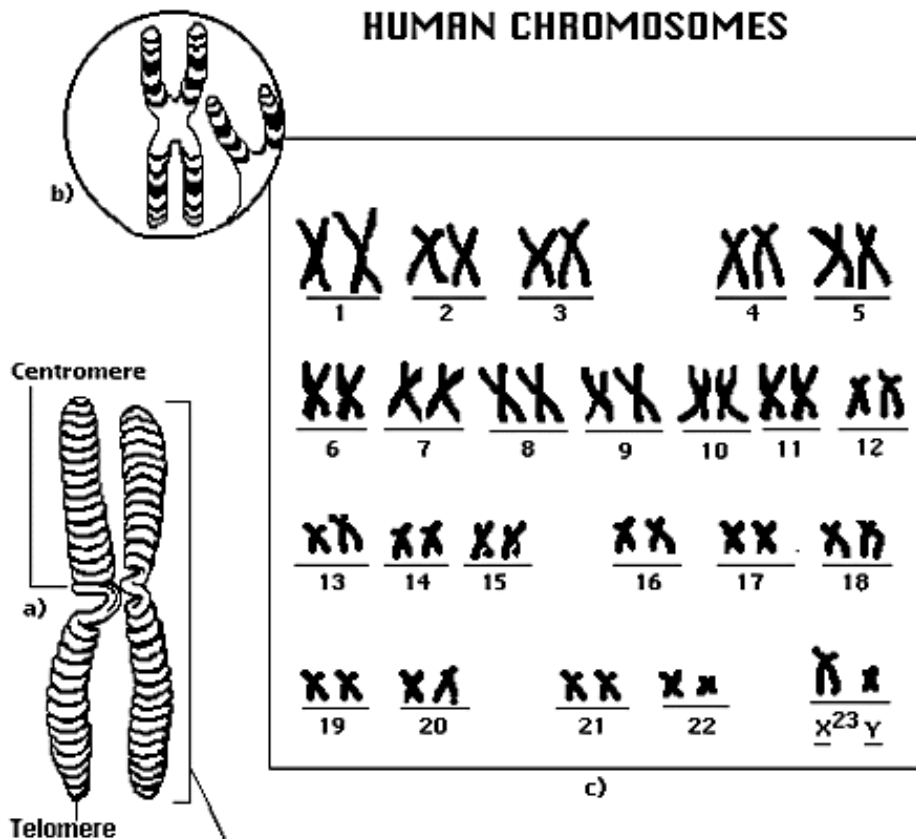


# Genetics

- Chromosomes:  
threadlike structures  
made of DNA molecules  
that contain genes; get  
23 from each parent



Chromosome

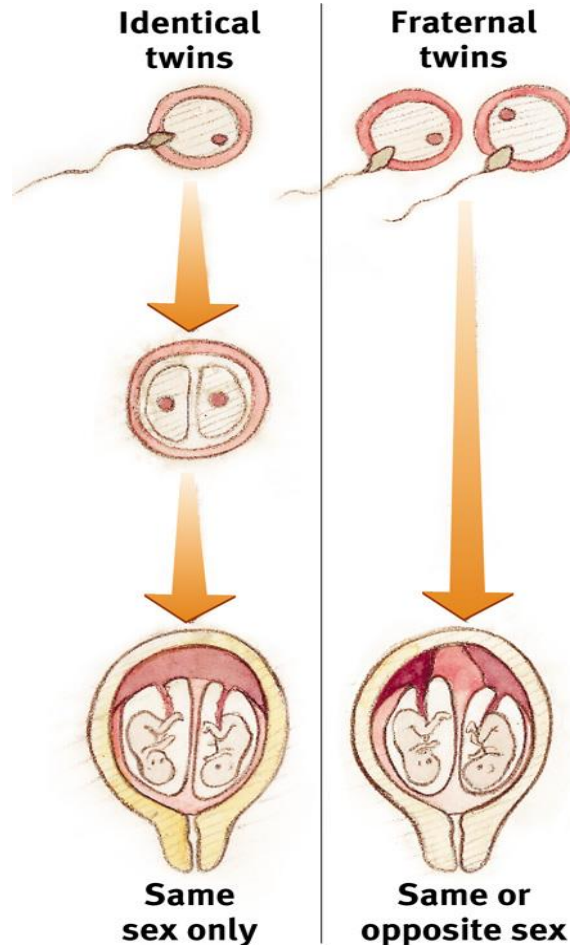
DNA



# Genetics

- Identical Twins:

twins who develop from a single zygote (fertilized egg) that splits in two, creating two genetic replicas



- Fraternal Twins:

twins who develop from separate zygotes; genetically no closer than brothers and sisters

**Did you know?** Twins vary by race. Caucasians are twice as likely to have twins than Asians or Africans. In Africa and Asia, most twins are identical. In Western countries, most twins are fraternal, and fraternal twins are increasing with the use of fertility drugs.



Do you think the Olsen twins are identical or fraternal twins?





They're actually fraternal twins (they just look a lot alike).

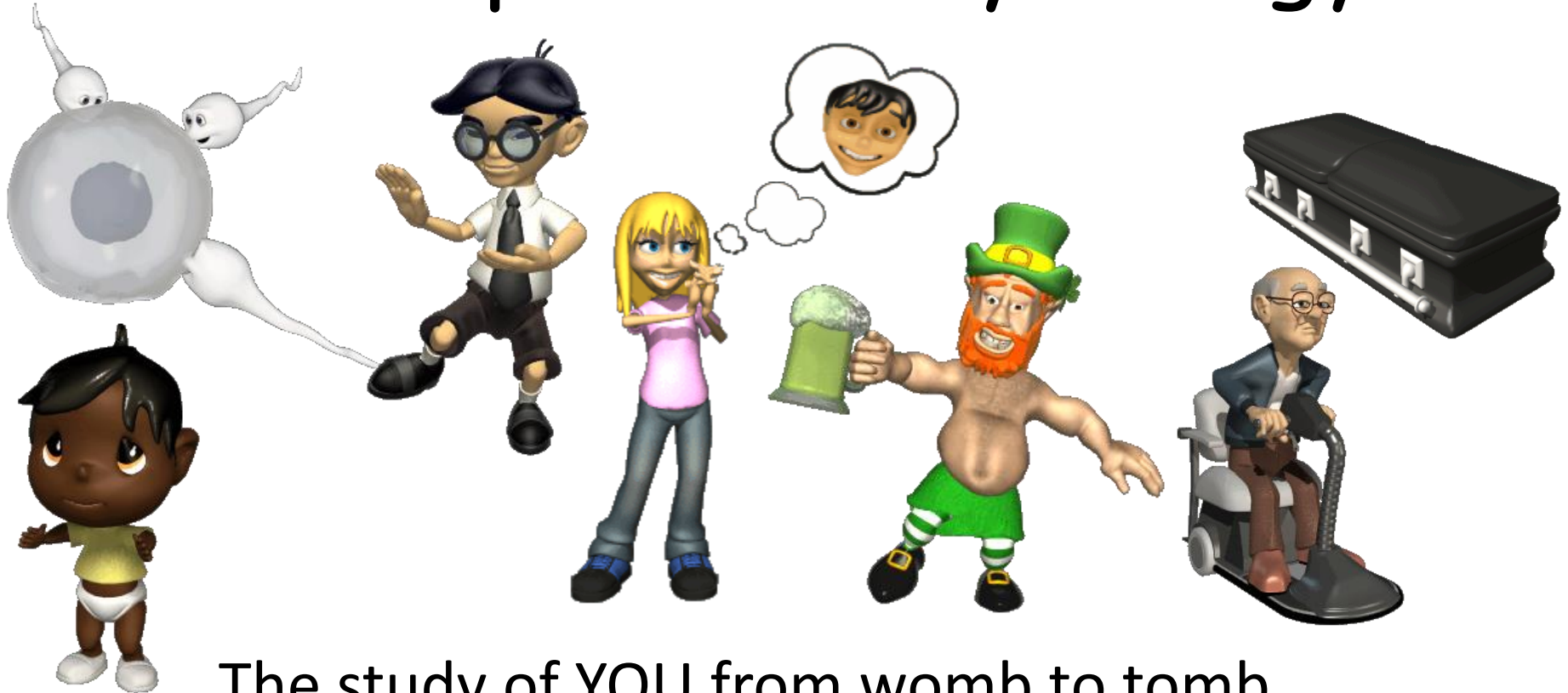
Therefore, they share no more DNA than any other normal sister pairing.

# Twin Story

- On a chilly February morning in 1979, some time after divorcing his first wife, Linda, Jim Lewis awoke in his modest home next to his second wife, Betty. Determined that this marriage would work, Jim made a habit of leaving love notes to Betty around the house. As he lay in bed he thought about others he had loved, including his son, James Alan, and his faithful dog, Toy.
- Jim was looking forward to spending part of the day in his basement woodworking shop, where he had put in many happy hours building furniture, picture frames, and other items, including a white bench now circling a tree in his front yard. Jim also liked to spend free time driving his Chevy, watching stock-car racing, and drinking Miller Lite beer.
- Jim was basically healthy, except for occasional half-day migraine headaches and blood pressure that was a little high, perhaps related to his chain-smoking habit. He had become overweight a while back but had shed some of the pounds. Having undergone a vasectomy, he was done having children.

- What was extraordinary about Jim Lewis, however, was that at the same moment there existed another man—also named Jim—for whom all these things (right down to the dog's name) were also true. This other Jim—Jim Springer—just happened, 38 years earlier, to have been his womb-mate. Thirty-seven days after their birth, these genetically identical twins were separated, adopted by blue-collar families, and reared with no contact or knowledge of each other's whereabouts until the day Jim Lewis received a call from his genetic clone (who, having been told he had a twin, set out to find him).

# Developmental Psychology



The study of YOU from womb to tomb.

We are going to study how we change physically, socially, cognitively and morally over our lifetimes.

**EVOLUTIONARY AND ENVIRONMENTAL INFLUENCES**

# Nature Versus Nurture

**Behavior Genetics**: the study of the power and limits of genetic and environmental influences on behavior

While going through this unit always keep in the back of your head....

Are you who you are because of:

- The way you were born- Nature.
- The way you were raised- Nurture.





# Nature vs. Nurture Debate

- **Heritability**: proportion of variation among individuals that we can attribute to genes
- Environment (nurture) has an impact too!  
Let's take the example of height:
- Height is highly heritable, but...nutrition plays a role too!
- Menarche (first period) example
- **Interaction**: the effect of one factor (such as environment) depends on another factor (such as heritability)
- **Key Point**: almost nothing is just nature or just nurture... they work together

© Original Artist  
Reproduction rights obtainable from  
[www.CartoonStock.com](http://www.CartoonStock.com)



"So, how do you want to play this?  
Nature, nurture, or a bit of both?"

# Research Methods

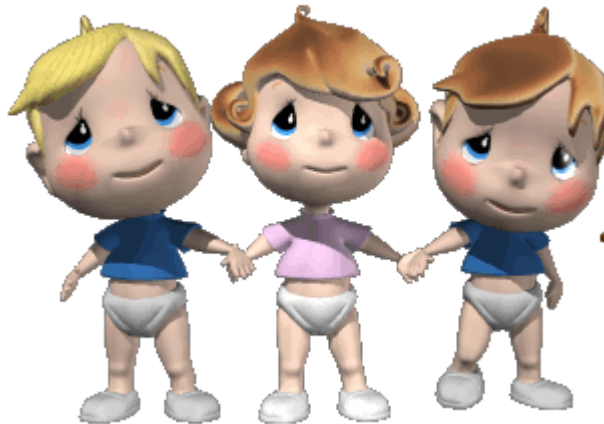
## Cross-Sectional Studies

- Participants of different ages studied at the same time.



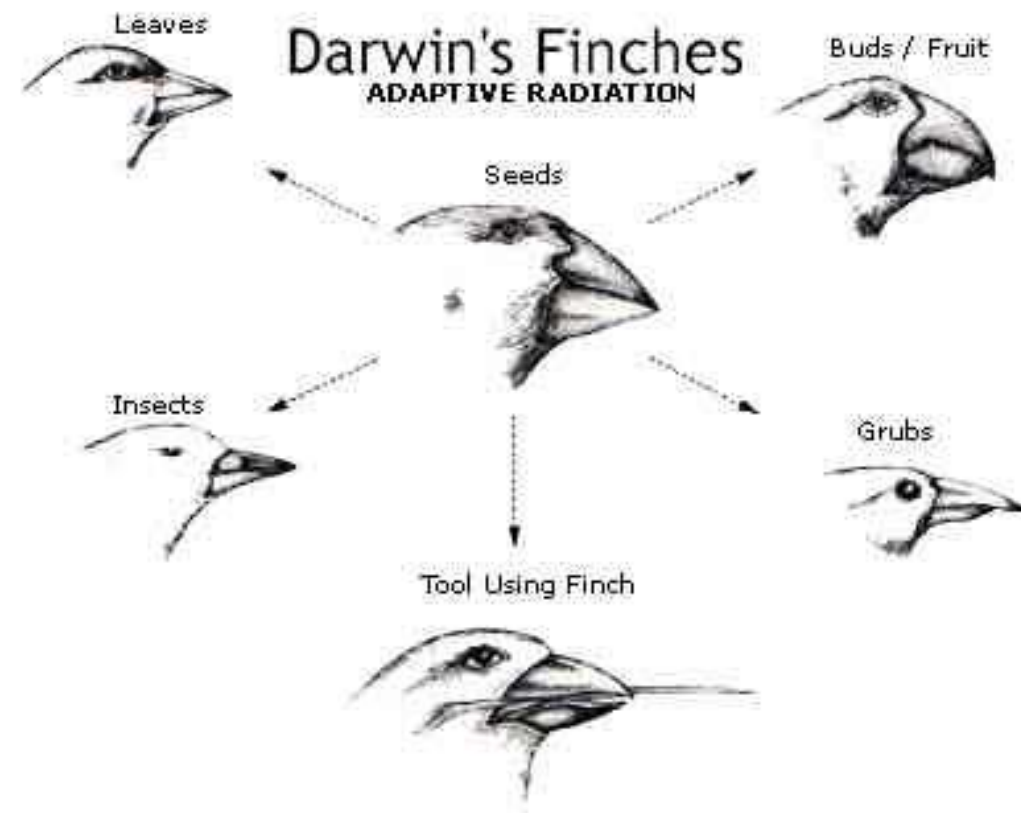
## Longitudinal Studies

- One group of people studied over a period of time.



# Natural Selection

- inherited trait variations contributing to reproduction and survival will most likely be passed on to succeeding generations



- Wild wolves were naturally selected over time to become the dogs we keep as pets today
- Human taste preferences and present-day obesity
- What about human sexual behavior? Males vs. females

# Gender Differences



*The Difference Between Women & Men*

## Men

- 4/5 of adult video store customers are men
- more likely to accept casual sex
- report more sex than women do
- 75% would have sex with an unknown attractive stranger
- more likely to perceive friendly responses from women as sexual come-ons
- Singles ad: offer status; want looks

## Women

- cite affection rather than attraction as reason for first intercourse
- think about sex less often
- report less sex than men do
- 0% would have sex with an unknown attractive stranger
- Singles ad: offer looks; want status

# 1<sup>st</sup> Environmental Prenatal Influence – the placenta

- One arrangement – two separate placentas
- One may have a better placement
- Separate placentas can make babies dissimilar in traits such as social competence and self-control

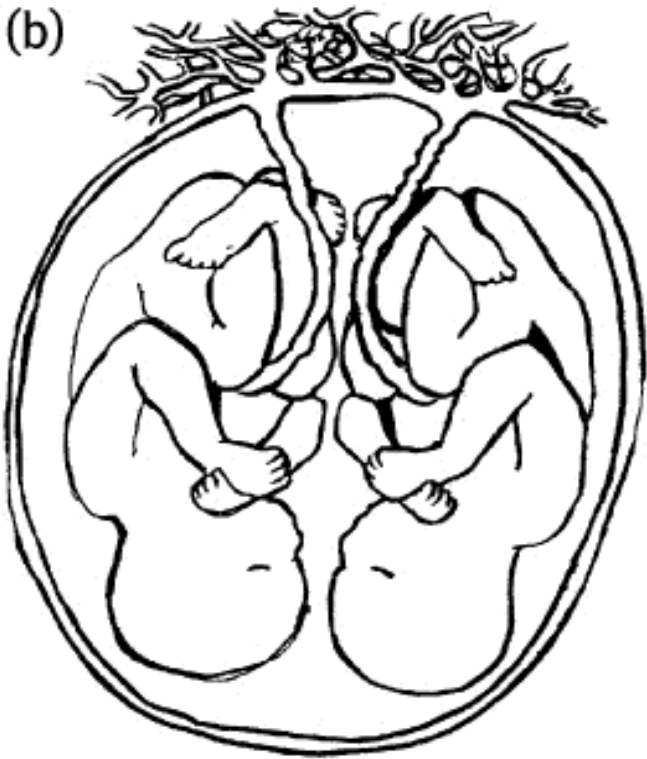
(a)





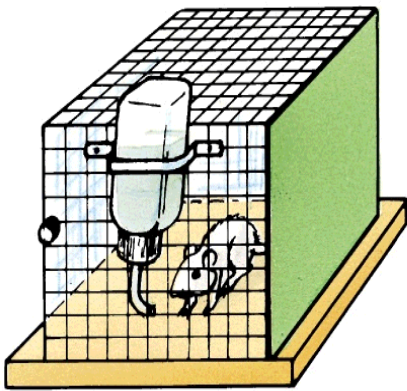
# 1<sup>st</sup> Environmental Prenatal Influence – the placenta

- Second arrangement – twins share a placenta



# Environmental Influence

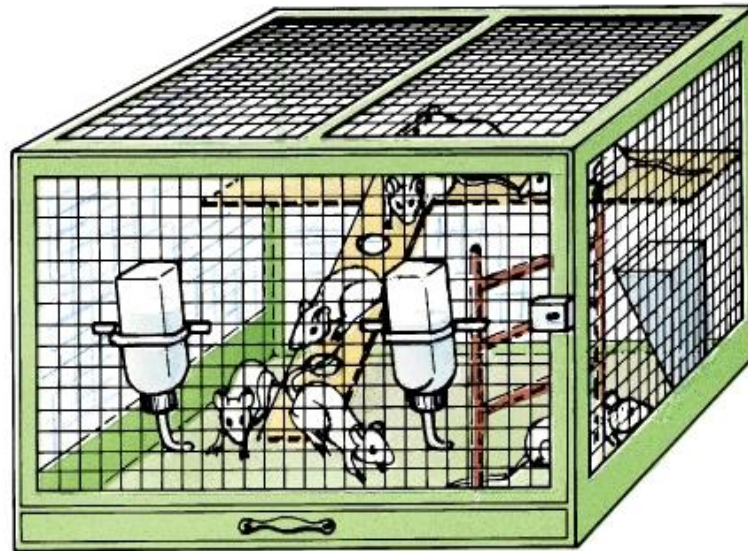
- The more enriched your environment is, the more your brain develops



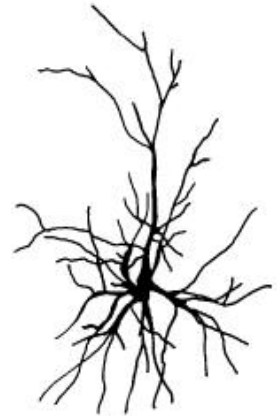
Impoverished  
environment



Rat brain  
cell



Enriched  
environment



Rat brain  
cell

Implications for humans??

# Benefits of “Handling”

- Touching and holding results in faster weight gain and neurological development for both babies and animals



# Peer vs. Parent Influence

- Parents strongly influence:
  - Education
  - Discipline
  - Responsibility
  - Orderliness
  - Charitableness
  - Ways of interacting with authority figures
- Peers strongly influence:
  - Learning cooperation
  - Finding popularity
  - Styles of peer interaction
  - Drug behavior



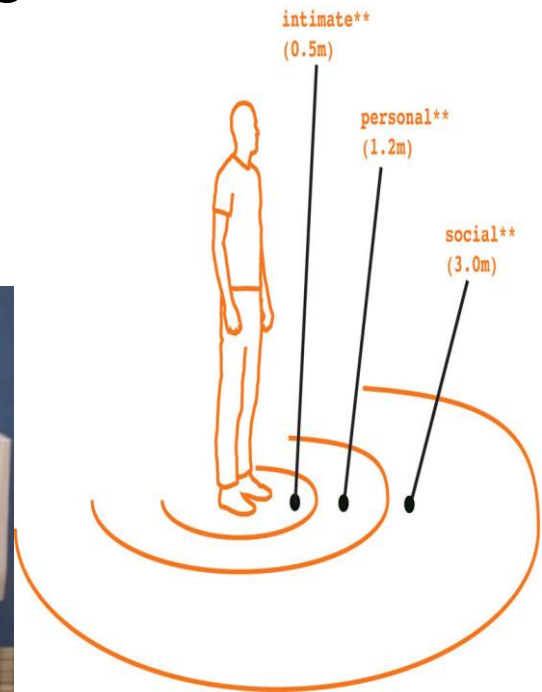
# Environmental Influence

## ■ Culture

- the behaviors, ideas, attitudes, and traditions shared by a group of people and transmitted through generations

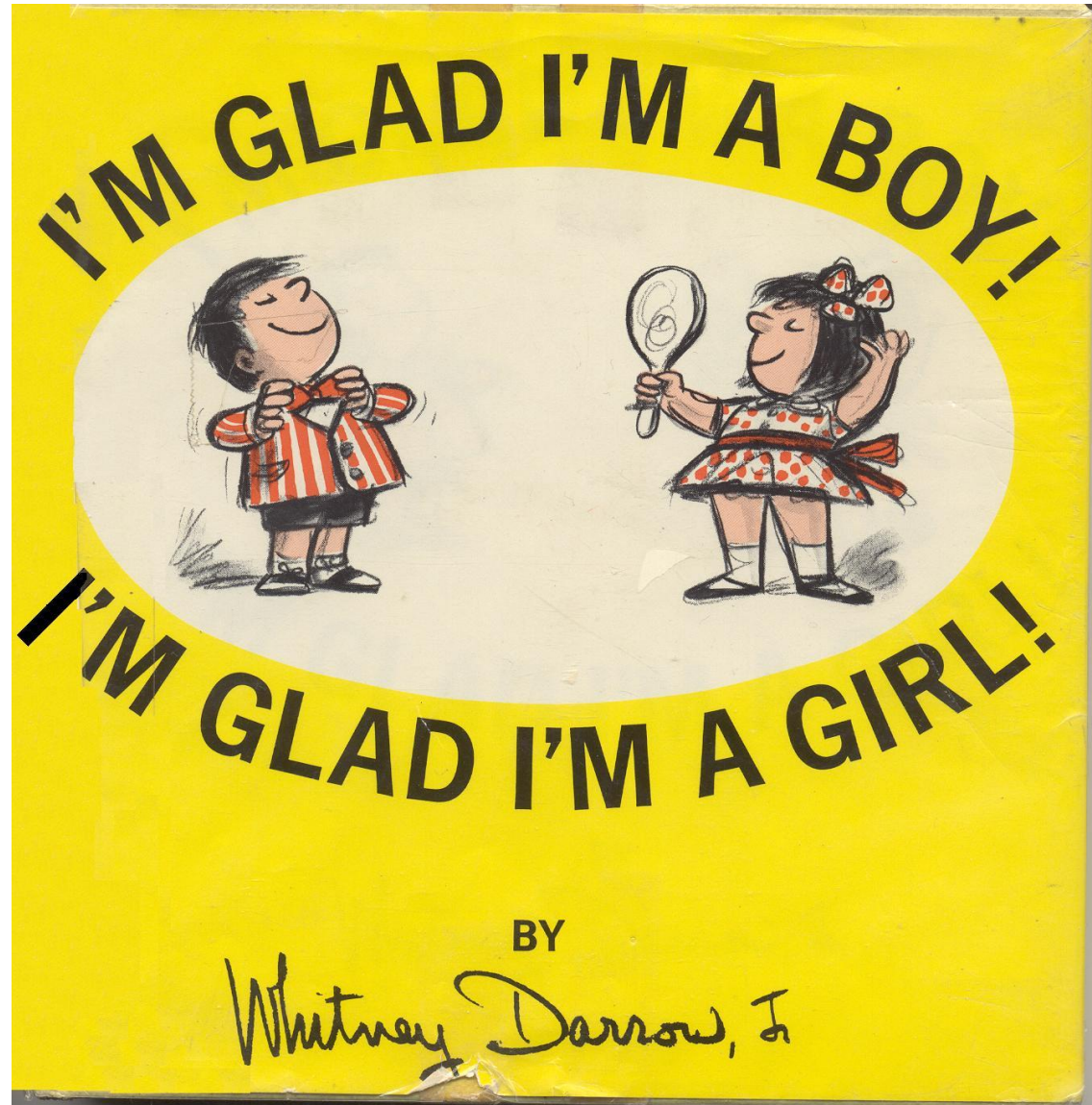
## ■ Norm

- an understood rule for accepted and expected behavior





How does Nature and Nurture play a role  
influencing gender?



# The Nature and Nurture of Gender

- **BIOLOGICAL SEX**: Women – XX, Men - XY
- **X Chromosome**
  - the sex chromosome found in both men and women
  - females have two; males have one
  - an X chromosome from each parent produces a female child
- **Y Chromosome**
  - the sex chromosome found only in men
  - when paired with an X chromosome from the mother, it produces a male child

# Social Learning Theory

- theory that we learn social behavior by observing and imitating and by being rewarded or punished



Social learning theory



Gender-typed  
behavior

# The Nature and Nurture of Gender

- Gender Role
  - a set of expected behaviors for males and females
- Gender Identity
  - one's sense of being male or female
- Gender-typing
  - the acquisition of a traditional masculine or feminine role





ANCHOR  
**MB**  
KEY  
TO FUN  
and learning

AMERICA'S ALL TIME  
FAVORITE GAME



# BATTLESHIP

FOR  
AGES  
8 TO  
ADULT

MILTON  
BRADY  
COMPANY  
SPRINGFIELD  
MASSACHUSETTS  
4730  
MADE IN U.S.A.

IT'S A HIT

G-4



for  
2  
players

OBJECT  
Sink all of your  
opponent's ships.

average playing 20 minutes

**MB**  
MILTON  
BRADY

# BATTLESHIP

GAME

