#12 Nature, nurture, and the problem of intelligence

Nativist vs Empricist accounts of intelligence: How to get to the wrong place fast.

My position (just so we are clear here)
1) the data are the data…..

2) but what do those data *mean?*

Some statistics

A normal curve (or bell curve) has a **mean** and some **variability**.

Where does the variability come from?

A) within a group

B) between groups

A note about *fluid* intelligence and *crystallized* intelligence (Cattell, 1987)

variance = $V = [(IQ\text{-mean})^2]/N$, standard deviation = $SQRT(V)$

$V = V_{gen} + V_{env}$ Heritability: $H = V_{gen} / V_{gen} + V_{env}$

Let's look at correlation a bit more closely (flip to the other page)

Correlations in IQ

identical - highest	~.9
fraternal - high	~.6
sibs. - medium	~.5
adopted - very low	~.2

Bouchard, T. J., Lykken, D. T., McGue, M., Segal, N. L., & Tellegen, A. (1990). Sources of human Psychological differences: The Minnesota study of twins reared apart. Science, 250, 223-228. issue of 10/12/90

pitfalls in the use of heritability

Pitfall 1: Does high heritability mean that environment is unimportant?

Pitfall 2: Assuming that, if heritability of X is high, then there is a gene for X.

Pitfall 3: Assuming that high H means that you can't do anything about once you are born.

A quick historical look average IQ and other cool measures

The "fixed" nature of IQ – What is the "Flynn effect"? (What does this say about group diffs.?)

Nature and nurture in IQ.

What changes IQ in individuals?

What can we learn from adoption studies?