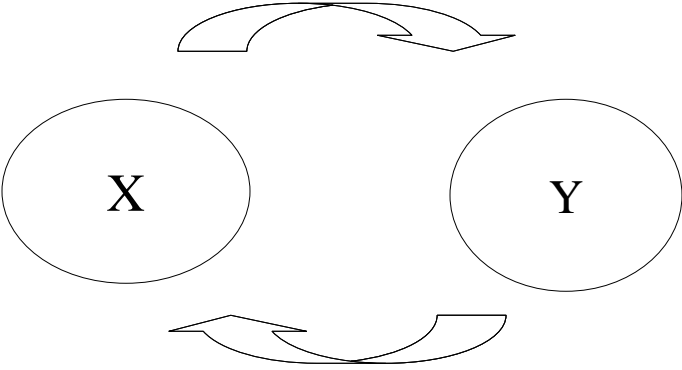
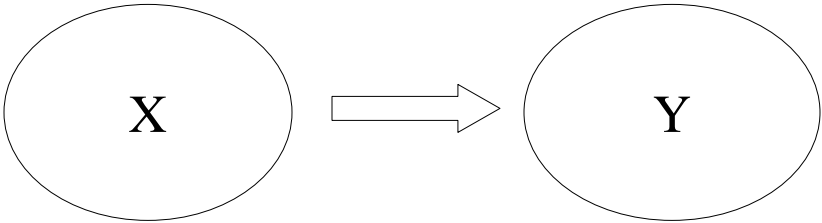


# Association



# Causality



## Independence model (hypothetical)

	Low	High
Support	50	50
Oppose	50	50
Total	100	100
N	( )	( )

## Positive association (hypothetical)

	Low	High
Support	40	80
Oppose	60	20
Total	100	100
N	( )	( )

## Negative association (hypothetical)

Percentage Supporting Abortion, by Education Level

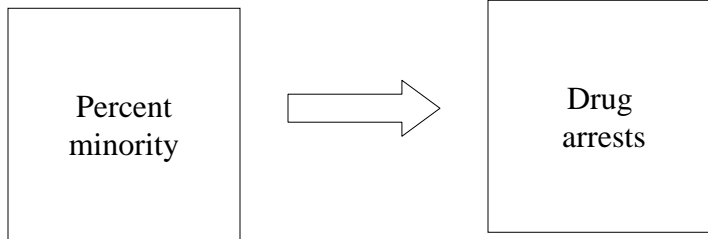
	Low	High
Support	80	40
Oppose	20	60
Total	100	100
N	( )	( )

## Units of Analysis (n=4)

- Individual: attributes of people
- Social groups: populations of people
- Formal organizations: organizations with formal structure, rules, charter
- Social artifacts: social objects

## Ecological Fallacy (confounding units of analysis)

Unit of Analysis = social group (city)



### Miller and Stark's religiousness

- *Concept*: religiousness
- *Nominal definitions*: church attendance, belief in life after death, denominational loyalty, frequency of prayer
- *Operational definitions*:  
GSS Codebook

**Sample**: General Social Survey

## Miller and Stark's findings

Gender and Religiousness Over a Generation (U.S.)		
<u>Religiousness</u>	<u>Year (t1)</u>	<u>Year (t2)</u>
Church attendance	.19** (1972)	.18** (1998)
Belief in life after death	.12* (1973)	.12** (1998)
Denominational loyalty <sup>1</sup>	.19** (1974)	.17** (1998)
Frequency of prayer	.37** (1983)	.33** (1998)

Source: General Social Surveys. Correlations (gamma) with gender.  
<sup>1</sup>Survey question: "Would you consider yourself a strong [Lutheran, Catholic, etc.] or not very strong?" \*p<.05; \*\*p<.001  
 Miller and Stark, AJS, May, 2002

## Levels of measurement (n=4)

- ✓ Nominal: categorical responses
- ✓ Ordinal: rank-ordered responses
- ✓ Interval: standard interval between responses
- ✓ Ratio: interval responses with true zero point

## Guidelines for developing questions

- Exhaustive & mutually exclusive
- Open- vs. closed-ended
- Brief and clear
- No double-barrelled
- Relevance
- No negative items
- No biased items
- No socially desirable questions

## Reliability and validity (evaluating the adequacy of indicators)

Reliability:

- ✓ how consistent is the indicator?

Validity:

- ✓ does indicator measure concept?