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 individual's mental processes.

3. **Socio-emotional** - 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 biological and genetic factors.

- **Nurture** refers to the individual's environment, experiences, and learning.

Determining which one is more influential to our development has been a long-running debate in psychology.
TRUE OR FALSE...
The study of development begins at birth.

FALSE!

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.
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 the 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

The Brain MUST be able to sustain the body for survival

What factors influence prenatal development?
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.

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Is the prenatal environment that important??
- **Teratogens** are substances that can lead to ______________________________________
  ______________________________________
  ______________________________________

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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 ______________________________________
  ______________________________________
  ______________________________________
Fetal Alcohol Syndrome (FAS)

- This syndrome is caused by a mother

  - Heavy drinking during the ________ week(s) seems to cause more features of FAS.

  - Particularly weeks 10-20

What does FAS look like?

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

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.
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