Breaking the Ice on
How to Crack the Glass Ceiling

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Being of Two Minds

**Reflective system** for controlled processing
- Conscious, explicit
- Effortful, requires motivation
- Takes more time

**Reflexive system** for automatic processing
- Often unconscious, implicit
- Requires little effort
- Fast

- Different neural structures distinguish the two
- Satpute & Lieberman (2006)
The Reflexive System Uses Implicit Associations

- Cognitive links between concepts that co-vary
- Bring one to mind, others are activated
- Activation can happen unconsciously
  ...can be at odds with conscious goals
  ...can influence attention, perception, judgment and behavior
These Implicit Biases can be Measured

• The Implicit Association Test (IAT)
  Greenwald, McGhee, & Schwartz (1998)

  • Measures strength of association between concepts
  • Based on premise that associated concepts will be easier to categorize together

  • Find more IAT’s at Project Implicit:
    https://implicit.harvard.edu/implicit/
Men and Women both Show Implicit Gender Biases

Association of
math = male &
arts = female

Nosek et al. (2002)

Association of
men = independent &
women = communal

Rudman & Glick (2001)
These Biases Develop Early
Implicit Biases Correlate with Gender Differences in Behavior

Nosek B A et al. PNAS 2009;106:10593-10597
Cycle of Stereotyping

1. Under-representation
2. Reinforces Stereotypes
3. Biases Perceivers’ Judgments
4. Reinforces Under-Representation
5. Biases Targets’ Behaviors
When cued by the Context, Implicit Associations can Cloud Judgment

Perceptions of Others

Behavior toward Others

Behavior/Performance

Perceptions of Self

MATH = MALE

Logel et al., 2009
A Two Strategy Solution

Change Implicit Associations

Implicit Biases

Judgment & Behavior
Students who have more female faculty become less likely to associate male-leader
A Two Strategy Solution

Reflectively Override Biases

Implicit Biases

Judgment & Behavior
Take-Away Points

• Implicit bias is distinct from conscious motivation

• We all have these biases due to cultural exposure

• They can be changed with education, exposure, and establishment of situations that minimize their effects