Within-household substitution in ISSP and ESS in the Netherlands

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Sampling design in the Netherlands

- Sampling frame: complete list of addresses, matched with phone registers to obtain associated names (and phonenumbers).
- Simple random sample of addresses.
- Within household selection by birthday method: whose birthday is closest to randomly specified data (12 blocks: Jan. 15, Feb 15, ..., Dec 15).
- In ISSP (postal survey) this information is given in each communication. In ESS (face to face) the information is part of the interviewer instruction.

Within-household substitution

- Does the birthday method work: is the person selected indeed randomly chosen?
- Does it make a difference whether we use a written instruction to the household (as in ISSP) or to the interviewer (as in ESS)?
- Does substitution make a difference to answers obtained, in particular on a sensitive indicator, VOTE_LE?

Household rosters

- Both ISSP and ESS questionnaires inquire about the household compostion using a household roster:
  - Age, Gender, and (Family) Relationship to respondent.
- In ISSP we also inquire about main activity and highest completed education of each household member.
- This makes it possible to construct an effective sample of all household members and analyze which household member has become the respondent.

Response by position in household

- Table 1/2: There is a clear tendency (1/2) of kids NOT to respond in both surveys.
- There is NO significant difference between surveys (postal versus interviewer).
  - Neither in the report on the household composition (Table 3).
  - Nor with respect to position in household (Table 4).

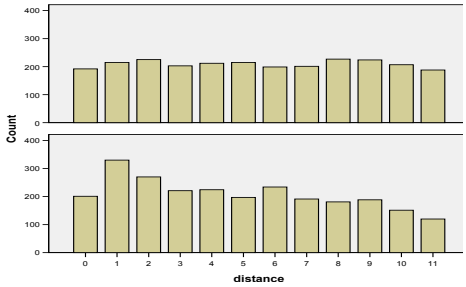
More with household substitution in ISSP

- In ISSP we can also look at differential response tendencies within households by education and main activity (next to age, gender, position in household).
- Table 5 reports linear probability model
  - Children less likely to respond
  - High educated more likely to respond
  - Less response among full-time employed and disabled.

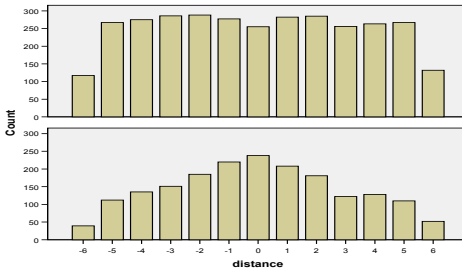
Check on birth month

- In both projects we have asked for month of birth.
- Comparison of observed birth month with randomly generated birth months.
- ISSP: next birthday
- ESS: closest birthday

Expected vs. observed: ISSP



Expected vs. observed: ESS



Observed – Expected distribution

- ISSP (N=5016):
  - Chi2/df 65 / 11
  - Phi .114
- ESS (N=5131):
  - Chi2/df 91 / 12
  - Phi .133

Conclusions

- Birthday methods works, but far from perfect.
- Major within-household substitution is that parents take the place of their children. Both in ISSP and ESS.
- No significant differences in household composition between ISSP (postal) and ESS (interviewer).
- ISSP also indicates within-household substitution with respect to education: higher educated (spouse?) replaces lower educated. This cannot be investigated in ESS.
- No conclusion yet with respect to relations with respect to criterium variables.

Discussion

- How can I estimate the number of substitutes?
- Analysis would be more straightforward if blocks are organized by first day of random month and selection is on first birthday after that date.
- Within-household substitution pattern should be part of post-stratification weight.