

Didactic Seminar  
New Approaches to Survey Design

John Kennedy  
Center for Survey Research  
Indiana University

# Evolving Issues in Survey Design

- What survey data users should know
- What's coming in survey research
- What I say today may be wrong soon – fall off the cutting edge
- Practical methods used before they reach academic publications
- Both needed to evaluate and improve surveys

# Seminar Context

- Academic/government - higher quality surveys
  - focus on surveys with more rigorous procedures
  - Many attempts, random sampling, extensive testing and development
- Decreasing response over the past 20 years
  - Cooperation
  - Contact
  - Not why it happened
    - no longer really trying to solve the problem
    - Methods not effective

# Seminar Context

- Increasing costs
  - Longer field periods
  - More contact attempts
- Decreasing response and increasing costs = more attention to good practices
- Not all increased cost items are cost effective
- improve survey quality, not necessarily response rates

# Wireless Penetration

- Coverage = More than 10% wireless only HH  
<http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless200705.pdf>
- Bias not yet a critical issue for substantive items, mostly because of small numbers
- Keeter, Scott. 2006. "The Impact of Cell Phone Noncoverage Bias on Polling in the 2004 Presidential Election." *Public Opinion Quarterly* 70:88-98

# Wireless Sampling Methods

- Methods to include them -

[http://www.surveysampling.com/frame\\_detail.php?ID=293&current=yes&issueID=46&yr=2007](http://www.surveysampling.com/frame_detail.php?ID=293&current=yes&issueID=46&yr=2007)

– Who should be included?

- Wireless only
  - Those who use wireless only but have landlines
  - Geography not determined
- VOIP not a significant problem yet

# Wireless Summary

- In the past year, coverage was declared a problem
- Geography and portability issues are not yet resolved
- Landlines won't go away
- Survey researchers recognize the need to prepare for including them in samples

# Changes in Telephone Survey Sampling

- List assisted 100 series
  - Losing effectiveness with more banks in service
  - 25% decrease in working numbers in past 3 years
- RDD, purge, match to household addresses
- Listed household samples with RDD backup
- Using Dual Frame Designs to Reduce Nonresponse in Telephone Surveys. Michael W. Traugott, Robert M. Groves, and James M. Lepkowski. *Public Opinion Quarterly*, volume 51 1987

# Mixed/Multiple Modes

- Telephone
  - Announcement letters
  - Conversion letters
  - Nudge calls, short followup calls, minimum question calls
- Mail/paper
  - Internet surveys added
  - Cost advantages decreasing
- Internet
  - Low cost addition

# Delivery Sequence Files

- Postal address lists
  - Vendors provide lists
- Allows for random household samples for postal surveys
- Weaknesses
  - Gaps in coverage, e.g., rural areas
  - Street addresses only
  - Within HH random sampling a problem
- <http://www.fcs.m.gov/01papers/lannacchione.pdf>

# Delivery Sequence Files

- Reduce bias from wireless only and non-telephone households
  - Reduce problems with telephone number portability (cell phone locations)
- Used to sample for field and internet surveys
- Replacement for telephone under certain conditions – Link, et al POQ 2008

# Letters and Incentives

- More recruitment letters for telephone surveys
- <http://scholar.google.com/scholar?hl=en&lr=&q=%22Advance+letters%22+Survey+&btnG=Search>
  - Reduce h costs and field effort
- Impact on bias undetermined
  - Might cause differential nonresponse
  - Should be targeted (POQ special issue December 06)

# Letters and Incentives

– Prepaid vs promised debate

- Evidence indicates prepaid is more effective

– Changing amounts appears to work

- NES procedures
- Recent paper - mixed results

- <http://scholar.google.com/scholar?hl=en&lr=&q=survey+incentives+Singer>

# Attempts to Reduce Nonresponse

- New sampling methods
  - Telephone samples
  - Delivery sequence files
- New methods but possibly different biases
  - Multiple methods needed for different groups
- Ethical concerns
  - Contacts
  - Privacy

# Post-Survey Nonresponse Adjustments

- *Weighting*
  - Standard – adjustments based on demographic characteristics
  - Raking – more sophisticated to compensate for differences in marginals (forthcoming in Survey Practice)
  - Weighting Methods , Graham Kalton and Ismael Flores-Cervantes, <http://www.ios.nu/Articles/abstract.asp?article=192081>

# Nonresponse Adjustment

- Propensity scoring
  - A form of standardization
  - Allows for good modeling
  - Forthcoming in Survey Practice
- Matching to census data to better understand nonresponse
- Presurvey analysis of samples to anticipate nonresponse

# Recent Web Survey Developments

- Internet panels (random samples?)
  - Harris, etc
    - Propensity weighting based on RDD
  - Knowledge Networks - RDD based sample  
[www.knowledgenetworks.com/](http://www.knowledgenetworks.com/)
- Recruiting procedures – other sampling methods
  - Multiple methods (email lists, RDD, DSF, opt-in)
  - Internet panels - opt-in and recruited , e.g.,  
[www.m-s-g.com/genesys/genesys\\_products/internetpanel.htm](http://www.m-s-g.com/genesys/genesys_products/internetpanel.htm)

# Internet Survey Design

- Breakoff prevention
  - Breakoff indicators work with short Qs; not with long Qs; may differ by respondent characteristics
- Layout
  - Scrolling vs paging – still undetermined but maybe scrolling is better
  - Peytchev, Andy; Couper, Mick P.; McCabe, Sean Esteban; Crawford, Scott D., POQ, Vol 70, Number 4, 2006
- Providing help information as needed
  - Popups, other context specific help items, Conrad et al
  - <http://www.jos.nu/Articles/abstract.asp?article=222245>

# Internet Questionnaire Design

- Dillman articles on layouts, colors - recent article in POQ  
[http://www.websm.org/uploadi/editor/1145986738Smyth et al 2006 Effects of visual design.pdf](http://www.websm.org/uploadi/editor/1145986738Smyth_et_al_2006_Effects_of_visual_design.pdf)
- Leah Melani Christian, Don A. Dillman, and Jolene D. Smyth  
Helping Respondents Get It Right the First Time: The Influence of Words, Symbols, and Graphics in Web Surveys  
Public Opinion Quarterly 2007  
Color, Labels, and Interpretive Heuristics for Response Scales, Roger Tourangeau, Mick P. Couper and Frederick Conrad  
Public Opinion Quarterly 2007
- Jon Krosnick – layout of responses for scales – number of responses, branching, etc in recent AAPOR annual meeting

# Question testing

- More sophistication about groups or kinds of respondents that might be affected by question order, etc.
- Behavior coding
  - The Impact of Question and Respondent Characteristics on Comprehension and Mapping Difficulties Allyson Holbrook, Young IK Cho and Timothy Johnson POQ 2006
- Recording interviews for professional review
- Cognitive interviewing used less
- Question Understanding Aid (QUAID) A Web Facility that Tests Question Comprehensibility Arthur C. Graesser, Zhiqiang Cai, Max M. Louwerse and Frances Daniel POQ 2006

# Resources

- American Association for Public Opinion Research – [www.aapor.org](http://www.aapor.org)
- Public Opinion Quarterly (AAPOR)
- Journal of Official Statistics – Statistics Sweden  
<http://www.jos.nu/>
- Survey Methodology – Statistics Canada –  
<http://www.statcan.ca/english/ads/12-001-XPB/index.htm>

# Resources

- Survey Practice (soon) - [www.surveypractice.org](http://www.surveypractice.org)
- Web survey methods - [www.websm.org/](http://www.websm.org/)

# Contact information

John M Kennedy

Center for Survey Research

Indiana University

812 855 2573

[kennedyj@indiana.edu](mailto:kennedyj@indiana.edu)

[www.csr.indiana.edu](http://www.csr.indiana.edu)