

The use of R-indicators in responsive survey design – Some Norwegian experiences

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*It is the objective of the RISQ project to develop R-indicators, to explore their characteristics and to show how to implement and **use them in a practical data collection environment.***

R-indicators as quality-indicators

- Product quality
 - The R-indicator indicates bias conditioning on several auxiliary variables (X 's)
 - Will be used for a fixed set of X 's to report development in time for a given survey and between surveys
- Process quality
 - R-indicators will be used as a monitoring device to aid the surveillance of surveys during field work
 - R-indicators gives information on which survey to focus on
 - Partial R-indicators gives information on what subsample to allocate more recourses to, and what subsample we can decrease the recourses

Responsive design

- Computer assisted interviewing with a fully integrated computer exchanging system provides rich data on the interviewing process...and gives the opportunity to analyze paradata and the data from the survey itself during the fieldwork period (Thomsen et al. 2006).
- Real-time access to information about the survey process enables the survey organisation to analyse the quality of the fieldwork process and to make mid-course decisions and design alterations during the fieldwork period (Hapuarachchi, March and Wronski 1997; Couper 1998; Scheuren 2001).
- This is often known as “responsive survey design” (Heeringa and Groves 2005).

To explore the use of R-indicators in a “natural” survey setting:

- We had one pilot in The Netherlands and one in Norway.
- The purpose of the pilot in Norway was to gain experience of using the R-indicators in an ongoing survey in a realistic setting.
- The pilot was implemented in the ongoing Level of Living Survey (LLS) 2009, (20 500 respondents, aged 16 to 69 years).

Design of the pilot

- From the gross sample, 3 000 respondents were randomly selected for the pilot sample before the data collection started.
- The pilot sample was then randomly split in two groups. 1 500 respondents served as the experiment group while 1 500 respondents formed the control group.
- The pilot fieldwork was conducted during six weeks in October and November 2009
- The experiment group was subjected to rigorous supervision with respect to the R-indicator and partial R-indicators, while the control group was treated as the rest of the regular LLS.

Figure 1: Interview process of the control group

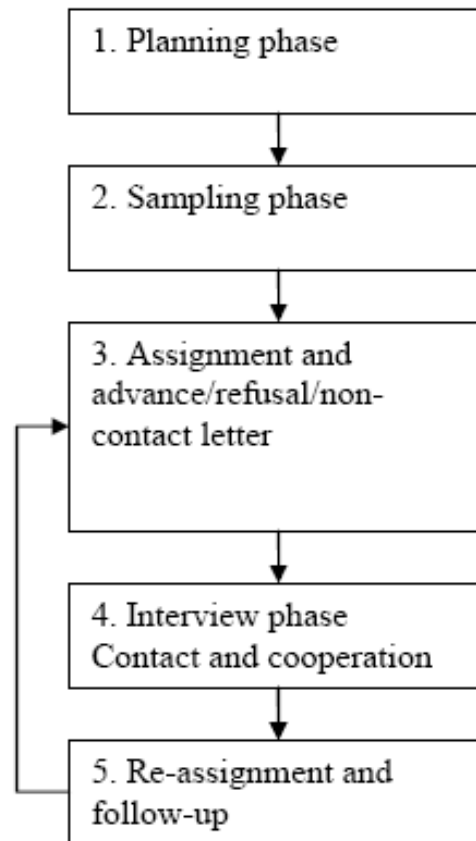
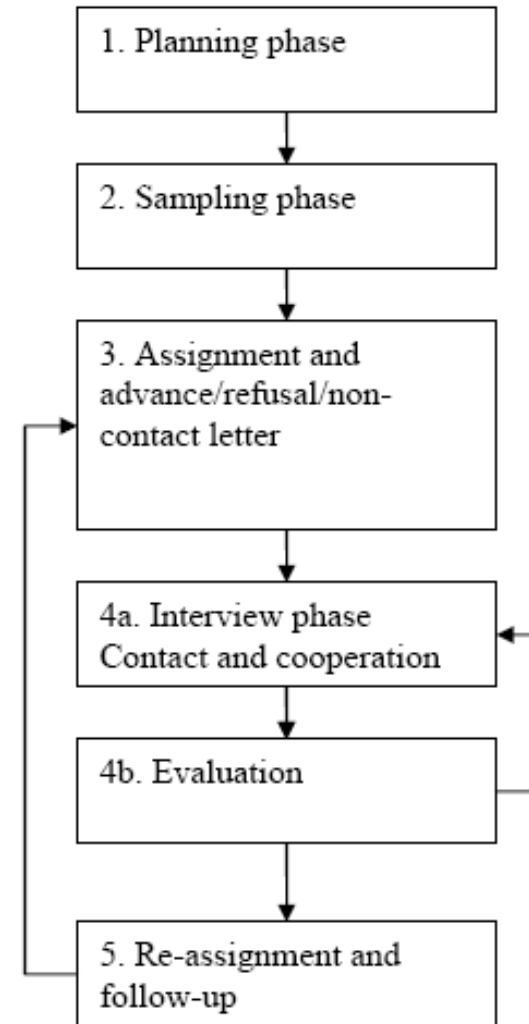


Figure 2: Interview process of the experiment group



Partial R-Indicators

- P2: *Deviation between the mean response propensity within group_k and the overall mean response propensity*
- P3: *Sum of squared conditional P2_k given the other explanatory variables. Large P3 indicates that the effect of the variable of concern can not be 'conditioned away' by the other exp. variables*

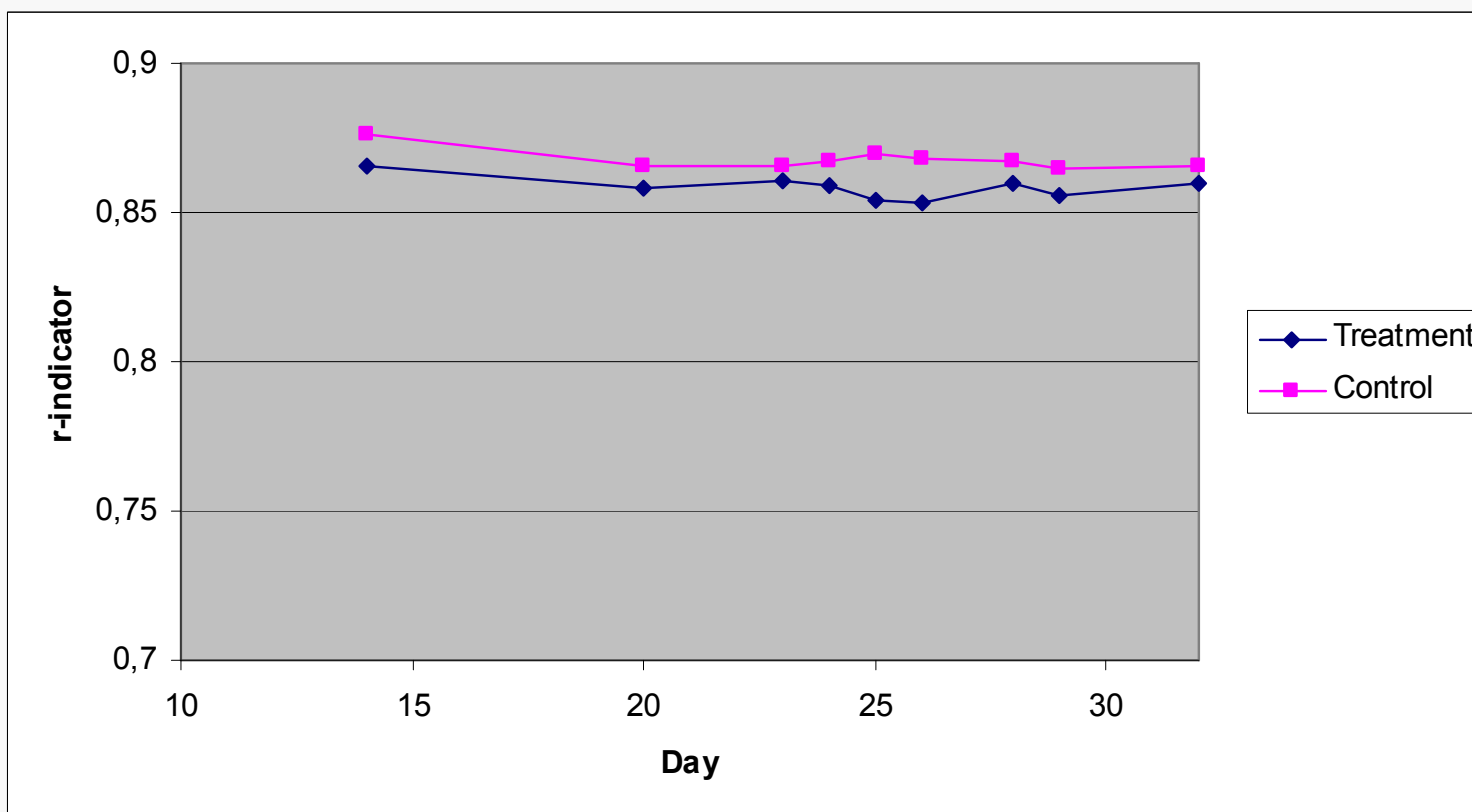
		Day 18	
		Unconditional partial indicator (P2)	Conditional partial indicator (P3)
AGE			4
	18-34	-23	1
	35-59	-14	0
	60-70	58	3
Gender			0
	Male	8	0
	Female	-8	0
CENTRALITY			0
	1	-15	0
	2	14	0
	3	2	0
	4	0	0

Unconditional and Conditional R-indicators * 1000

Attempts to intervene during fieldwork

Treatment group	Regular group
<ul style="list-style-type: none">• Prioritize young adults in the CATI call schedule.• Use mobile phone numbers based instead of land-line	<ul style="list-style-type: none">• No specific attempt

Measuring the effects of the attempts on the R-indicator



Conclusions

- The R-indicator is a useful tool for evaluating responsive survey design and data collection process
- In our pilot the responsive survey design was weak but the R-indicator was strong, it's a standardised tool
- The interpretation and use of R-indicators requires some training of field staff
- In most cases R-indicators can be used as a monitoring device for deciding what kind of respondents to put in the parking lot (harder to invent smart strategies to persuade refusalers)

Future use of R-indicators in a systematic quality approach

- Database (historic)
 - ♦ For contact. Number of contact achieved and attempts made
 - ♦ For Corporation. Number of response, refusal and absentee

- Planning
 - ♦ Retrieve from database relevant propensities
 - ♦ Iterative optimization
 - Allocation (relevant anticipated response rates)
 - Fit and evaluate target criterion (say, R-indicator with pre-fixed X)
 - Adjust provided improvement is feasible

- Adapting: repeated optimization during data collection
 - ♦ With historic propensities
 - ♦ Allow for updating of certain propensities based on fresh data

Thank you for your attention!