Understanding Society Innovation Panel: using experiments to inform survey design

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Outline

- Methodological challenges in survey data collection
- Innovations and new agendas that survey practitioners are being asked to address
- The experience of the Innovation Panel on *Understanding Society*, the UK Household Longitudinal Study
  - Three example experiments

Methodological challenges

- Move away from the expensive ‘gold standard’ face-to-face mode to other modes data collection
  - Web
  - Mobile devices
  - Mixed modes

- Challenges for:
  - selecting and recruiting representative population samples for web panels or surveys
  - measurement and potential mode effects
  - achieving high response rates and in a longitudinal survey, minimizing attrition

- Opportunities for innovative questionnaire design and re-thinking how we collect our surveys

Methodological challenges: Non-response

- Concern we all share
  - causes and consequences
  - correlates of unit or item non-response
  - correlates of attrition in longitudinal surveys
  - main concern is the effect of non-response and attrition on bias of estimates

- Methods to minimise unit non-response and attrition
  - incentives
  - tailoring of materials and approach
  - tracing procedures for longitudinal surveys

- Methods to minimise item non-response
  - dependent interviewing on longitudinal surveys

Methodological challenges: mixed modes and non-response

- Mixed mode strategies to boost and maintain response rates
- Sequencing of modes to maximise response rates
- Targeting modes appropriately to groups within the sample
- Particular implications for longitudinal surveys:
  - unknown effects of mode switches across waves for non-response, attrition, and measurement

Experimental designs for methodological development

- Experimental methods in longitudinal survey methodology
- Growing use of formalised methodological experiments
- Longer tradition in the US than Europe, mainly cross-sectional
- Move towards larger scale experiments on longitudinal samples
- Can explore methodological issues experimentally while protecting main sample from any potentially damaging effects

Understanding Society, the UK Household Longitudinal Study

- Wave 1 collected throughout 2009/2010
- Wave 2 just completed, Wave 3 is in field, Wave 4 starts Jan 2012.
- Key features:
  - Large sample size (40,000 households/100,000 individuals)
  - Household focussed design with full age range sample
  - Annual interview for all household members aged 10 years plus
  - Multi-topic design to meet a wide range of disciplinary and inter-disciplinary research needs
  - Ethnic minority research – boost sample (4,000 households)
  - Biomedical research – collection of biomarkers underway
  - Data linkage to geo-coded and administrative records
- **Innovation Panel for methodological research and testing (1,500 households)**

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Understanding Society Innovation Panel

- Main aims of the Innovation Panel:
  - to support methodological research
  - provide evidence to inform best practice in longitudinal studies
  - provide an evidence base to inform the study design
  - support the development of data collection innovations on the study e.g. mixed modes, visual or audio data, other forms of data

- Conducted in the first quarter of the year since 2008
  - four waves conducted to date
  - all waves face-to-face apart from wave 2 which was mixed mode, face-to-face and telephone only
  - wave 5 will be mixed mode including web interviews

Innovation Panel experiments Waves 1 to 4

Experiment	IP waves
Incentives amount and delivery and response	1,2,3,4,5
Tailoring of respondent materials	1,4
Mixed mode data collection sequencing	2
‘Early bird’ appointments	4
Scale length and scale labelling for job and life satisfaction	1,2,3
Consumption and expenditure	1
Design of unearned income/benefits questions	1
Random sub-setting questionnaire content/ length	1
Measurement personal identity	2
Visual cues, branching questions, showcards	2,3
Measures of change/dependent interviewing	2,3,4
Panel conditioning	2,3,4
Cognitive function measures	3
Measurement wealth and debts	4

Example 1: Respondent Incentives

3 treatments at each wave:

A) £5 for each co-operating adult;

B) £10 for each co-operating adult;

C) £5 each, increasing to £10 each if all adults co-operate.

- Initial voucher unconditionally in advance; remainder promised and sent subsequently
- Longitudinal treatments consist of sequences of these three treatments, e.g. to test effects of reducing the incentive amount
- Random assignment of households to treatments
- Interpenetrated design with other experiments that had potential to confound

Respondent Incentives *ctd*.

Group	Prop'n of sample	IP1	IP2	IP3	IP4	IP5
A	1/6	£5	£5	£5	£5	£5
B	1/6	£5	£5	£5	£10	£10
C	1/12	£10	£10	£10	£10	£10
D	1/12	£10	£10	£5	£5	£5
E	1/12	£10	£5	£5	£5	£5
F	1/12	£10	£5	£5	£10	£10
G	1/12	£5-10	£5-10	£5-10	£5-10	£5
H	1/12	£5-10	£5-10	£5-10	£5-10	£10
I	1/6	£5-10	£5	£5	£5	£5

Incentives: Initial results IP1 (Burton et al, 2009)

	Treatment			
	£5 each	£10 each	£5 > £10	P
% households responding w1	55.7	61.4	60.7	< 0.05
n	*832*	*836*	*833*	
% hhds with all adults fully responding w1	72.7	78.6	79.7	< 0.05
n	*463*	*513*	*506*	

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Respondent Incentives: cross-sectional household response rates

Group	IP1	IP2 (mixed modes)	IP3	IP4
A £5/5/5/5	55.7	67.6	65.2	67.8
B £5/5/5/10	55.7	67.6	65.2	61.5
C £10/10/10/10	**61.4**	**72.8**	**74.8**	**73.6**
D £10/10/5/5	61.4	72.8	68.2	64.8
E £10/5/5/5	61.4	72.3	66.9	62.4
F £10/5/5/10	61.4	72.3	66.9	60.1
G/H £5 >10 all	60.7	73.2	68.6	65.0
I £5 >10/5/5/5	60.7	69.5	60.9	60.0
Overall	***59.8***	***71.1***	***67.0***	***64.4***

Example 2: Mixed mode experiment (IP2)

- Used telephone and face-to-face modes
  - Tested response rates by mode
  - Tested sequencing of transfer of cases from phone to face-to-face

- Random allocation to three groups
  - Face-to-face interview
  - Telephone with early transfer to face-to-face i.e. as soon as one household member refused or was non-contact
  - Telephone with late transfer to face-to-face i.e. when all possible telephone interviews exhausted

Mixed mode experiment (IP2)

- Expected:
- Early transfer from telephone unit would result in higher overall response rate as more interviews done face-to-face
- Late transfer would be less costly as more telephone interviews done
- Uncertain whether the mixed-mode groups could achieve face-to-face only response rates

Mixed mode results (Lynn, Burton & Uhrig 2010)

- Overall household response rate 72.7%
  - Significant differences between face-to-face and both telephone groups
  - No significant difference between telephone groups
  - But late transfer group performed better than early transfer group
  - Late transfer group more cost effective as expected

	CAPI %	CATI (early transfer) %	CATI (late transfer) %	Total %
All members interviewed	61.4	49.8	53.5	54.9
At least one interview	15.5	20.0	18.0	17.8
All households	***76.9***	***69.8***	***71.5***	***72.7***
Non-contact	5.9	6.5	4.1	5.4
Refusal	15.5	18.5	16.9	16.9
Other-non-response	1.8	5.4	7.6	5.1
n	*513*	*519*	*521*	*1561*

Example 3: Proactive dependent interviewing
(Burton et al 2011)

- Dependent interviewing uses answers given at the previous wave in the current interview
- Tested two variants in the way the questions asked:
  - Remind, still i.e. ask whether the previous status is still the same
  - Remind, change i.e. ask whether the previous status has changed
- Experiment included items on:
  - Health status
  - Permanency of job
  - Working hours – employees
  - Self-employed working hours

Example questions using DI

- Remind, still

“ The last time we interviewed you on <*date of last interview*>, you said that in general your health was <*excellent/very good/ good/fair/poor*>.

Is that still the case?

- Remind, changed

“ The last time we interviewed you on <*date of last interview*>, you said that in general your health was <*excellent/very good/ good/fair/poor*>.

Has that changed?

Expected effects

- Tendency for respondents to agree and say ‘yes’ in response to a question. May be due to:
  - Satisficing
  - Social desirability/conversational norms

- If this tendency to agree is the case
  - Percentage of respondents saying ‘yes’ their status is still the same will be higher than the percentage of respondents saying ‘no’ their status has not changed – and vice versa

Change in status by DI wording

Survey item	Remind still %	Remind changed %	P (Chi2)
General health is the same General health has changed	88.8 11.2	75.1 24.9	0.000
Permanency of job same Permanency of job changed	95.3 4.7	77.1 22.9	0.000
Working hours same – emp Working hours changed - emp	80.0 20.0	64.8 35.2	0.000
Working hours same – semp Working hours changed - semp	73.1 26.9	62.1 37.9	0.304

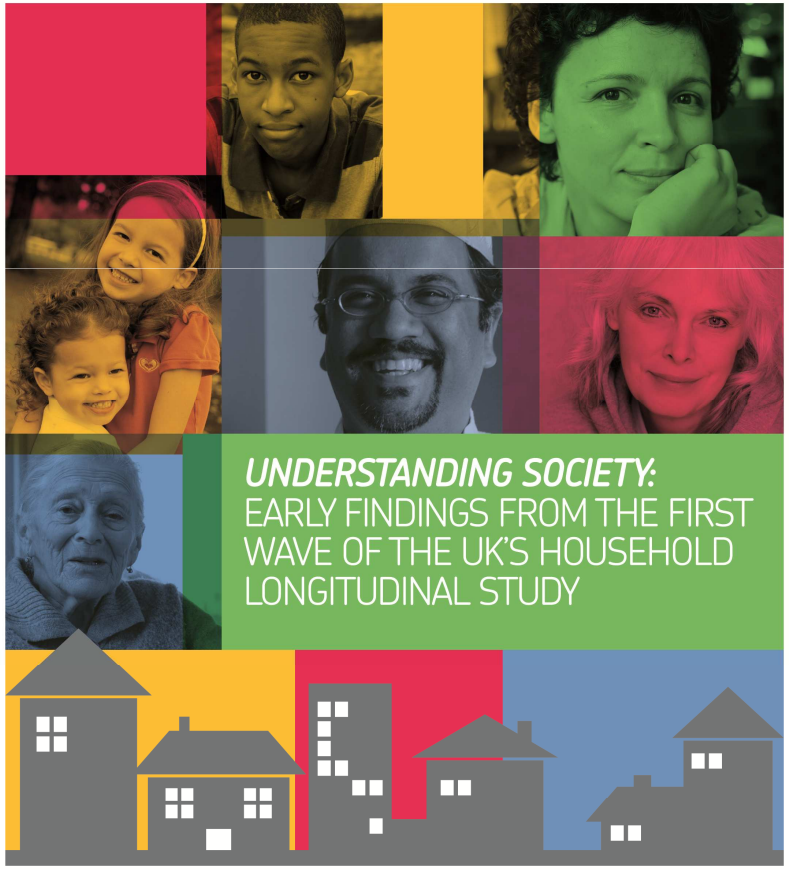
Percentage who said ‘yes’ their status was still the same between 11 and 18 percentage points higher than percentage who said ‘no’ their status had not changed

Future work looking at whether follow-up questions asked confirm real changes

Conclusions

- Many challenges but also many opportunities for the future
- Aim is to fully exploit the opportunities presented by new technologies to:
  - improve the quality of data collected
  - and do so in a cost effective way
- Need to base our survey designs and procedures on firm methodological evidence
- Is expensive and can be difficult to fund experimental work given other pressures on scarce resources
- But is necessary if we want to ensure we continue to collect high quality data and as a consequence produce high quality statistics

Understanding Society



For further information and early findings from the study:

www.understandingsociety.org.uk

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