




Developing through the Lifespan

Module 10:
Prenatal development and Infancy

Class Objectives

- What is Developmental Psychology?
- Prenatal Development
- Factors that influence prenatal development



Development refers to the pattern of continuity and change that occurs throughout the course of life.

Developmental psychologists are interested in how people change, physically and psychologically as they age.

Three types of change

1. *Physical*- Involve changes in an individual's biological nature.
2. *Cognitive*- Involve changes in an _____
3. _____ - Involve changes in an individual's relationships with other people, in emotions, and in personality.

These physical, cognitive, and socio-emotional processes are intricately interwoven

Researchers in developmental psychology are interested in the ways that these processes change over the human life span.

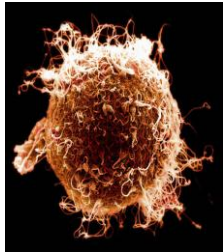
Which influences development most?

- *Nature* refers to a person's _____
- *Nurture* refers to the individual's _____
- Determining which one is more influential to our development has been a long-running debate in psychology.

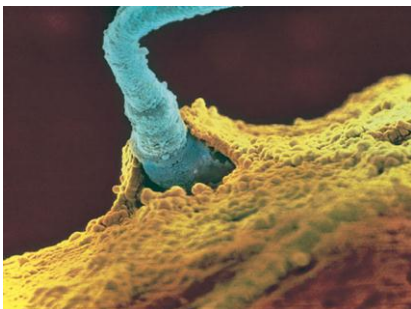
Prenatal Development



TRUE OR FALSE...
The study of development begins at
birth.



The sperm "fight" to be the only
one that can successfully fertilize
the egg.



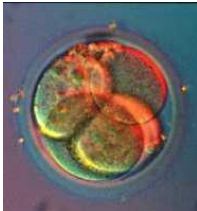
The first form of life



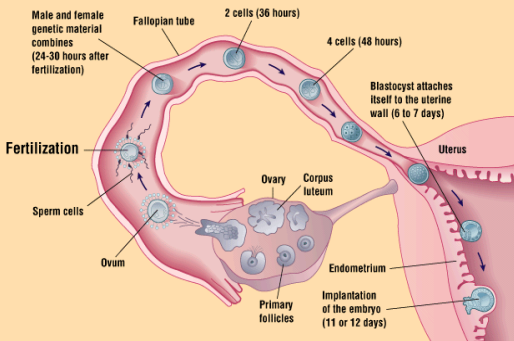
- At conception the genetic material from each parent is fused.
- A living cell called the _____ is formed within hours.

True or false?

50% of fertilized eggs are lost before a woman finds out she's pregnant.



The Journey of the Ovum Toward the Uterus



From Zygote to human??

- The Zygote will become transformed through a process of three stages:
- _____ – The first two weeks after conception
- Embryonic period - _____ week after conception
- _____ The ninth week after conception to birth

Hello Embryo!

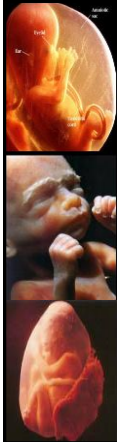
- During the Embryonic stage, it is still not recognizable as a human.
- The _____ forms (at 22 days), which becomes central nervous system



TRUE OR FALSE?

- Approximately 20% of all embryos are aborted spontaneously

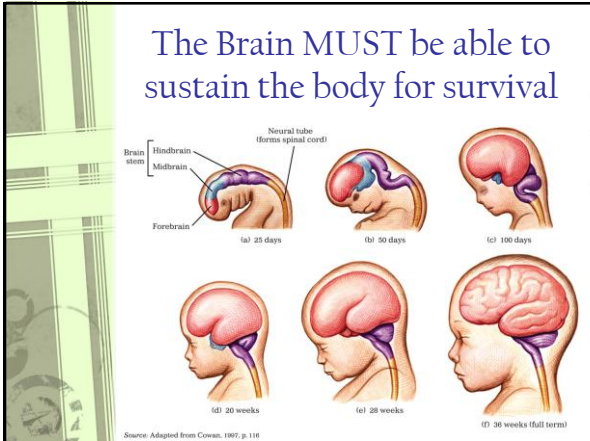
- _____



The Fetus Week 9-Birth

- The Brain grows dramatically (6 times in size) and becomes responsive during this time.
- At 22 weeks the fetus reaches the “Age of viability”, _____

- There is only a 50% survival rate at 26 weeks



What factors influence prenatal development?

THINK

18

Test Your Knowledge!
True or False?

- Most babies are born healthy and most hazards can be avoided.
- There are very few prenatal factors that can harm a developing person.
- Prenatal exposure to a dangerous substance is only harmful in the first trimester of the pregnancy.
- Research has proven that drinking alcohol (in any amount) during pregnancy is safe.

19

Is the prenatal environment that important??

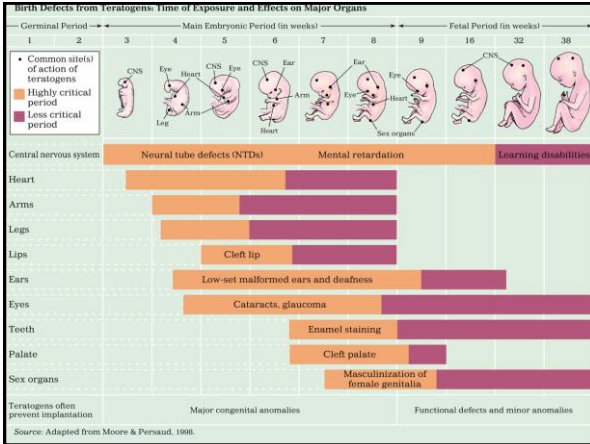
- Teratogens are substances that can lead to _____

20

It's all about timing...

- The effect of a *teratogen* is very personal because the impact depends on the *timing of exposure*.
- _____ the time when a particular organ or body part is the most susceptible to damage
- Different *teratogens* can cause damage at _____

21



Fetal Alcohol Syndrome (FAS)

- This syndrome is caused by a mother

- Heavy drinking during the _____ seems to cause more features of FAS.
- Particularly weeks 10-20

23

What does FAS look like?

A child with Fetal Alcohol Syndrome (©Rahilly 1999).

- Facial Characteristics

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

25



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

- Every 1 in 750 births

26

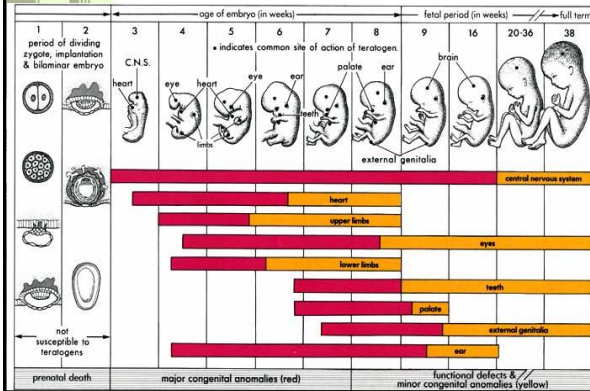
The presence of alcohol in the fetus's bloodstream triggers widespread cell death in the fetal brain.

Normal brain of 6-week-old baby

Brain of 6-week-old baby with FAS



When is the CNS most vulnerable?



Other Factors

- Sexually Transmitted Diseases
 - HIV, gonorrhea, syphilis can infect the fetus before or during delivery and increased still births and pre-term births
- 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

29
