

Understanding Non-Response and Reducing Non-Response Bias

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Outline

- Introduction: Non-response processes; non-response error

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- Manipulable vs. non-manipulable factors

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- Overview of the ESRC-SDMI Project

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- Progress to date

Survey Non-Response Error

Non-Response Error

$$y_r = y_n + \frac{m}{n}(y_r - y_m)$$

where

y_r = statistic for the r responding units,

y_n = statistic for all n sample units,

y_m = statistic for the m non-responding units ($r + m = n$)

Reducing Non-Response Error

Reduce m/n and/or

Reduce $(y_r - y_m)$

(and/or statistically adjust)

Note: changing m/n will most likely result in a change in $(y_r - y_m)$

Hence, effect of reducing m/n is unknown unless associated change in $(y_r - y_m)$ can be estimated

How Does Non-Response Arise?

The Non-Response Process

Location – Contact – Co-Operation – Ability to Participate

Different factors relevant at each stage

Survey-specific factors

Population-specific factors

Manipulable Factors I

Re. location and contact:

- Enhancing contact details;
- Number and timing of contact attempts;
- Data collection period;
- Interviewer workload.

Manipulable Factors II

Re. co-operation:

- Pre-notification;
- Incentives;
- Burden;
- Respondent rules;
- Interviewer tailoring;
- Mode of approach;
- etc.

The Holy Grail

Design features that are likely to reduce $\frac{m}{n}(y_r - y_m)$

- and ideally also to reduce $\frac{m}{n}$
- conditional on population, survey topic, etc

Identification of such design features is the ultimate aim of our ESRC-SDMI project

The Project

Understanding Non-Response and Reducing Non-Response Bias

At ISER, Essex:

Peter Lynn

Annette Jäckle

Heather Laurie

Laura Fumagalli

At NatCen:

Gerry Nicolaas

Rebecca Taylor / Jennifer Sinibaldi

A Statistician TBC

At GESIS-ZUMA:

Annelies Blom



ESRC SDMI Co-ordination Meeting
28 October 2008



Sub-Projects

1. Review: Framework of factors affecting NR bias
2. Effects of marginal response efforts on NR bias
3. Links between field processes and NR bias: using call data
4. Effects of design features on NR bias
5. Design features to reduce attrition on longitudinal surveys

SP1: Factors Affecting NR Bias

Components of NR (stages/ reasons)

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Factors affecting probability of each component arising (both fixed factors and design features)



Correlations between these factors and sample characteristics / survey estimates

Key Sources:

Bethlehem J (2002) Weighting nonresponse adjustments based on auxiliary information, in *Survey Nonresponse*, Wiley.

Groves R M (2006) Nonresponse rates and nonresponse bias in household surveys, *POQ* 70, 646-675

Groves R M & Couper M P (1998) *Nonresponse in Household Interview Surveys*, Wiley

Groves R, Singer E & Corning A (2000) Leverage-saliency theory of survey participation, *POQ* 64, 299-308

+ many empirical studies of associations

SP2: Effects of Marginal Response Efforts on NR Bias

Inspired by Keeter et al (2000) & Curtin et al (2000)

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To assess extent to which patterns of association are similar on UK F2F surveys

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In process of identifying: Which surveys? Which estimates?

SP3: Field Processes and NR Bias

Aim: To identify field practices that appear to be associated with “success” (*vis à vis* both RR and NR Bias)

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NatCen field management data, covering virtually all F2F surveys in field at any one time; supplemented with a linked interviewer survey (just completed: 81% response rate!)

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European Social Survey contact data, covering 25+ countries, 3 rounds, in standardised form

SP3: Field Processes and NR Bias

Progress to date:

Data preparation with ESS data

Descriptive analysis

Descriptive paper on the potential of contact data (3MC)

Modelling of contact across 13 countries

Decomposition of national differences into differences of composition and differences in coefficients (in progress)

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Other data sets from experiments with incentives, pre-notification letters, questionnaire length

SP5: Attrition on Longitudinal Surveys

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Interpenetrated design.

Change-of-address cards and incentives

Seven treatments:

1. Asked to return an address-confirmation card:
 - a) with unconditional £5 incentive
 - b) with unconditional £2 incentive
 - c) with £5 incentive conditional on returning card
 - d) with £2 incentive conditional on returning card
2. Asked to return a COA card if moved/moving:
 - a) with £5 incentive conditional on returning card
 - b) with £2 incentive conditional on returning card
3. Neither AC nor COA card; no incentive

Mailing units are couples or individuals



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Will be linked to wave 18 field outcome records – and survey data

Form and content of between-wave respondent mailings

Two treatments:

- Standard “Report to Respondents”
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- Report 1 (“Young”) if aged < 25 (9.3%: 820 MUs)

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- Report 1 (“Young”) if aged < 25 (9.3%: 820 MUs)
- Report 2 (“Busy”) if self-employed, long work hours or long commute (8.3%: 702 MUs)
- Report 3 (“Standard”) otherwise (82.4%: 7,278 MUs)

Progress:

Experimental mailings designed and implemented in May-June 2008

System for recording all returns designed and updated continuously since May 2008

Wave 18 fieldwork in progress currently

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