

HUMAN DEVELOPMENT

PSY 101 General Psychology

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Nature vs Nurture

The debate on whether human behaviors are due to genetics vs environment.

The question evolved over time:

- nature OR nurture?
- which one is MORE important?
- HOW MUCH of nature and nurture?

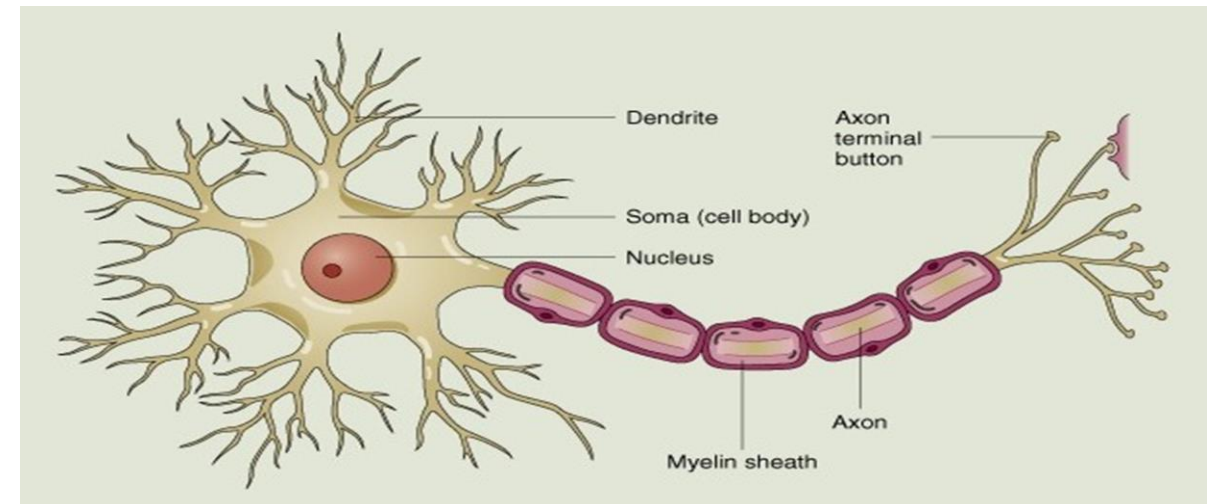
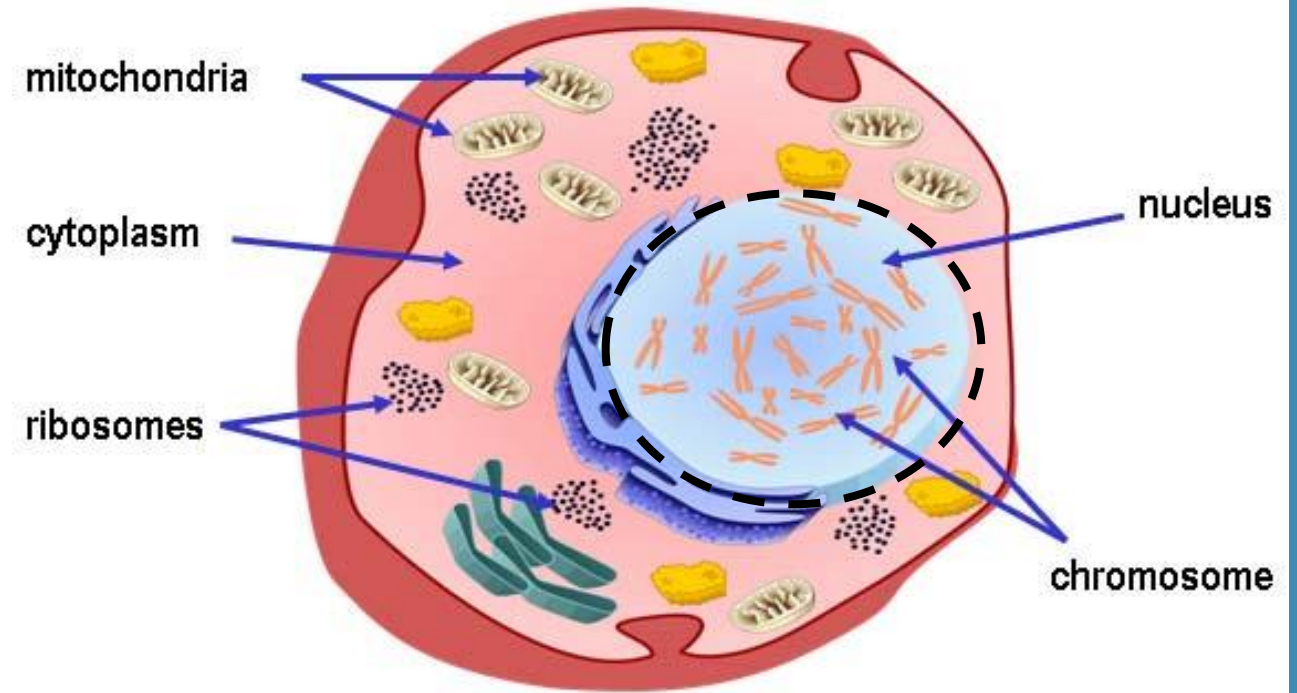
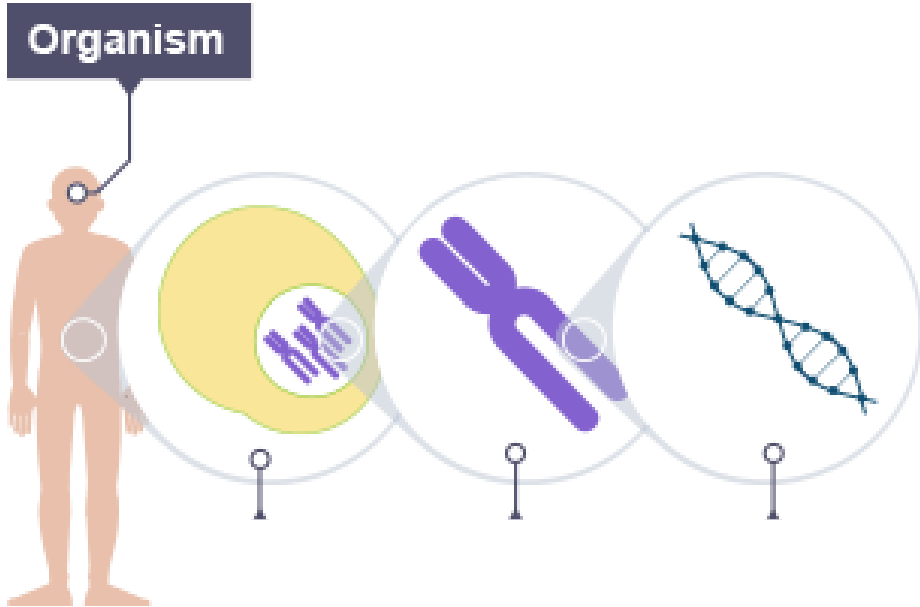
Interaction of nature and nurture

- Effect of X depends on Y

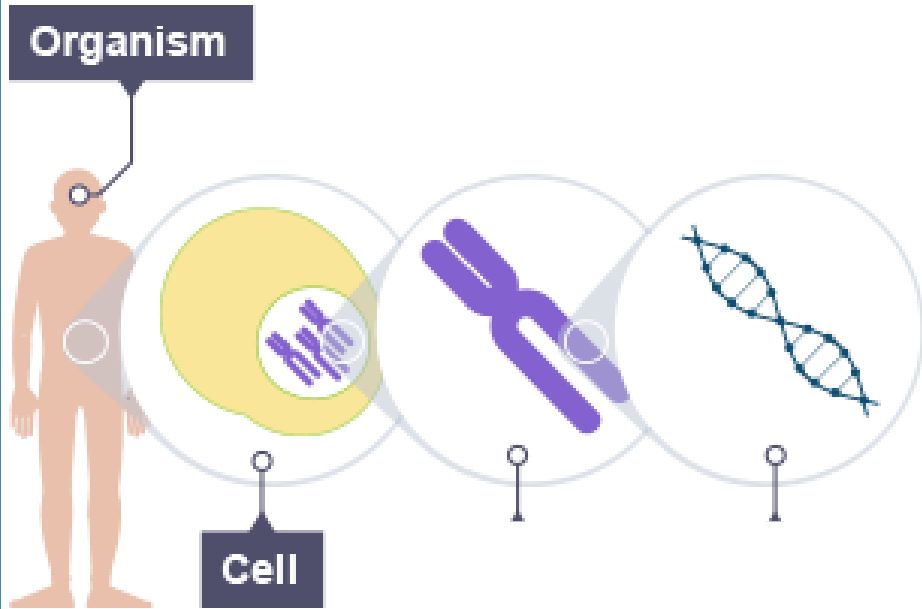
Behavior genetics

Study of relative contributions of genetic and environmental effects on human behavior.

Genetics



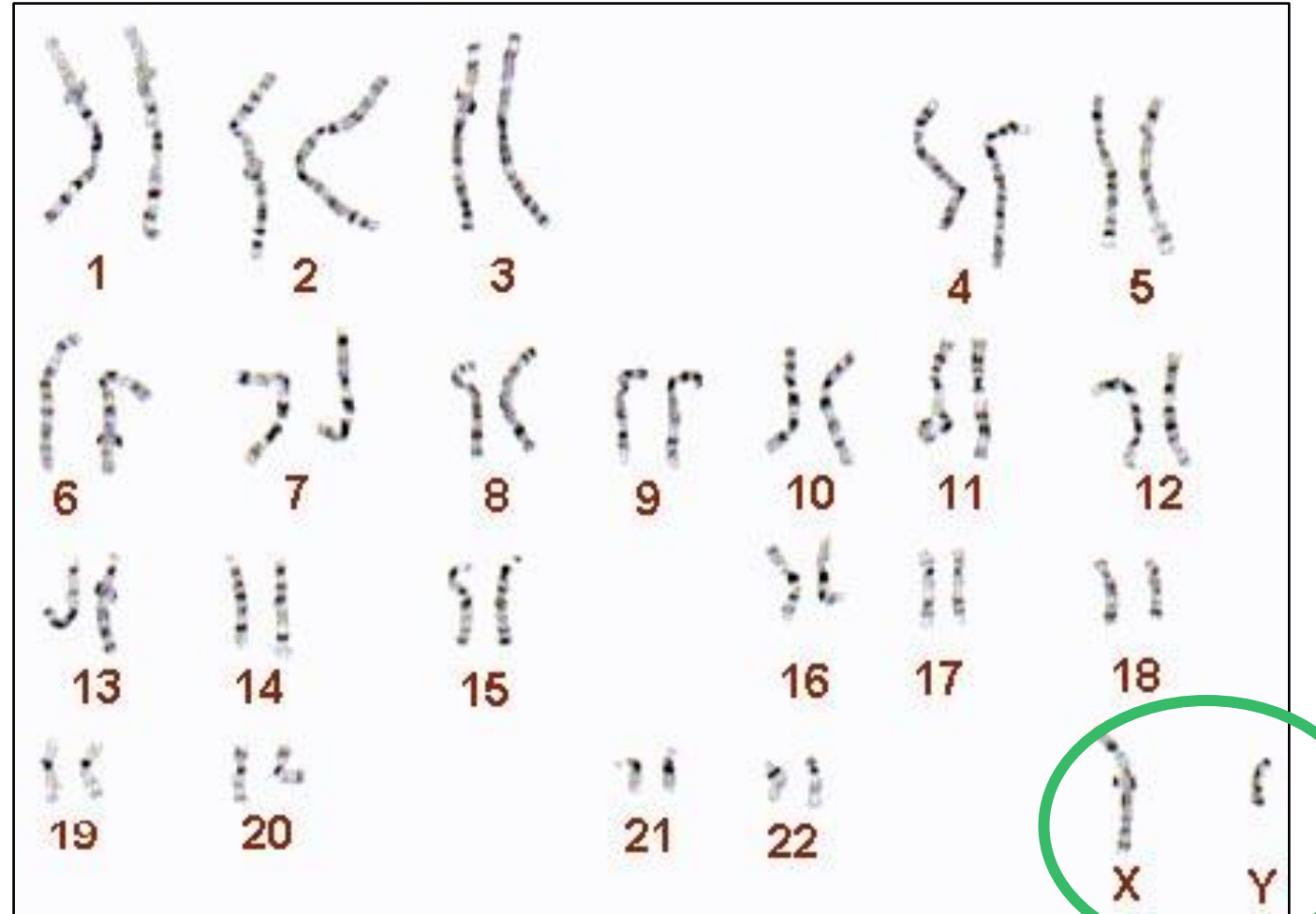
Genetics



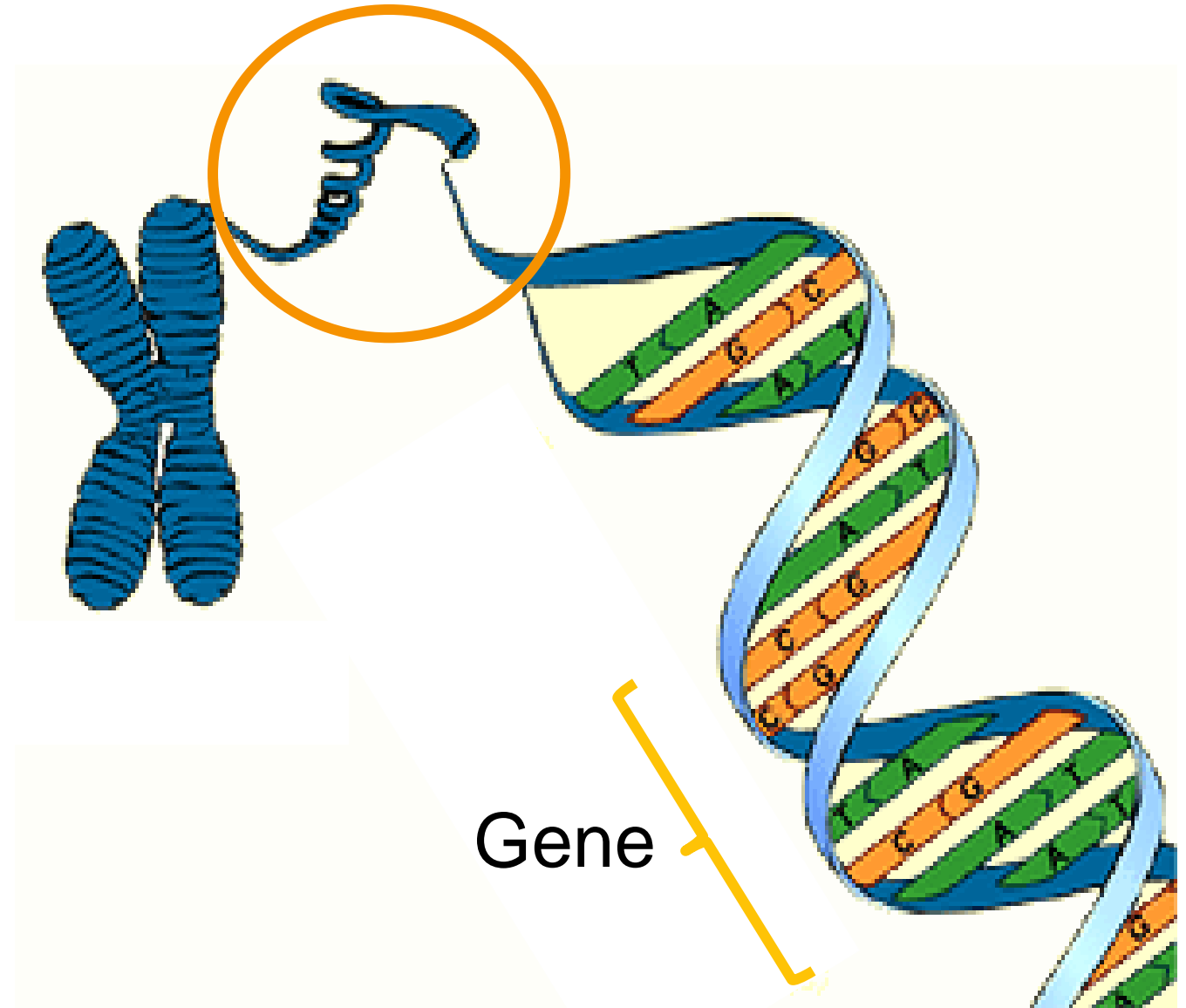
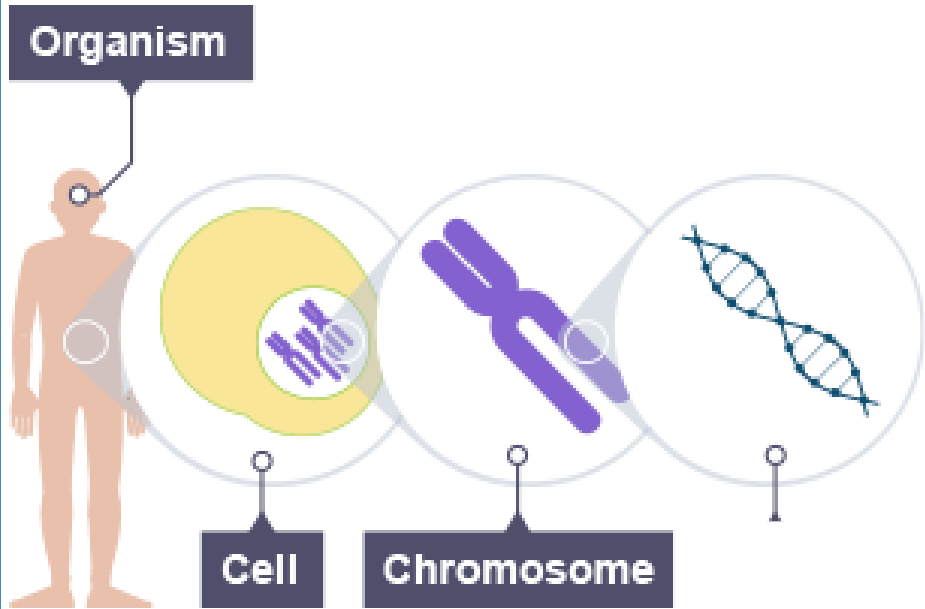
Human cells

46 chromosomes

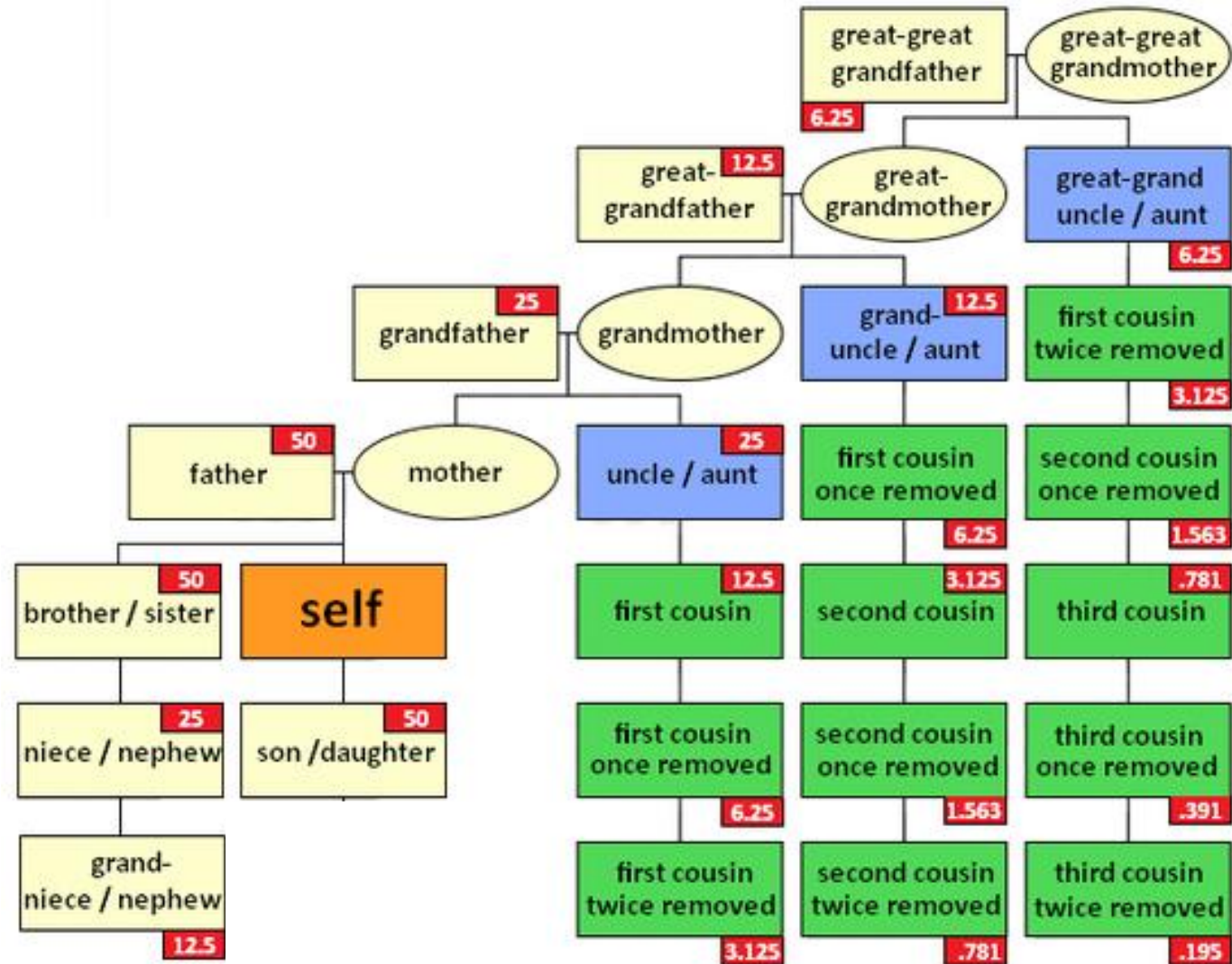
Gametes (sex cells) have 23 chromosomes



Genetics



Shared genetics



Behavior genetics

Study of relative contributions of genetic and environmental effects on human behavior.

Heritability = a numerical estimate that a variation of a given behavior/trait is due to nature/genetics.

If variation is explained by genetics

high heritability = 100%

If variation is completely explained by environment

low heritability = 0%

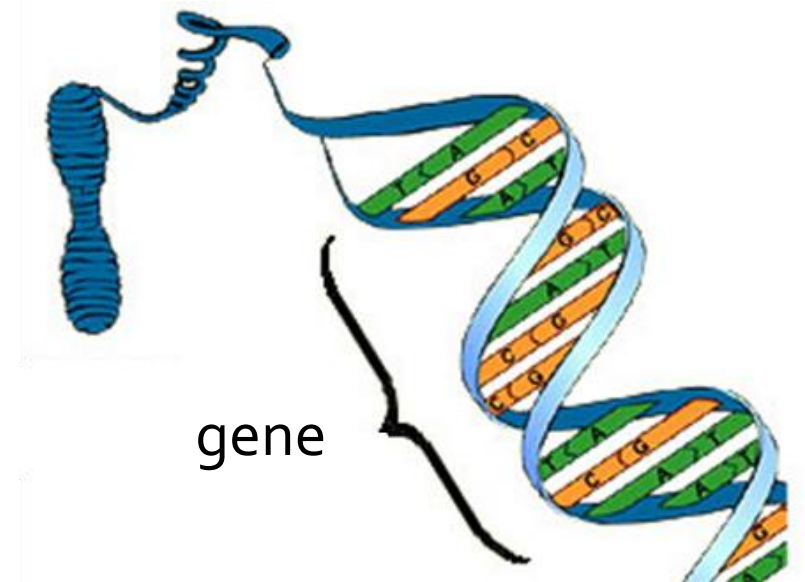
Molecular genetics

To locate (identify) genes that contribute to a behavior of interest.

Risk (via genetic testing)

An estimate of chance of developing in lifetime

E.g., 75% vs 25%



Epigenetics

A study of (molecular) mechanisms by which environments trigger genetic expression.

Nurture-nurture interaction effects (gene-environment interaction)

Genetic disposition vs expression

Expression is triggered at molecular level

Environment acts on the surface of genes to alter their activity.

“On/off” to processing of given genes

Evolutionary psychology

Natural selection

- there is/was a variation in a given behavior
- some are/were more conducive to survival & reproduction
- frequency of individuals carrying those traits will gradually increase in the population (over subsequent generations)

“Nurture” effects

Social environment

people you interact with

communities

social circles

Cultural environment

culture and subcultures

Physical environment

Ecological systems theory (Bronfenbrenner)

A way to understand human development in context of one's socio-cultural environment

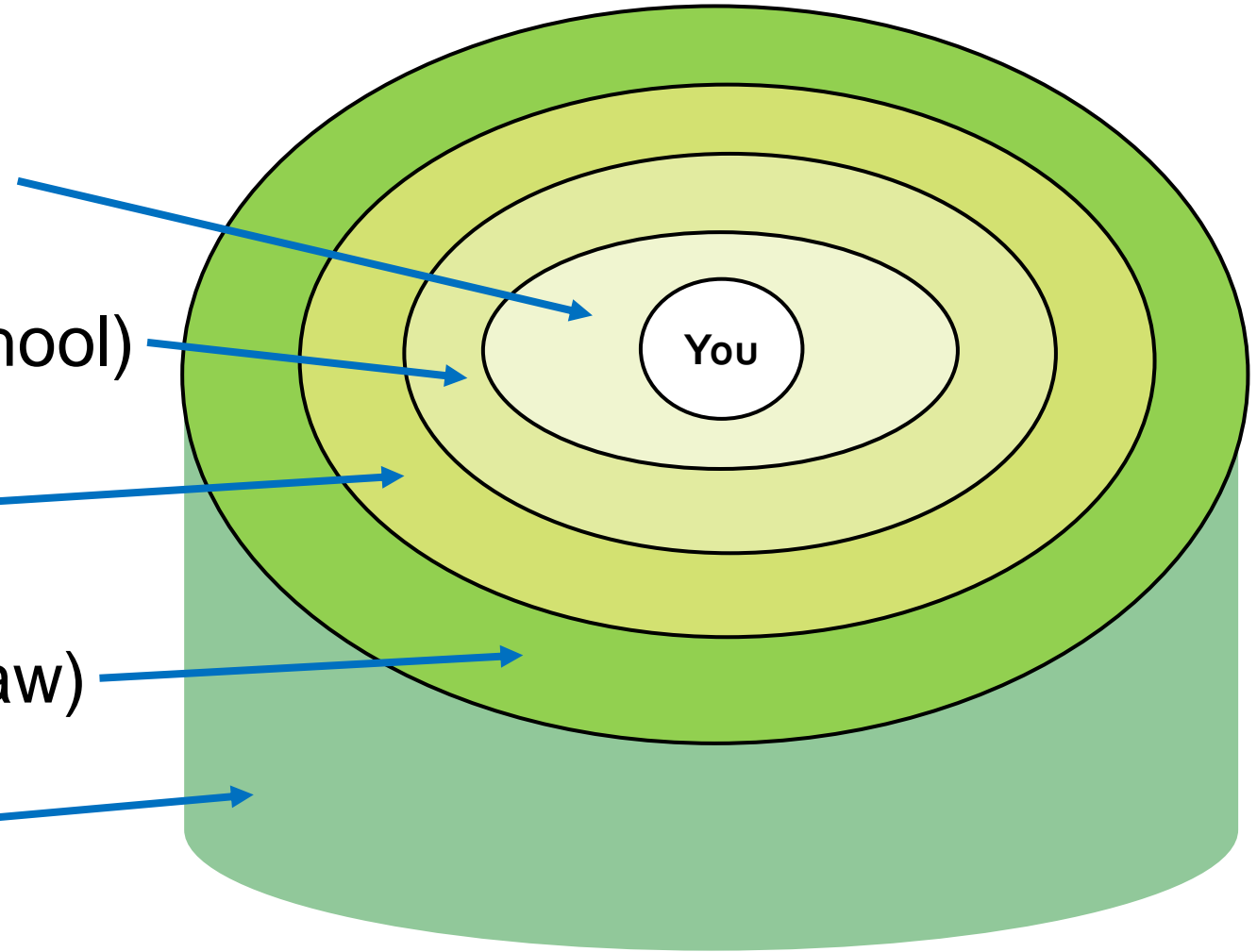
Microsystem (e.g., parents)

Mesosystem (e.g., parent-school)

Exosystem (e.g., workplace)

Macrosystem (e.g., culture, law)

Chronosystem



Developmental psychology

What is developmental psychology?

A study of people's change over time

Includes growth and decline (lifespan perspective)

Focus on:

1. Individual development
2. psychological development

Three issues in developmental psychology are...

Nature vs nurture

Continuity vs discontinuity

Stability vs change

Areas of development

Physical development

Cognitive development

Socio-emotional (social) development

Physical development

Changes in the physical/biological nature, e.g.,

- height and weight gains

- brain development

- motor skills

- cardiovascular decline

Cognitive development

Changes in thought processes, intelligence and language , e.g.,

- understand that things exist even if out of sight
- string two words to make a sentence
- memorizing a song
- understand symbols and representations
- pretense
- imagination

Socio-emotional development

Changes in relationships with people, in relation to own and others' emotions, and personality, e.g.,

- An infant smiling when mother's touch

- A preschooler hitting another preschooler

- Identity – how one perceives own self and relates to others

Understanding human development

biological factors

+ psychological factors

+ social factors

= biopsychosocial model

Stages

Life stages

0-1yr	Infancy
1-2	Toddlerhood
3-5	Early childhood
6-8	Middle childhood
9-11	Late childhood
12-19	Adolescence
20-39	Early adulthood
40-64	Middle adulthood
65+	Late adulthood

Developmental stages (Erikson)

0-1yr	Infancy
1-3	Early childhood
3-6	Play age
6-12	School age
12-19	Adolescence
20-25	Early adulthood
26-64	Adulthood
65+	Old age

Developmental milestones

birth to 1 year

- Able to drink from a cup
- Able to sit alone, without support
- Babbles
- Displays social smile
- Gets first tooth
- Plays peek-a-boo
- Pulls self to standing position
- Rolls over by self
- Says mama and dada, using terms appropriately
- Understands "NO" and will stop activity in response
- Walks while holding on to furniture or others



Developmental milestones

Toddler -- 1 to 3 years

- Able to feed self neatly, with minimal spilling
- Able to draw a line (when shown one)
- Able to run, pivot, and walk backwards
- Able to say first and last name
- Able to walk up and down stairs
- Begins pedaling tricycle
- Can name pictures of common objects and point to body parts
- Dresses self with only a little bit of help
- Imitates speech of others, "echoes" word back
- Learns to share toys (without adult direction)
- Learns to take turns (if directed) while playing with other children
- Masters walking
- Recognizes and labels colors appropriately
- Recognizes differences between males and females
- Uses more words and understands simple commands
- Uses spoon to feed self



Developmental milestones

Preschooler -- 3 to 6 years

- Able to draw a circle and square
- Able to draw stick figures with two to three features for people
- Able to skip
- Balances better, may begin to ride a bicycle
- Begins to recognize written words, reading skills start
- Catches a bounced ball
- Enjoys doing most things independently, without help
- Enjoys rhymes and word play
- Hops on one foot
- Rides tricycle well
- Starts school
- Understands size concepts
- Understands time concepts



Developmental milestones

School-age child -- 6 to 12 years

- Begins gaining skills for team sports such as soccer, T-ball, or other team sports
- Begins to lose "baby" teeth and get permanent teeth
- Girls begin to show growth of armpit and pubic hair, breast development
- Menarche (first menstrual period) may occur in girls
- Peer recognition begins to become important
- Reading skills develop further
- Routines important for daytime activities
- Understands and is able to follow several directions in a row



Developmental milestones

Adolescent -- 12 to 18 years

- Adult height, weight, sexual maturity
- Boys show growth of armpit, chest, and pubic hair; voice changes; and testicles/penis enlarge
- Girls show growth of armpit and pubic hair; breasts develop; menstrual periods start
- Peer acceptance and recognition is of vital importance
- Understands abstract concepts



Concept of 'age' in human development

Chronological age

vs

Developmental age

physical

cognitive/mental

socio/emotional

Corrected or adjusted age