Homework #5 is due Friday by 5pm

Our final is next Thursday, 4-7pm in this room.
Conditional Hypotheses

- Many social science hypotheses are conditional hypotheses – the independent variable has different effects on the dependent variable depending on the circumstances.

- Example: “IMF loans cause political instability in dictatorships, but not in democracies.”

- Example: Political sophistication and susceptibility to political advertisements.

- How can we test these kinds of hypotheses?
Causal Complexity and QCA

- For small to medium N, qualitative comparative analysis (QCA) is an option.
- The truth table lets us determine if causal factors only work in conjunction.
- Other small-N methods won’t usually work for examining causal complexity.
# QCA Example: Military Coups

<table>
<thead>
<tr>
<th>Cases</th>
<th>Internal Military Conflict</th>
<th>Death of Dictator</th>
<th>CIA Involvement</th>
<th>Coup?</th>
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Causal Complexity and Regression

- In regression we can use *interaction terms* to test conditional hypotheses.

- We can use dummy variables to get different intercepts on the regression line for different groups.

- We can also get different slopes on the regression line for different groups by using *interaction terms*.

- An interaction term is the product of two variables in the regression. We enter this product into the regression as another variable.
Interaction Terms in Regression

- Consider the regression:
  \[ y = a + b \times x + c \times m + d \times (m \times x) \]

  where \( y \) = # deaths/political violence, \( x \) = IMF loans ($ in millions), \( m \) is a dummy variable for dictatorships, and \( (m \times x) \) is an interaction term.

- The regression line for democracies: \( a + b \times x \)

- The regression line for dictatorships:
  \[ (a + c) + (b + d) \times x \]
Example: Regression with Interaction Term

- Regression line for democracies = \( a + b \cdot x \)
- Regression line for dictatorships = \( (a + c) + (b + d) \cdot x \)
Example of an interaction term in a journal article