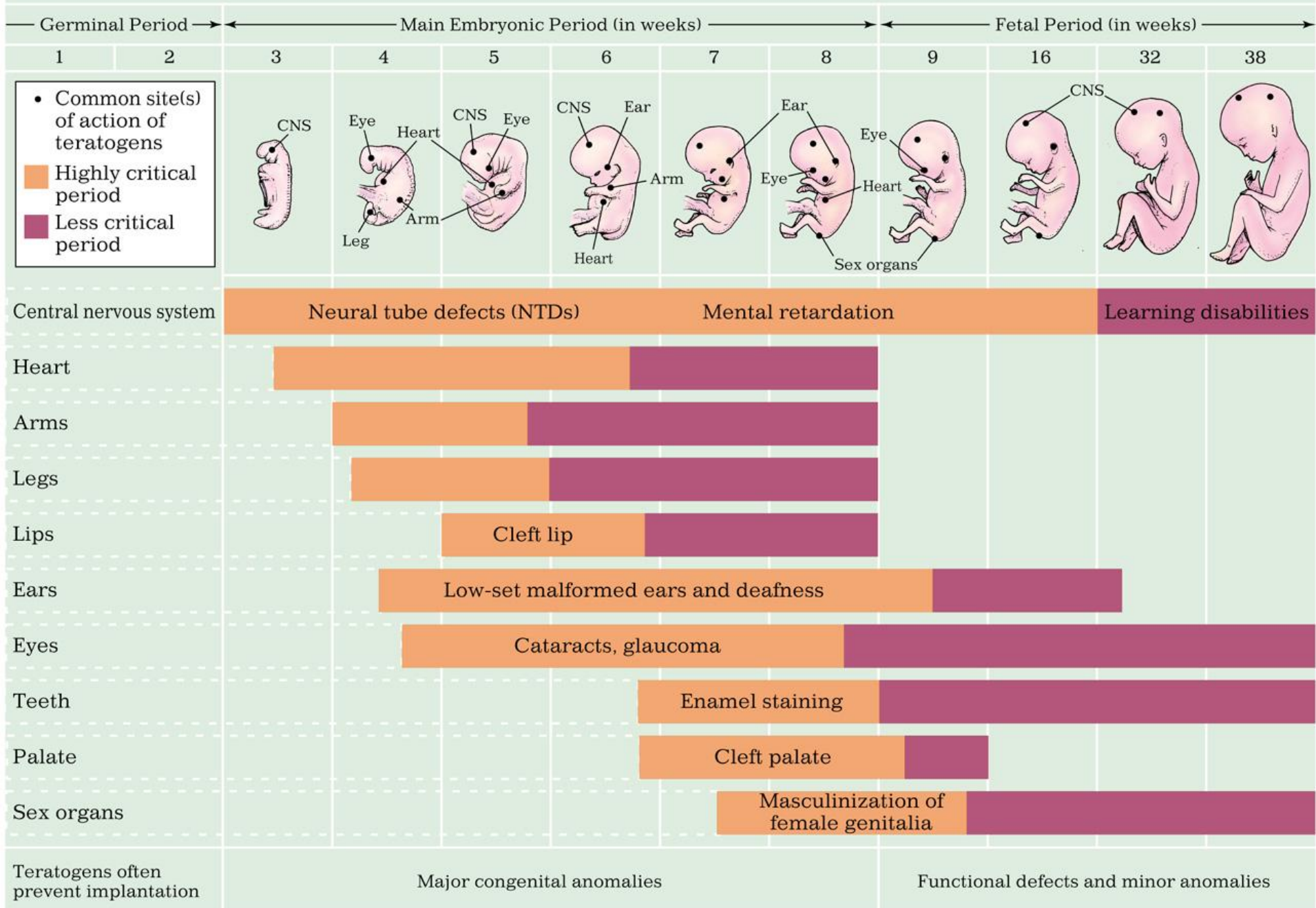
- Drugs (street or over the counter)
- Alcohol
- Cigarettes
- Disease
- Poor nutrition
- Stressors
- Chemicals

- Almost anything can impact a developing fetus

It's all about timing...

- The effect of a *teratogen* is very personal because the impact depends on the timing of exposure.
- Critical period is the time when a particular organ or body part is the most susceptible to damage
- Different *teratogens* can cause damage at different times during development and each body structure has its own critical period ⁶

Birth Defects from Teratogens: Time of Exposure and Effects on Major Organs



Source: Adapted from Moore & Persaud, 1998.

Fetal Alcohol Syndrome (FAS)

- This syndrome is caused by a mother drinking excessive amounts of alcohol during pregnancy.

- Heavy drinking during the second trimester seems to cause more features of FAS.

- Particularly weeks 10-20



What does FAS look like?



A child with Fetal Alcohol Syndrome
(O'Rahilly 1996).

- Facial Characteristics
 - Flattened features
 - Low-set ears
 - Down syndrome-like appearance

Facial abnormalities are an obvious indicator of FAS



- Small head circumference
- Small, widely-spaced eyes
- Prolongation of the fold of the upper eyelid
- A short, upturned nose
- Flat mid-face, lowered nasal bridge
- Thin upper lip



- Approximately 10,000 infants are born each year with physical or cognitive disabilities associated with maternal drinking (Jacobson, 1997).
- Every 1 in 750 births

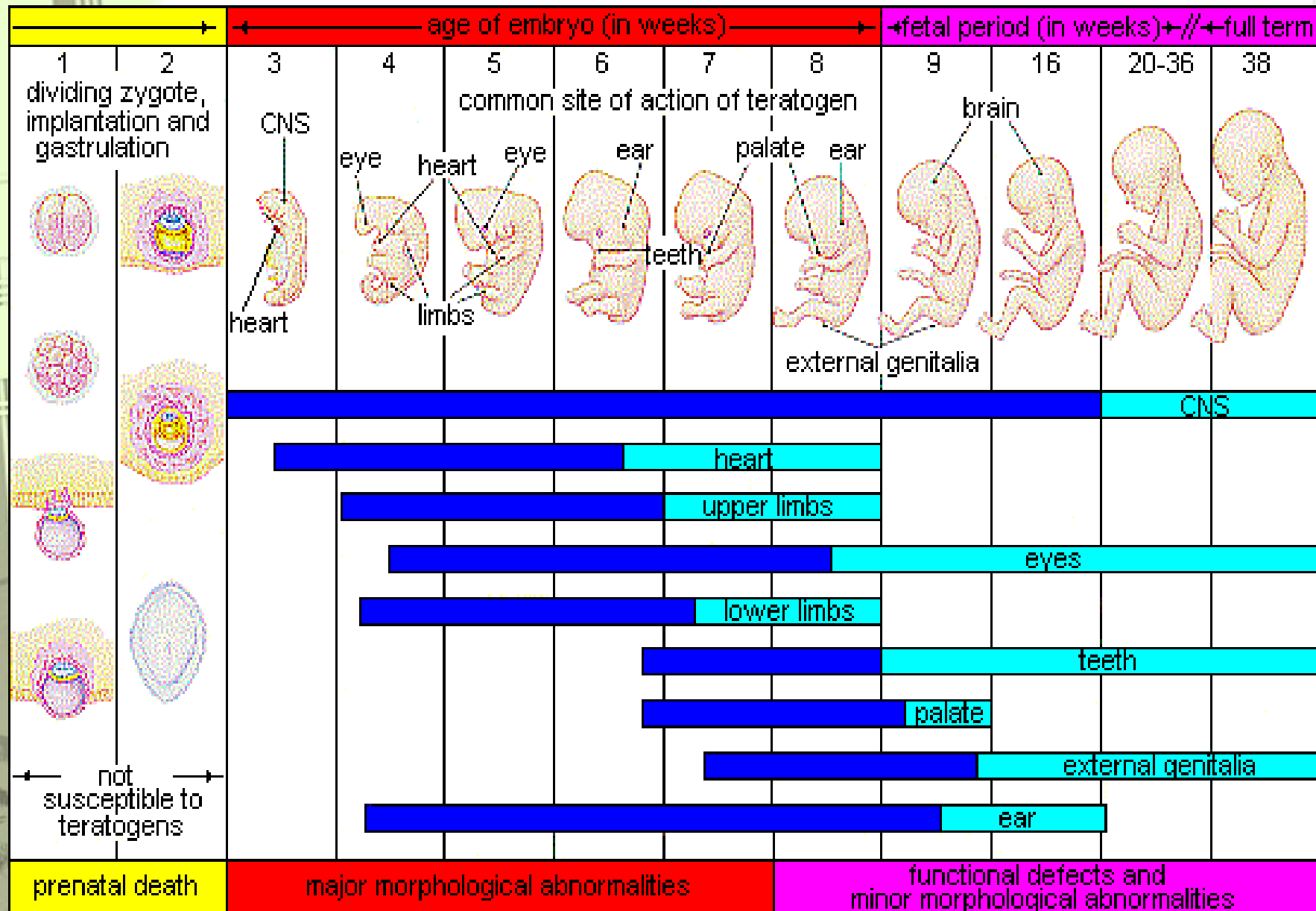
The presence of alcohol in the fetus's bloodstream triggers widespread cell death in the fetal brain.

Normal brain of
6-week-old baby

Brain of 6-week-old
baby with FAS



When is the CNS most vulnerable?



Other Factors

- Nutrition
 - Especially folic acid
- Maternal age
 - Negatively affect development if mom is an adolescent or over the age of 35
- Emotional states and stress
 - When a pregnant woman experience intense fears, anxieties, and other emotions
 - physiological changes occur that may affect her fetus



How do infants experience the world?

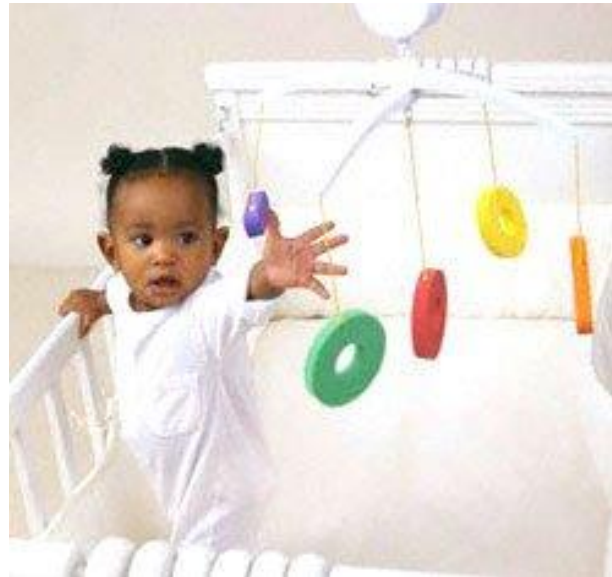
Objectives:

What senses do newborn babies have?

What are Primary Reflexes?

After birth the period of Infancy begins

Birth to 18 months



Infants are born with innate primary reflexes:

- These are unlearned responses to stimuli and most disappear over the first year of life.
 - Indicate whether the newborn's nervous system is working properly.
 - They can also be used to assess development during infancy



The Primary Reflexes

1. The Babinski Reflex causes the toes to fan when the sole of the foot is touched.
2. The Moro reflex causes the newborn to stretch out the arms and legs and cry in response to a loud noise.
3. In the Rooting reflex, the head is turned toward a touch on lips or cheek.
4. The Sucking reflex will reflexively occur in response to finger or nipple in mouth.
5. The Grasping reflex causes newborn to grasp any object touching the palm or fingers.



How we develop attachment?

Ch.10-Life Span Development II

CLASS OBJECTIVES

- What is attachment?
- How and why do we develop attachment relationships?

What was Your first attachment relationship?





The first special relationship
we experience develops
between parent and child



It is believed that this relationship will
influence the development of our
future relationships



What is Attachment?

- Attachment is a strong, long-lasting emotional connection
 - A close emotional bond that is “person-specific” and is enduring across time.



THINK

How do you know an infant is attached to someone?



Infants show their attachment through proximity-seeking behaviors, meaning infants like to be near those we are attached.

How does love develop between mother and child?

Harry Harlow studied the impact of security and “contact comfort” on infant attachment.

Harry Harlow (1959)

“The Monkey Love experiments”



- Harlow evaluated whether feeding or contact comfort was more important to infant attachment.
 - The young animals were “raised” by two kinds of surrogate monkey mother machines.
- One mother was made of soft terry cloth, the other made of wire mesh

“Monkey Love Experiments”



- Harlow's research showed that the need for affection created a stronger bond between mother and infant than did physical needs (food).



Harlow's work suggested that the development of a child's love for their caregiver was **emotional** rather than physiological

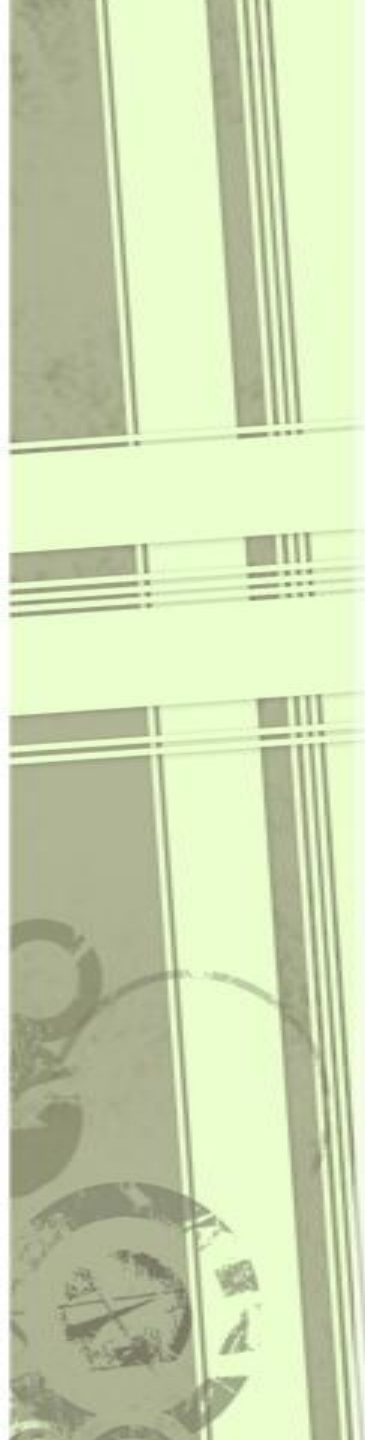


What does this mean for humans?

- Harlow showed that the development of attachment was closely associated with critical periods in early life.
 - It is difficult or impossible to compensate for the loss of initial emotional security
- Further experiments on abusive conditions showed that no matter how abusive the “Iron Maidens” were, the baby monkeys always came back and displayed affection towards them.
 - Even in the face of abuse, the need for love was overwhelming

What happened to these monkeys?

- Monkeys raised without their mothers were socially maladjusted the rest of their lives.
 - “When confronted with fear, they displayed autistic and institutionalized behaviors—throwing themselves on the floor, clutched themselves, rocked back and forth, and screamed in terror.”
- They were incapable of having sexual relations and they were also unable to parent their offspring, either abusing or neglecting them.



"Not even in our most
devious dreams could we
have designed a surrogate
as evil as these real monkey
mothers were."

Are all Attachment
Relationships the
Same?

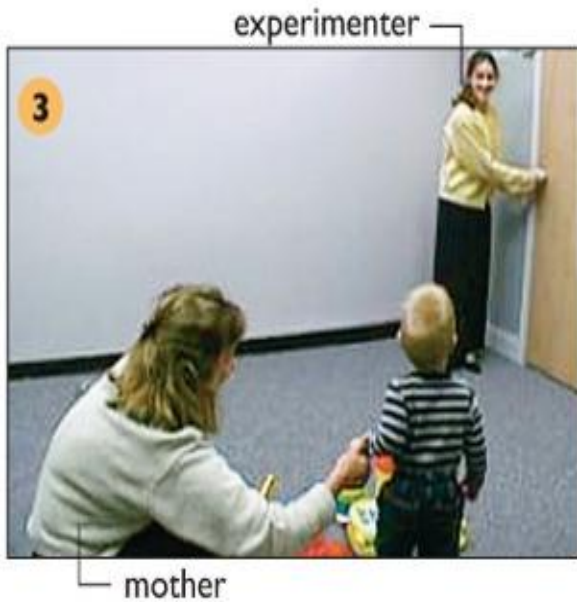


The Quality of Attachment

Based on how the infant reacts to separation from the caregiver and the reunion by using a procedure known as the Strange Situation.

Ainsworth (1993) and others have identified 4 basic types of attachment relationships

1. Secure Attachment
2. Insecure/Resistant
3. Insecure/Avoidant
4. Insecure/Disorganized



- 1 Observer shows the experimental room to mother and infant, then leaves the room.
- 2 Infant is allowed to explore the playroom for 3 minutes; mother watches but does not participate.
- 3 A stranger enters the room and remains silent for 1 minute, then talks to the baby for a minute, and then approaches the baby. Mother leaves unobtrusively.
- 4 The stranger does not play with the baby but attempts to comfort it if necessary.
- 5 After 3 minutes, the mother returns, greets, and consoles the baby.
- 6 When the baby has returned to play, the mother leaves again, this time saying "bye-bye" as she leaves.
- 7 Stranger attempts to calm and play with the baby.
- 8 After 3 minutes, the mother returns and the stranger leaves.

Types of Attachment

- Secure attachment is a relationship of trust and confidence with a pattern of attachment that involves a high-quality, relatively unambivalent relationship with their caregiver
- This group seems to say “I missed you terribly, but now that you’re back, I’m okay.”
- 60-65% of American children have secure attachment relationships (Kail, 2007).



A secure attachment relationship is likely to develop when parents respond to their infant's needs reliably and sensitively

Insecure/Resistant

- A pattern of insecure attachment in which infants or young children are clingy and stay close to their caregivers rather than exploring their environment
- The baby is upset when the mother leaves and remains upset or even angry when she returns, and is difficult to console

Insecure/Avoidant

- A pattern of insecure attachment in which infants or young children seem somewhat indifferent toward their caregivers and may even avoid their caregivers
 - The baby is not upset when the mother leaves, and, when she returns, may ignore her by looking or turning away



If they do get upset when left alone, they are as easily comforted by a stranger as by a parent.

20% of middle-class American children are in insecure/avoidant relationships.

Next Class

How does our thinking develop?

-Cognitive development