Behavioral Genetics Research

The most commonly studied traits are:

**Extraversion** (individuals who are outgoing and talkative at one end and people who are quiet and withdrawn at the other end (introverted))

**Neuroticism** (individuals who are anxious, nervous, and emotionally volatile at one end and calm and emotionally stable at the other end)
Note: If you double the difference between the correlations of identical vs. fraternal twins you obtain the heritability of a trait.

- .60 for extraversion and .54 for neuroticism
- Also **individual activity level** yields a heritability level of .40 indicating that activity level may be due to genetic differences.
Other traits include:

- Machiavellianism (manipulate others)
- Cold-heartedness (emotionally callous style)
- Impulsive nonconformity (indifferent to social conventions)
- Fearlessness (risk taker, lacks anticipatory anxiety concerning harm)
- Blame externalization (blames others for problems)
- Stress immunity (lacks anxiety when faced with stressful life events)

These “psychopathic” traits have moderate to high hereditability
Even dominance in chimps tends to be inherited!

- 40% of the Big Five appears to be inherited (extraversion, agreeableness, conscientiousness, neuroticism, openness to experience. The major personality traits show a moderate degree of heritability and also suggest that a substantial portion of the variance has environmental origins.
Attitudes and Preferences

- Stable attitudes are stable over a long period of time and have a heritability of .63.
- Significant differences due to genes emerge as early as 12 years of age.
- Genes also appear to influence occupational preferences and also effect social status attainment.
- There is no evidence that religious attitudes are influenced by heredity.
Drinking and Smoking

• Individual differences in drinking and smoking show evidence of heritability.
• Cigarettes…moderate heritability
• Drugs/Alcohol…mixed results (some high heritability in boys and not girls, and some high in girls and not boys
Sexual Orientation

- Sexual orientation refers to the object of a person’s sexual desires, whether the person is sexually attracted to men or women. These differences tend to be stable over time. Ranges from .30 to .70!
- Simon LeVay suggests that the medial preoptic region of the hypothalamus is up to 3 times smaller in homosexual men. This area appears to be partially responsible for regulating male-typical sexual behavior.
- GID (gender identity disorder)….62 heritability
- cross-gender identification that is strong and persistent over time
- persistent psychological discomfort with one’s own biological sex.
Shared vs. non-shared environmental

- Flawed research on the riddle of the influence of the environment.
- What do you have in common with sibs and what don’t you have in common in your environment?
EXERCISE

• For most personality variables, the shared environment has little or no discernible impact.
• The critical environmental influence on personality appears to lie in the unique experiences of individual children.
• Which ones are critical? We don’t really know.
• Shared environments are important, however in influencing religious beliefs, attitudes, political orientations, and smoking/drinking behavior.