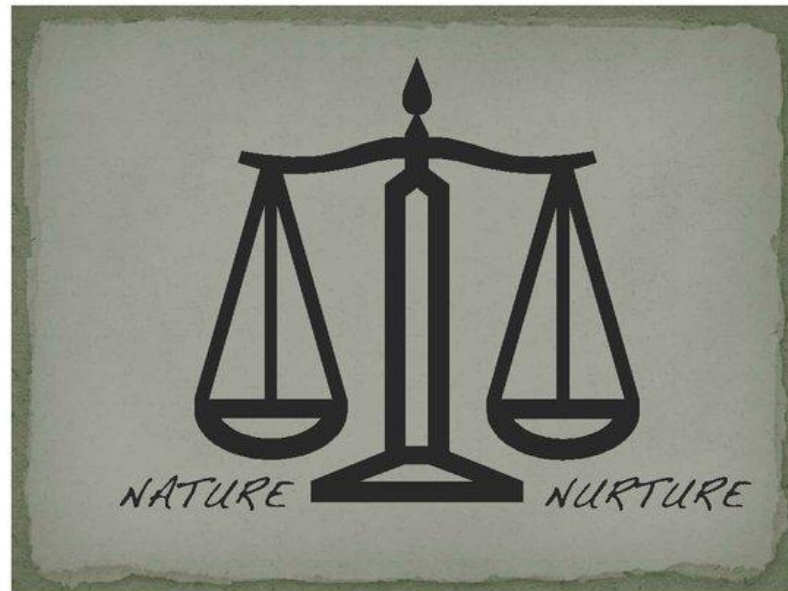


# Chapter 3



## THE NATURE AND NURTURE OF BEHAVIOR

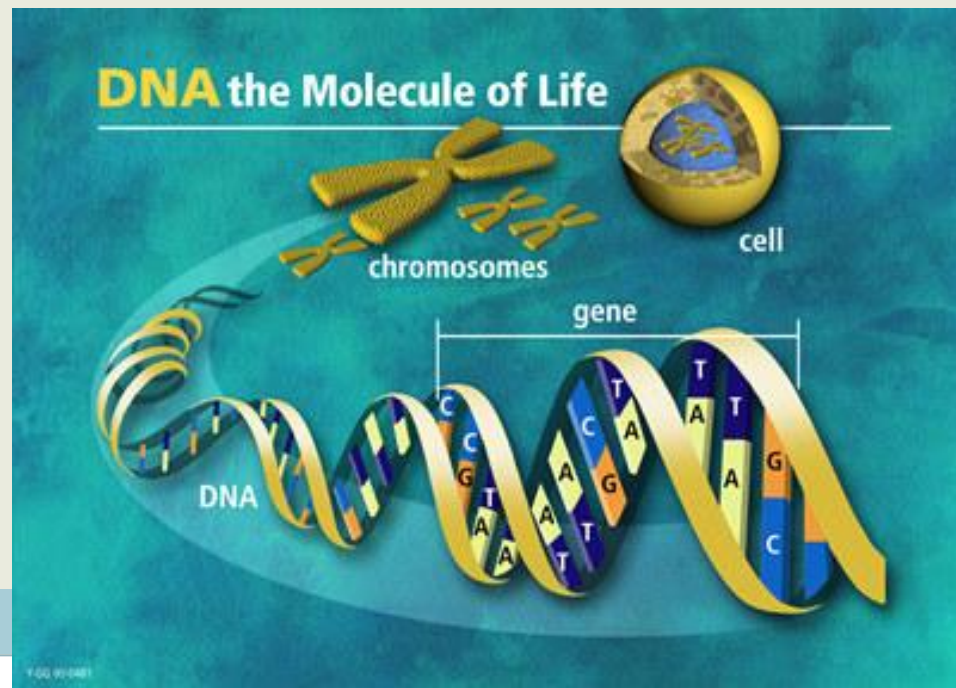
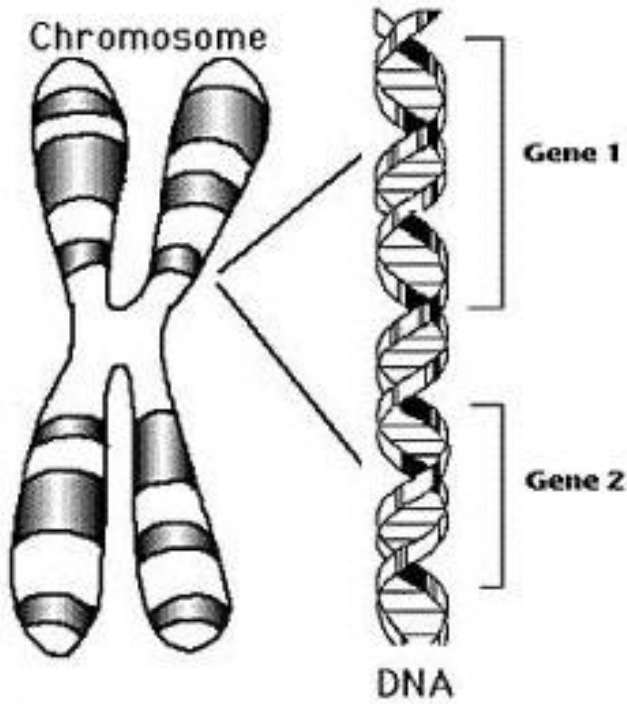


# I. Genes: Our Biological Blueprint



- Chromosomes – Threadlike structures made of DNA molecules that contain the genes.
- DNA – Complex molecule containing the genetic information that makes up the chromosomes.
- Genes – Biochemical units of heredity that make up the chromosomes.
- Variations in a single gene lead to forms of Alzheimer's Disease, alcoholism, schizophrenia, reading disabilities, etc.

# I. Genes: Our Biological Blueprint



## II. Evolutionary Psychology



- Natural Selection – Idea that traits that contribute to reproduction and survival will most likely be passed on to the next generation.
- “Survival of the Fittest”
- Mutations – Random errors in gene replication that lead to a change in the sequence of nucleotides; the source of all genetic diversity.
- Evolutionary Psychology – Study of the evolution of behavior and the mind, using principles of natural selection.
- Gender – Characteristics, whether biological or socially influenced, by which people define male and female.

# II. Evolutionary Psychology



- An evolutionary approach
  - Differing approaches to sex (women: relational, men: recreational)
  - Men pair wildly, women pair wisely
  - What men find attractive:
    - ✦ Youthful appearance
    - ✦ Healthy fertile appearance
    - ✦ Waists  $\frac{1}{3}$  narrow than hips (sign of youthful fertility)
  - What women find attractive:
    - ✦ Healthy
    - ✦ Mature
    - ✦ Dominant
    - ✦ Affluent
    - ✦ Potential for long term relationship (investment in offspring)

## II. Evolutionary Psychology



- Critiquing the evolutionary explanation:
  - Reinforces male-female stereotypes
  - Much of who we are is not hard-wired (culture bends gender)
  - Could it be due to social and family structure?
  - [Article link](#)

# III. Behavior Genetics



- Behavior Genetics – Study of relative power of limits of genetic and environmental influences on behavior (nature or nurture?)
  
- Environment – Every non-genetic influence, from prenatal nutrition to the people and things around us.

# III. Behavior Genetics



- **Twin Studies**

- Identical twins – Twins who developed from a single fertilized egg that splits into two genetically exact siblings.
- Fraternal twins – Twins who develop from separate eggs. Genetically, they are no closer than siblings, but share a fetal environment.
- Traits showing more in identical twins (genetics)
  - ✦ Extraversion (outgoing)
  - ✦ Neuroticism (emotional stability)
  - ✦ Higher divorce rate (50% to genetics)
  - ✦ Troubles at home and work



# III. Behavior Genetics



- **Twin Studies**
  - Separated twins
    - ✦ More alike when genetically identical
    - ✦ Critics will discover many coincidental similarities when you compare strangers of the same age and sex.
    - ✦ Illustrate why thinking has shifted toward a greater appreciation of genetic influences.



# III. Behavior Genetics



- **Adoption Studies**

- Creates biological parents (genetics) and adoptive parents (environment)
- Personality seems to match the biological parents
- Attitude, values, manners, faith and politics seem to match adoptive parents

- **Temperament Studies**

- Temperament – A person's characteristic emotional reactivity and intensity.
- Heredity predisposes human temperament
- Temperament as a child seems to carry into adulthood.

# III. Behavior Genetics



- Heritability – Proportion of variation among individuals that we can attribute to genes.
  - Refers to differences among people
  - Heritable individual differences need not imply group differences
  - Genetics and environment work together to make us who we are.
- Molecular genetics – Subfield of biology that studies the molecular structure and function of genes.

# IV. Environmental Influences



- **Prenatal Environment**

- Nurture begins in the womb.
- Some identical twins share the same placenta and some don't.

- **Experience and Brain Development**

- Enriched environments help produce a more developed brain.
- Touch or massage benefits premature babies.
- Your brain develops throughout your life.

# IV. Environmental Influence



- **Peer Influence**

- Kids seek out peers with similar attitudes and interests.
- Experiences with peers socialize children (ex: kids will eat food if they are with others who like it, they will adopt an accent or mannerisms of their peers)
- We look to:
  - ✦ Peers: Cooperation road to popularity, style of interaction
  - ✦ Parents: Education, discipline, responsibility, orderliness, charitableness, interacting with authority



# IV. Environmental Influence



- Culture – Enduring behaviors, ideas, attitudes and traditions shared by a large group of people and transmitted from one generation to the next.
  - Variation across culture
    - ✦ You don't notice culture until you try to go against it.
    - ✦ Norms – An understood rule for accepted and expected behavior; “Proper” behavior.
    - ✦ Personal Space – The buffer zone we like to maintain around our bodies.
    - ✦ Cultures vary in expressiveness and pace of life.

# IV. Environmental Influence



- **Culture**
  - Variation over time
    - ✦ Good and bad changes happen quickly (even in the past 40 yrs)
    - ✦ Memes – Self replicating ideas, fashions and innovations passed from person to person (create our minds and our culture).
  - Culture and child-rearing
    - ✦ Westernized culture – Raise children as independent thinkers
    - ✦ Asian and African communal cultures – Focuses on cultivating emotional closeness and sense of family

# V. Gender



- **The nature of gender**
  - X-chromosome – Sex chromosome found in both men and women. Women have 2 and men have one. An x-chromosome from each parent produces a female.
  - Y-chromosome – Sex chromosome found only in males. When paired with an x-chromosome, it produces a male.
  - Testosterone – Sex hormone found in both males and females but the additional amount in males stimulates the growth of the male sex organs as a fetus and the development of male sex characteristics during puberty.
  - If female embryos are given male hormones, they tend to look more masculine and act more “boyish” (Caution! They are also treated differently so it is more than just genes.)



# V. Gender



- **The nurture of gender**

- Gender roles – A set of expected behaviors for males and females.
- Gender roles vary across cultures (They can even vary widely within cultures!)
- Gender and child rearing
  - ✦ Gender identity – One's sense of being male or female.
  - ✦ Gender typing – The acquisition of a traditional masculine or feminine role.
  - ✦ Social Learning Theory – Idea that we learn social behavior by observing and imitating and by being rewarded or punished.
  - ✦ Gender Schema Theory – Idea that children learn from their cultures a concept of what it means to be male and female and that they adjust their behavior accordingly. (Through language, dress, toys and songs, social learning shapes gender schemas)