**The Three R’s**

- **Representation**
  - The research design makes inference to a larger population
  - Various population characteristics are represented in research data the same way they are present in population
  - **Example:** General population survey to estimate population characteristics

- **Realism**
  - A full picture of subjects emerges
  - Relationships between multiple variables and multiple ways of looking at the same variables can be studied
  - **Example:** A qualitative case study to evaluate the nature of democracy in a small town with community meetings

- **Randomization**
  - Variables which are not important in model are completely randomized
  - Effects of non-randomized variables can be tested
  - **Example:** Randomized clinical trial to test effectiveness of new cancer drug

**Two Key Elements of Survey Research**

- **Good Measures:**
  - Questions or measures impact your ability to study concepts
  - Think carefully about the underlying concepts a survey is trying to measure. Do the survey questions do a good job of capturing this?
  - **The PSR Tip Sheet on Questionnaire Design** contains good ideas on how to write survey questions.

- **Good Samples:**
  - Samples give you the ability to generalize your findings
  - Think carefully about the population you are trying to generalize your findings to. Does your sample design do a good job of representing these people?
  - **The PSR Tip Sheet on Survey Sampling, Coverage, and Nonresponse** contains things to think about in designing or evaluating a sample.
**Surveys**

- Systematic method of data collection
- Usually use samples
- Designed to measure things
  - Attitudes
  - Behaviors
- Create statistics
  - Descriptive
  - Analytic

**Resources at Harvard**

- **Getting Started:**
  [http://psr.iq.harvard.edu/getting_started](http://psr.iq.harvard.edu/getting_started)
- **General Resources:**
- **Tips and Tools:**
  [http://psr.iq.harvard.edu/type_psr_resource/psr_survey_toolbox](http://psr.iq.harvard.edu/type_psr_resource/psr_survey_toolbox)

**Preceptor in Survey Research**

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**Secondary Analysis of Survey Data**

- **Question–Level (Micro) Data**
- **Survey–Level Data**

**Secondary Analysis of Survey Data**

- **Question Level Data**
  - [Roper Center IPoll](http://psr.iq.harvard.edu/roper_center_ipoll)
  - [Polling the Nations](http://psr.iq.harvard.edu/polling_the_nations)
Survey Level Data

- National Election Studies
- General Social Survey
- Eurobarometer

Data Archives

- ICPSR
- Roper Center
- Odum Institute
- European Union Guide to Survey Data Archives and Centers

Perspectives on Survey Research

- Survey Design Perspective
  - Steps to use in implementing a survey
- Survey Quality Perspective
  - Sources of error in surveys
  - Good designs take quality into account
  - Good reports focus on error

Survey Research:

Sampling, Coverage and Nonresponse
**Survey Sampling**

- A census attempts to collect data from all members of a population.

- Random samples let you use collect data from a portion of a population and use sampling statistics to generalize your findings to a large population.

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**Sample Error**

- Based on Statistical Theory
  - Describes Variability
  - Applies From Respondents to Sample Frame

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**Types of Samples**

- Random (Probability) Samples:
  - Based on probability theory
  - Allow generalization
  - Sample statistics can be calculated
  - Sample records are drawn from a well-specified frame
  - Sample records are drawn according to random procedures
  - Each sample record has a known probability of selection

- Non-Random Samples:
  - Do not meet the above criteria
  - Inference can only be made to itself
  - Sample error cannot be calculated
  - Frame is not well specified
  - Benefits:
    - Convenient and cost effective
    - Can be used for idea generation

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**Sample Frames**

- List or a set of procedures
  - Records Don’t Have to Lead to Respondents
  - Sometimes Requires Two Stages of Selection

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**Coverage Error**

- People excluded from sample frame
  - Typical sampling statistics assume no coverage error
  - Bias:
    - Proportion Excluded
    - Differences Between Excluded and Included
**Nonresponse Error**

- Sample Members Who Do Not Respond
  - Reasons:
    - Unable
    - Unavailable
    - Unwilling
  - Bias:
    - Proportion Excluded
    - Differences Between Excluded and Included

**Addressing Nonresponse**

- Up Front
  - Call Backs
  - Refusal Conversions
  - Incentives
- Back End
  - Weighting
  - Statistical Adjustments

**Think About the Mode**

- Self Administered
  - Internet
  - Mail
- Interviewer Administered
  - Telephone
  - In-Person

**Alphabet Soup Modes**

- CAPI Computer Assisted Personal Interviewing
- CASI Computer Assisted Self Interviewing
  - SAQ Self Administered Questionnaire
  - CSAQ Computer Assisted Self-Administered Questionnaire
  - ACASI Audio Computer Assisted Self Interviewing
  - TCASI Text Computer Assisted Self Interviewing
  - VCAI Video Computer Assisted Self Interviewing
- CATI Computer Assisted Telephone Interviewing
  - IVR Interactive Voice Response
  - T-AACASI Telephone Audio Computer Assisted Self Administered Interview
  - TDE Touch Tone Data Entry

**Modes**

- Traditional Modes:
  - Face-to-face
  - Mail
  - Telephone
- Web
  - Is it a mode or a method of delivery?
  - Sample frame issues confuse mode issue
Multiple Modes Within Instrument
- All respondents receive same questionnaire administered the same way
- Administration uses different modes:
  - For example: TTF - VCASI - CATI Follow-Up
  - Phone - Mail - Phone

Multiple Modes For Different Sample Frames
- Telephone contact with WWW SAQ
- Telephone contact with CATI
- Face-to-Face oversample

Multiple Modes For Different Respondents
- Contact method varies by respondent preference
- Contact method varies by difficult of contact
- Sub-sampled respondents with expensive modes

Multiple Modes For Recruitment or Follow Up
- Mail pre-notification letters for phone
- Telephone reminders for mail or web
- For example:
  - TTF - VCASI - CATI Follow-Up
  - Phone - Mail - Phone

Nature of population
- Are all population members available through mode?

Nature of unit
- Screening for respondents is better with interviewers

Nature of record
- If sample record corresponds to unit, less screening required

Identification of Valid sample records
- Does this require an interviewer?
- Can respondents do this themselves through screening?

Clustering
- Are records clustered geographically?
  - i.e. face to face interviews may be feasible
  - Otherwise face-to-face reduces sample efficiency

Sample Considerations

Measurement Considerations
- Standardization
  - To what degree does the survey experience need to be the same for all respondents

- Supervision
  - How much supervision do interviewers or respondents need

- Protocol Clarification
  - If questions arise during the survey process, how will they be addressed
    - Respondent questions
    - Interviewer questions
Measurement Considerations

- Item Nonresponse
  - Higher without interviewers

- Unit Nonresponse
  - Higher without interviewers

- Bias with sensitive questions
  - Lower without interviewers

Measurement Considerations

- Primacy Effects
  - Respondents answer first thing they see
  - More prevalent in SAQ’s

- Recency Effects
  - Respondents answer the last thing they heard
  - More prevalent in interviewer-administered Q’s

- Randomization or Rotation of Response choices
  - Reduces primacy and recency effects in answer categories
  - Usually requires computer administration

Measurement Considerations

- Randomization or Rotation of Response choices
  - Reduces primacy and recency effects in answer categories
  - Rotate if there is an order to the question
  - Randomize if no order

Measurement Considerations

- Nature of Information
  - Some information is available from administrative records
  - Sometimes, multiple respondents are needed to answer questionnaires

- Nature of Respondents
  - Literacy and sophistication have implications for SAQ’s

- Nature of Measures
  - Is audio important?
  - Visual stimulus?
  - Reading?

Survey Research:
Questionnaires and Questions
**Survey Questions**
- Measure underlying concept
- Don’t measure other concepts
- Mean the same thing to all respondents

**Don’t Reinvent the Wheel**
- Existing Questions Often Preferable
- Trend Data Requires Identical Questions
- Sources of existing Questions
  - The General Social Survey
  - The National Election Survey
  - IPoll (database of 500,000 polls)
  - Polling the Nations

**Pre-Test Your Survey**
- Administer Questionnaire to Small Sample
  - Convenience Sample is Okay
- Have Preceptor Review Your Questionnaire
- Question Understanding Aid
  - [http://mnemosyne.csl.psyc.memphis.edu/QUAID/quaidindex.html](http://mnemosyne.csl.psyc.memphis.edu/QUAID/quaidindex.html)

**General Considerations**
- Keep the Questionnaire SHORT
- Keep Questions SIMPLE
- Keep Question Order in Mind
  - Earlier Questions Can Influence Later Questions
  - Sensitive Questions Are Best at Back
- Provide Clear Instructions
- Filter and Branch

**Types of Questions**
- Open End
- Closed End
  - Rating Scale

**Rating Scales**
- Five to Seven Categories
- Provide Middle Category
- Label Scale With Clear Unambiguous Words
- Agree/Disagree Scales Can be Problematic
**Things Good Questions Avoid**

- Technical Terms and Jargon
- Vague or Imprecise Terms
- Complex Sentences
- Double-Barreled Wording
- Leading or Emotional Language

**Rules for Answer Scales**

- Scale Categories are Ordinal
- Categories Are Mutually Exclusive
- Categories Anticipate All Answers

**Introduction to Surveys for Honors Thesis Writers**

Questions and Discussion