

What is Evidence?



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Evidence



Evidence is something that changes the probability that a proposition is true.

Evidence for attributing causation:

“Doing X induces or affects Y.”

Evidence



■ Nozipho Bhengu

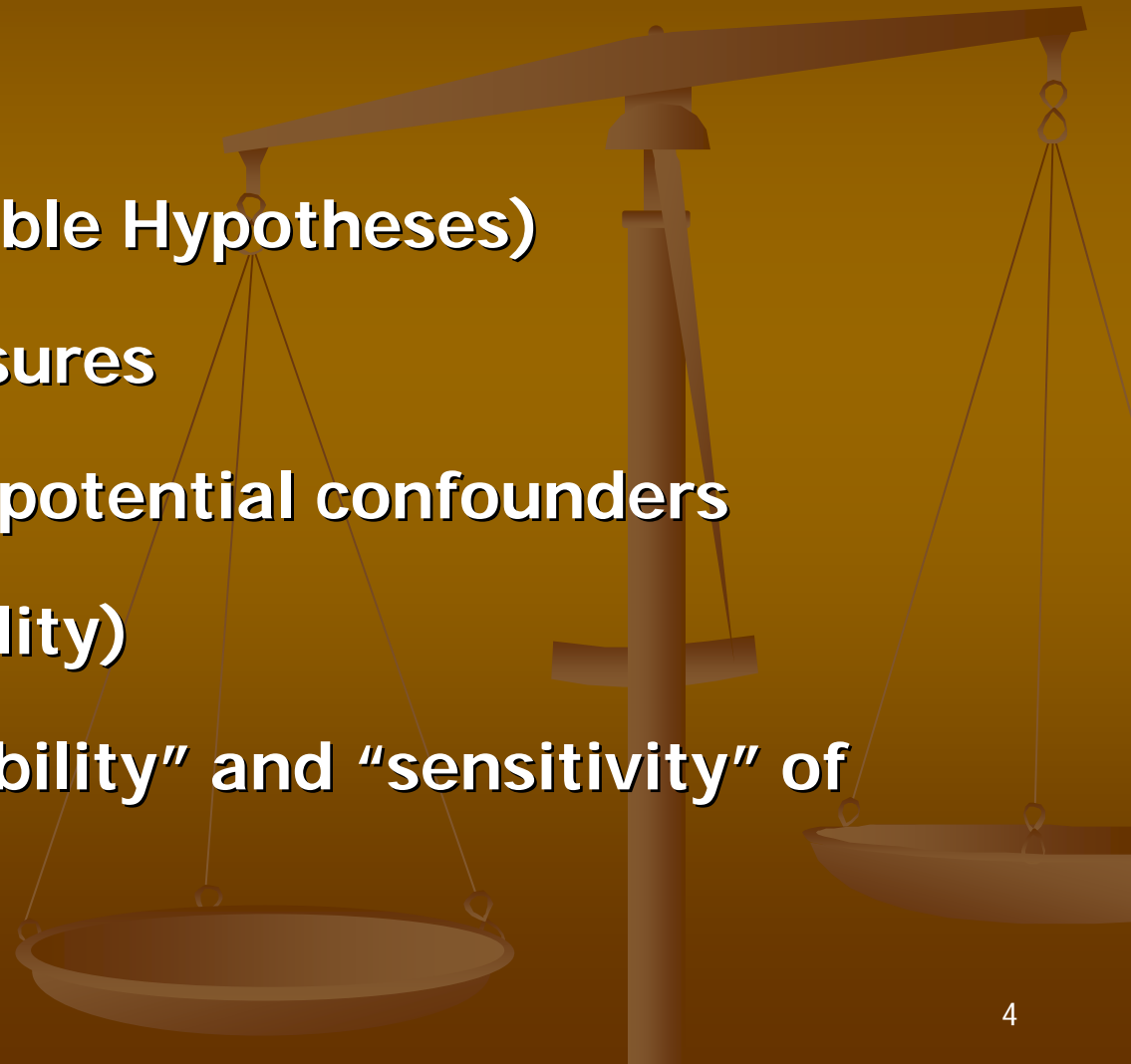
- HIV positive in 1998
- CD4 count 55 in 2003
- Manto Tshabalala-Msimang (Health Min) recommends diet change
- <3months, CD4=135

■ Florida water conservation education campaign

- Reduce residential water use
- 40% decline in water use in targeted communities

Evidence for Attribution Requires Scientific Method

- **Theory**
- **Predictions (Testable Hypotheses)**
- **Observation/Measures**
- **Identify (control) potential confounders**
- **Inferences (causality)**
- **Bounds on “probability” and “sensitivity” of inferences**



Really?

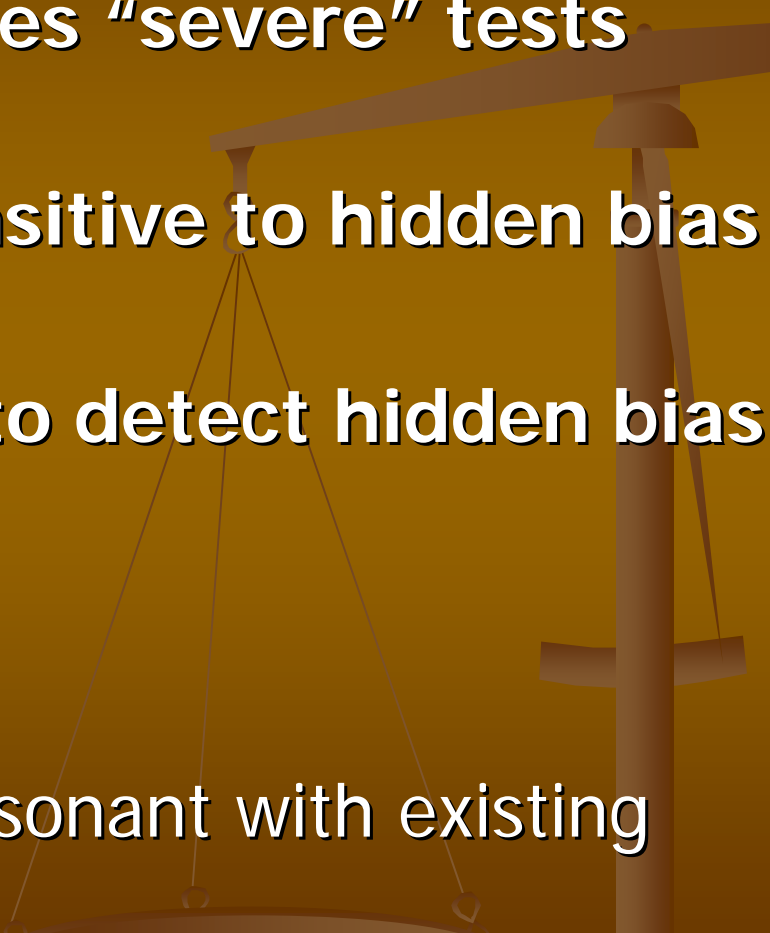


Treatment

Control

Intraocular Trauma Test

What is “Good” Evidence?

- Proposition passes “severe” tests
 - Inferences insensitive to hidden bias
 - Attempts made to detect hidden bias
 - Replicated
 - (not required) Consonant with existing knowledge
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Incentives for Generating Evidence?

Not self-evident that **ANYONE** involved in environmental policy has an incentive for generating high quality evidence.

Evidence = Empirical (Statistical) Evidence?

Randomized Controlled Trials = Gold Standard?

**Not necessarily in practice, but
conceptually YES.**