

## **CHAPTER 12: Development Over the Lifespan**

*Developmental psychology examines biological, physical, psychological and behavioural changes that occur throughout life.*

Four broad issues that guide developmental research:

- 1 Nature and nurture
- 2 Sensitive and critical periods  
*Sensitive period:* optimal age range for certain experiences, but if those experiences occur at another time, normal development is still possible.  
*Critical period:* an age range during which certain experiences must occur for development to proceed normally or along a certain path.
- 3 Continuity versus discontinuity
- 4 Stability versus change

	<b>Definition</b>	<b>Positives</b>	<b>Negatives</b>
<b>Cross-sectional design</b>	Comparing people of different ages at the same point in time	Collected relatively quickly	Different groups (cohorts) grow up in different historical periods
<b>Longitudinal design</b>	Repeatedly tests the same cohort as it grows older	Same historical time frame	Time consuming and people move, drop out of the study or die
<b>Sequential design</b>	Combines the cross-sectional and longitudinal approaches	Most comprehensive	Most costly and time consuming

### **Prenatal Development**

1. Germinal stage: comprises approximately of the first two weeks of development beginning when a sperm fertilizes an egg.
  - Fertilised ovum is called a *zygote*.
  - Through repeated cell division it then becomes a mass of cells that attaches to uterus 10-14 days after conception.
2. Embryonic stage
  - *Embryo* develops from the end of week 2 through to week 8.
  - *Placenta* and *umbilical cord* (life-support structures) develop at start of stage.
  - *Placenta* allows nutrients to pass from mothers blood to the umbilical cord. It also prevents many dangerous substances from reaching the embryo and foetus.
  - *Umbilical cord* contains blood vessels that carry nutrients and oxygen to embryo and transport waste products back from embryo to mother.
  - Nutrients allow embryonic cells to divide and become specialised.
  - Week 8: heart is beating, brain is forming and facial features such as eyes can be recognised.

3. Foetal stage: from week 9 until birth
- Muscles strengthen and bodily systems continue to develop.
  - 24 weeks eyes open.
  - 27 weeks foetus attains *age of viability* (able to survive outside womb).

## Environmental Influences

### Diseases:

- **Teratogens** are external agents that cause abnormal prenatal development.
- If the mother contracts rubella it can cause:
  - Blindness
  - Deafness
  - Heart defects
  - Mental retardation
- Sexually transmitted diseases can pass from mother to foetus and produce brain damage, blindness and deafness.
- Mother with untreated syphilis leads to a stillborn (25% chance).
- Mother with HIV infects the foetus with HIV.

### Alcohol:

- **Foetal alcohol spectrum disorders (FASD)** involve a range of mild to severe cognitive, behavioural and/or physical defects caused by prenatal exposure to alcohol.
- **Foetal alcohol syndrome (FAS)** involves a cluster of severe developmental abnormalities. These include:
  - Facial abnormalities
  - Small, malformed brains
  - Psychological impairments
- No level of parental exposure to alcohol has been confirmed to be absolutely safe.

### Drugs:

- Maternal smoking increases the risk of:
  - Miscarriage
  - Premature birth
  - Low birth weight
- Heroin or cocaine during pregnancy often leads to the child being born addicted and experience withdrawal symptoms after birth. It may also impair:
  - Cognition functioning
  - Ability to regulate arousal
  - Ability to regulate attention