2-13

- Announcements about the Nuffield web site, Library web resources, Projects
- Video of Pinker and Harris
- Discussion of Chapter 19 “children”
- Vote on new readings from Pinker
Turkheimer’s 3 laws of behavior genetics

- All human behavioral traits are heritable \((\text{some more than others})\)
- The effect of being raised in the same family is smaller than the effect of the genes \((\text{on average, unless family environments are extreme})\)
- A substantial portion of the variation in complex human behavioral traits is not accounted for by the effects of genes or families \((\text{non-shared "environment"})\)
Behavioral Genetics Explores:

- 3 reasons for individual variation, averaged across the population studied: **Genes**, **shared environment**, and **non shared environment**
- Behavioral genetics research is **not** informative about the reasons for any individual person’s behavior
The proportional influence of the 3 causes is studied by correlations

- Between Identical Twins reared apart
- Between Identical Twins reared together and between Fraternal Twins reared together
- Between adopted siblings in the same family.
- Between adopted children and their biological vs. adopting parents
Variations in genetic and environmental estimates can be due to

- Measurement error
- Nature of genetic transmission (additive or not)
- Genetic and environmental variation within the population studied
- When the characteristic is measured across the life span, IQ heritabilities tend to go up with age, shared environment influences decline
Behavioral genetic studies do not explain causes of:

- Universal human nature
- Variation between groups (such as races)
- The specific mechanism of genetic influence, which could be “direct” (recall the memory gene) or “indirect” (recall the examples of tall men and confidence, attractiveness and assertiveness).
Shared family environment:

- Simple correlations between parents and children living together can’t separate effects of genes and family environment.
- Adult biological siblings are equally similar whether they grew up together or apart (almost, and depending on behavior)
- Adopted siblings are no more similar than people picked at random (almost, and without extreme environmental range in population studied)
Non-shared environment

• The **main** influence, after genes, on psychological disorders, personality

• Includes measurement error, random prenatal and birth effects, accidents, illness, different peers, life experiences, etc.

• Parents may treat kids differently within a family, but these differences may be elicited by the child’s genetically influenced nature, and thus parental behavior can be a genetic effect through the child
John Bruer’s “Myth of the First Three Years”

- Myth: What parents do (within the normal range) in the first three years is critical for later development.
- Even radically different early child environments (father absent) may matter very little.
- No evidence for benefits of early stimulation beyond the normal range.
Is birth order (or astrology) the answer?

- Frank Sulloway says yes for birth order
- Pinker says it might matter inside the home, but not outside.
- And how would it (or astrology) explain results from twins?
Judith Harris: The Nurture Assumption

• **Assumption:** Parents determine our differences in personality, intellectual skills, through their child rearing practices.

• **Evidence:** Correlation between parent and child behavior.

• **Problems:** Evidence from twin and adoption studies for genetic effects, and against shared family environment effects.

• **Harris’ theory:** Group Socialization
Evidence for Group Socialization

- Immigrant kids learn language and accent of peers
- And broader culture of their peers
- Expression of deviant behavior more dependent on what peers do than parents.
**Problem:** MZ twins share genes, environment, and often peers, but still only correlate at .5 for personality. Why?

- **Harris:** Because of random “niche” differentiation within a peer group
- **Pinker:** Because of many other random life events. “Life is a pinball game” starting in the womb with non-genetic biological differences in development
So, is the 50% unexplained variance a matter of free will or fate?
Harris says parenting does matter for

- The child’s basic health and their cultural environment
- The child’s happiness in the home
- The parents’ life long relationship with their children
Do parenting styles matter in other ways that are missing in the Pinker/Harris analysis?

- If they do, what are those influences,
- And how can we show them in research?
- The special case of vulnerable children