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Learning, understanding, and motivation effects on “don’t know” in panel surveys

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Summary

Whether a changed response quality in panel surveys is due to general learning, a higher motivation, or panel conditioning is difficult to analyze. At least, there is some agreement that response quality changes over time depends largely on the person groups considered.

In this paper we analyze whether different person-groups change “don’t know” answers to the same political questions in different ways due to different time in the panel, survey question understanding, and motivation effects. Using data from a nationally representative telephone panel, we find that “don’t know” answers generally decreases with time in the panel, especially for respondents new to Switzerland, young people, and foreigners answering in a foreign language. These effects are in parts due to a better question understanding. More motivation is effective for respondents new to Switzerland, those with a lower education, young, and old people. Older people, however, are the only person-group with increased “don’t know” answers and with a significantly decreasing question understanding over time.

Key words: panel conditioning, learning, don’t know, fixed effects, question understanding, motivation.

Learning, understanding, and motivation effects on “don’t know” in panel surveys

Oliver Lipps¹

1. “Don’t know” responses in panel surveys

Increasingly less item nonresponse in panel surveys may be a result of general learning about the topic (Cantor 1989), or fieldwork efforts. To analyze reasons for item-nonresponse, it is important to distinguish between “don't knows” and refusals (Shoemaker et al. 2002). To decrease “don't knows”, researchers should focus mostly on cognitive effort (op. cit.). In this paper we focus on the change of “don't know” answers, for which learning effects as well as question understanding and motivation may play a role (Leigh and Martin 1987, De Leeuw et al. 2003). In addition panel conditioning may be at work, which is the phenomenon that respondents are at later waves in some way influenced by their involvement in earlier waves. Since conditioning may be indistinguishable from external influences, Van der Zouwen and van Tilburg (2001) report mixed evidence of panel conditioning. As for “don’t know” answers, Waterton and Lievesley (1989) report a decrease as a result of participation in earlier waves in a panel survey. Similarly, Binswanger et al. (2013) find that novice respondents answer “don’t know” more often than experienced panelists, especially to difficult attitude questions. However, they report no conditioning effects for measured preferences, except for small effects for respondents with low education. Warren and Halpern-Manners (2012) conclude in their meta-analysis that it is hard to show that effects are actually due to panel conditioning, and most studies are lacking an appropriate research design. They complain that these studies demonstrated “that panel conditioning can possibly happen [but not] ... whether or under what circumstances it generally or usually occurs” (p.505). Specifically, they suspect that panel conditioning effects may be true for some person-groups and not for others.

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In this paper we analyze the role of a changed question understanding and motivation on the proportion of “don’t know” responses on political questions. Our argument is that the likelihood of a “don’t know” response depends on respondent’s confrontation with the topic surveyed: Some respondents begin their first wave without having thought a lot about their personal positions, for example on certain political issues. A confrontation with such new topics may stimulate respondents to reflect on their views after the interview, gather more information, and accumulate knowledge. This may for example be the case for people with little political interest or for foreigners when being asked about their preferred party in a country, where they did not vote before the first wave. While panel conditioning effects may be at work as well, we expect negative effects on “don’t know” above all for participants with an initially smaller motivation, less survey concern, and a poorer question understanding. Likely candidates are foreigners, those not answering in their mother tongue, and lower educated respondents, who all exhibit higher degrees of “don’t knows” (Kleiner et al. 2012). For them, familiarity with the survey, the level of information on a survey topic and respondent motivation most likely increases most over time. In addition we expect smaller effects for easier questions (Leigh and Martin 1987). Kleiner et al. (2012) find less item nonresponse in the case of questions with three or less response categories when compared to questions with more response categories.

To analyze the quality of answers given to survey questions, Tourangeau, Rips, and Rasinski (2000) divide the survey response process into four major components: question comprehension, retrieval of relevant information, use of that information to judge or estimate possible answers required by the question, and the selection of an answer. To be able to provide an adequate answer requires in addition to a good question understanding sufficient cognitive skills to retrieve the information, the effort to judge answers and finally making a selection. This may not always be the case especially for unclear, difficult, or sensitive questions, or questions which are of little relevance for the respondent. Whether respondents make this effort largely depends on their motivation. Two theories which address the role of cognitive effort in information processing and communication can be employed: Relevance theory (Sperber and Wilson 1987) and the theory of satisficing (Krosnick 1991). According to the first, respondents expect that the questions in a survey are personally relevant. That is, questions should pertain to their lives and ask about issues they have information about or opinions on. Irrelevant questions would not fit with the context which the respondent has, i.e. “the subset of the hearer's

assumptions about the world” (Sperber and Wilson 1987, p.698), and would therefore violate the principle of relevance. Less relevant survey questions are more difficult to process (Lenzner 2011).

The satisficing theory presumes that there is a discrepancy between the required cognitive effort to provide the optimal answer and the respondent’s willingness to do this. Reasons for a reduced willingness are for example that respondents are often not compensated for, for example by some form of policy relevance. They may as a consequence shortcut the response processes and interpret questions only superficially, stop searching their memories after retrieving the first piece of relevant information, perform a judgment more carelessly, and select a response option more randomly. Satisficing respondents use response strategies that allow them to avoid demanding cognitive work while still appearing as if they were completing the survey appropriately. For example, satisficing response strategies include saying “don’t know” instead of reporting an opinion. The important factors that foster respondent satisficing are question difficulty, and respondent ability motivation (de Leeuw et al. 2003).

Following these considerations, we test the following hypothesis:

The proportion of “don’t knows” (DK) on political questions decreases with time in the panel, especially for difficult questions, and respondents with initially more problems with these questions: young respondents, foreigners, those not answering in their mother tongue, and lower educated people. This response quality improvement is in parts mediated by an improved question understanding and higher motivation.

2. Data

We use data from the Swiss Household Panel (SHP) from 2004 to 2013. The SHP is a nationally representative, multi-topic, annually conducted and centralized CATI panel survey to observe the dynamics of changing living conditions of the Swiss residential population. Among other topics, questions are about socio-demographics, health and well-being, politics, social networks, and finances. The SHP started in 1999 with a random sample of 5,074 households and added a refreshment sample of 2,538 households in 2004, also randomly selected. All household members from the age of 14 on complete an individual questionnaire. The survey is administered in German, French, and Italian. The analysis sample amounts to 11,941 individuals aged 18 years or older interviewed by a total of 566 interviewers, with 66,831 observations.

To control for unobserved time-invariant individual heterogeneity, we run within-individual (respondent specific time-“de-measured”) models. By doing so, all time-invariant characteristics of the respondents are controlled for and effects are related to within-individual changes only (Angrist and Pischke 2009). That is, for each variable, the respondent’s individual means are subtracted from the respondent’s wave-specific value, including the binary dummies (see Brüderl 2005, Halaby 2004).

To construct the dependent variable, we use the 21 unfiltered (i.e., asked all respondents) political questions asked in the waves between 2004 and 2013. Seven of these questions have three response categories (all labelled), 13 questions have 11 response categories (endpoint labelled), and one asks about the party the respondent would vote for. At first, we dichotomize each item according to whether a DK (=1) or another answer (=0) was given to the question. Then, we time de-mean *each* of these dummy items for each respondent before we standardize the de-measured item (mean=0, standard deviation=1). Then, we aggregate the items by calculating the respondent-specific mean across the standardized de-measured items.

We model the proportion of “don’t know” answers by different person-groups. The choice of the groups by age (18-25, 26-69, 70+), number of years of stay in Switzerland (0-5 years, 6-10 years, 11+ years), education level (low, medium, high), survey language mastery (first mother tongue, second-best mastered mother tongue, foreign language), and nationality (native Swiss, foreigner from a neighboring country (which shares one of the survey language), another foreigner) is motivated by the fact that these variables discriminate “don’t know” answers in a cross-sectional design (Kleiner et al. 2012). In addition to all 21 questions, we did the same procedure for the seven “easy” questions with only three response categories. However, although the interviewer specific variance is slightly higher, we did not find consistently different effects from the independent variables on DK, when compared to the full set of 21 independent variables.

As for the independent variables question understanding and motivation, interviewers rate the respondent’s question understanding on a three-point scale², as well as the likelihood of a participation of the respondent in the next wave on a four-point scale³,

² “Was the respondent’s understanding of the questions?” poor (recoded 0), fair (recoded 1), good (recoded 2).

³ “Do you expect this respondent to participate in the next wave?” absolutely (recoded 3), probably yes (recoded 2), maybe (recoded 1), no (recoded 0).

the respondent's attitude on a four-point scale⁴, and how difficult it was to convince the respondent to participate on a three point scale⁵. To calculate a variable which describes motivation of the respondent, we run an exploratory factor analysis (principal-factor method) using the latter three items. The result are three factors with eigenvalues of 1.02, -.13, and -.21, respectively, such that the first factor includes the lion's share of the total variance of the original items. The factor loadings of the original items with the first factor are .68 (respondent will participate in next wave), .53 (respondent attitude is friendly), and -.68 (respondent was difficult to convince), respectively. We interpret this first factor as the general motivation of the respondent to complete the survey.⁶

Finally, we analyzed if a combination of some categories of the three-category variable question understanding would be advisable. To do this, we regressed the within-individual dependent variable DK on the two within-individual variables of fair and good understanding (versus poor understanding). We found that the two estimates were quite similar⁷ indicating similar effects of fair and good understanding (versus poor understanding) on DK. We therefore combined the two categories fair and good understanding and treat the understanding variable as a binary dummy.

3. Multivariate models

All models are run separately by person-group. We start with the model 0 with only the intercept, include the within-individual number of waves in the panel in model 1, add respondent question understanding in model 2, and motivation in the final model 3. The idea behind this order is to calculate mediation effects on time in the panel, first from question understanding and then from motivation in addition.

In the SHP respondents are randomly assigned to interviewers, which results in a respondent-interviewer crossed multilevel data structure. As for the random effects, we assume that the interviewer intercept is a normally distributed random variable. Note that because we model within-individual transformed variables, the individual-specific mean values are zero and need not be estimated. We use the MLwiN software (Rasbash et al. 2012), called from within Stata via the runmlwin command (Leckie and

⁴ "In general, was the respondent's attitude toward the interview": Friendly and cooperative (recoded 3), cooperative, but not particularly interested (recoded 2), impatient and restless (recoded 1), hostile (recoded 0).

⁵ "How difficult was this case to get?" Somewhat easy (1), somewhat difficult (2), very difficult (3).

⁶ Because our variables are ordinal rather than continuous, we tested a principal component analysis on the polychoric correlation matrix resulting in a score variable, which is correlated with a value of .94 with this factor. Because of this similarity we stick to the standard factor.

⁷ -.12 and -.16.

Charlton 2013). We use cross-classified linear Monte Carlo Markov Chain (MCMC) estimated regression models⁸ (Fielding and Goldstein 2006). For each socio-demographic group considered, we report the number of observations (N) as well as the number of interviewers involved. In the following tables, we first list the coefficients of the regression models by socio-demographic group, before we discuss them. Due to the different sample sizes across socio-demographic groups, we focus on effect sizes rather than significance levels to compare the coefficients across groups.

Table 1: Proportion of “don’t knows” to political questions: By age groups.

	Model 0	Model 1	Model 2	Model 3
Age 18-25 (N=9,926, 528 Interviewers)				
Within-individual wave		-0.0127*	-0.0123*	-0.0118*
Within-individual question understanding			-0.4768*	-0.4583*
Within-individual motivation				-0.0211*
Constant	-0.0125*	-0.0091	-0.0093	-0.0092
Variance intercept (interviewer level)	0.0010*	0.0008*	0.0008*	0.0008*
Variance intercept (observation level)	0.1059*	0.1054*	0.1050*	0.1050*
Age 26-69 (N=51,171, 562 Interviewers)				
Within-individual wave		-0.0025*	-0.0025*	-0.0023*
Within-individual question understanding			-0.1762*	-0.1664*
Within-individual motivation				-0.0079*
Constant	-0.0084*	-0.0025*	-0.0025*	-0.0023*
Variance intercept (interviewer level)	0.0022*	0.0021*	0.0021*	0.0021*
Variance intercept (observation level)	0.1462*	0.1462*	0.1461*	0.1461*
Age 70+ (N=5,734, 497 Interviewers)				
Within-individual wave		0.0039	0.0035	0.0040
Within-individual question understanding			-0.1536*	-0.1182
Within-individual motivation				-0.0327*
Constant		0.0039	0.0035	0.0040
Variance intercept (interviewer level)	0.0058*	0.0059*	0.0058*	0.0057*
Variance intercept (observation level)	0.3131*	0.3129*	0.3126*	0.3119*

Data: SHP 2004-2013 adult sample. N=66,831 observations, 11,941 respondents, 566 interviewers. * significant on 1% level.

We first note that the interviewer-specific variance amounts to 1-2% of the observation-specific variance. All but older respondents decrease DK over time, especially young respondents. Both better question understanding and motivation decrease DK. Question understanding appears to be most effective for young respondents, motivation for older respondents.

⁸ As a criterion for the model quality, the Bayesian DIC (Deviance Information Criterion) can be used, which is an MCMC penalized goodness of fit measure. It is equivalent to the Akaike Information Criterion (AIC) used in maximum likelihood estimation and can be interpreted in the same way: Nested models may be ranked according to their Bayesian DIC, with the one having the lowest Bayesian DIC being the best. To keep the reporting tables more accessible, we do not report this statistic since our models are small and are built up hierarchically. DIC statistics can be obtained on request from the author.

Table 2: Proportion of “don’t knows” to political questions: By language.

	Model 0	Model 1	Model 2	Model 3
1 st Mother tongue (N=60,254, 566 Interviewers)				
Within-individual wave		-0.0021*	-0.0021*	-0.0018*
Within-individual question understanding			-0.1345*	-0.1188*
Within-individual motivation				-0.0125*
Constant	-0.0068*	-0.0048	-0.0048	-0.0051
Variance intercept (interviewer level)	0.0018*	0.0017*	0.0018*	0.0018*
Variance intercept (observation level)	0.1256*	0.1256*	0.1255*	0.1255*
2 nd mother tongue (N=4,827, 471 Interviewers)				
Within-individual wave		-0.0042	-0.0040	-0.0030
Within-individual question understanding			-0.2521*	-0.2089*
Within-individual motivation				-0.0463*
Constant	-0.0094	-0.0047	-0.0047	-0.0055
Variance intercept (interviewer level)	0.0069	0.0070	0.0066	0.0067*
Variance intercept (observation level)	0.3797*	0.3794*	0.3788*	0.3778*
Foreign language (N=1,750, 392 Interviewers)				
Within-individual wave		-0.0097	-0.0079	-0.0089
Within-individual question understanding			-0.3953*	-0.4217*
Within-individual motivation				0.0346
Constant	-0.0090	0.0016	-0.0029	-0.0015
Variance intercept (interviewer level)	0.0101	0.0080	0.0112	0.0113
Variance intercept (observation level)	0.5335*	0.5352*	0.5288*	0.5281*

Data: SHP 2004-2013 adult sample. N=66,831 observations, 11,941 respondents, 566 interviewers. * significant on 1% level.

Again the interviewer-specific variance amounts to 1-2% of the observation-specific variance. The less well a language is mastered, the stronger is the effect of the number of the wave, and the more effective a better question understanding on DK. Motivation is less effective for respondents answering in their 2nd mother tongue and has an even positive effect for respondents who answer in a foreign language.

Table 3: Proportion of “don’t knows” to political questions: By time in Switzerland.

	Model 0	Model 1	Model 2	Model 3
0-5 years (N=1,610, 365 Interviewers)				
Within-individual wave		-0.0177*	-0.0160	-0.0144
Within-individual question understanding			-0.3879*	-0.3340*
Within-individual motivation				-0.0446
Constant	-0.0275	-0.0130	-0.0151	-0.0159
Variance intercept (interviewer level)	0.0125	0.0116	0.0128	0.0106
Variance intercept (observation level)	0.3488*	0.3480*	0.3449*	0.3462*
6-10 years (N=1,300, 351 Interviewers)				
Within-individual wave		-0.0122	-0.0119	-0.0115
Within-individual question understanding			-0.1238	-0.0857
Within-individual motivation				-0.0387
Constant	-0.0180	-0.0024	-0.0031	-0.0036
Variance intercept (interviewer level)	0.0090	0.0083	0.0088	0.0085
Variance intercept (observation level)	0.3193*	0.3191*	0.3187*	0.3185*
11+ years (N=63,921, 566 Interviewers)				

Within-individual wave		-0.0017	-0.0017	-0.0015
Within-individual question understanding			-0.1704*	-0.1569*
Within-individual motivation				-0.0119*
Constant	-0.0068	-0.0052	-0.0053	-0.0056
Variance intercept (interviewer level)	0.0021*	0.0020*	0.0020*	0.0020*
Variance intercept (observation level)	0.1463*	0.1463*	0.1461*	0.1461*

Data: SHP 2004-2013 adult sample. N=66,831 observations, 11,941 respondents, 566 interviewers. * significant on 1% level.

The interviewer-specific variance is now slightly larger compared with the observation-specific variance for respondent new to Switzerland (about 3%). There are almost no effects from the number of waves for those who are in the country for a longer time, but strong effects for the other groups. Not surprisingly, better question understanding and more motivation are more effective for respondents new to Switzerland.

Table 4: Proportion of “don’t knows” to political questions: By nationality.

	Model 0	Model 1	Model 2	Model 3
Swiss (N=60,646, 565 Interviewers)				
Within-individual wave		-0.0020*	-0.0020*	-0.0018*
Within-individual question understanding			-0.1773*	-0.1616*
Within-individual motivation				-0.0138*
Constant	-0.0063	-0.0040	-0.0043	-0.0046
Variance intercept (interviewer level)	0.0016*	0.0016*	0.0016*	0.0015*
Variance intercept (observation level)	0.1267*	0.1267*	0.1265*	0.1265*
Neighbor (N=3,729, 468 Interviewers)				
Within-individual wave		-0.0055	-0.0055	-0.0053
Within-individual question understanding			0.1424	0.1565
Within-individual motivation				-0.0115
Constant	-0.0099	-0.0038	-0.0037	-0.0040
Variance intercept (interviewer level)	0.0068*	0.0066*	0.0066*	0.0067*
Variance intercept (observation level)	0.2733*	0.2733*	0.2731*	0.2732*
Other (N=2,456, 421 Interviewers)				
Within-individual wave		-0.0087	-0.0071	-0.0066
Within-individual question understanding			-0.3740*	-0.3597*
Within-individual motivation				-0.0119
Constant	-0.0188	-0.0096	-0.0133	-0.0137
Variance intercept (interviewer level)	0.0313	0.0249	0.0268	0.0280
Variance intercept (observation level)	0.6487*	0.6532*	0.6483*	0.6478*

Data: SHP 2004-2013 adult sample. N=66,831 observations, 11,941 respondents, 566 interviewers. * significant on 1% level.

The findings from the respondents distinguished by language and length of stay in Switzerland carry to respondents with different nationalities: we find relatively high interviewer effects (about 5%) and strong wave and question understanding effects for foreigners from another than from a neighboring country. However, surprisingly, there are positive effects from question understanding on DK for foreigners from a neighboring country, and almost no differences across the groups from motivation.

Table 5: Proportion of “don’t knows” to political questions: By education level.

	Model 0	Model 1	Model 2	Model 3
Low education (N=13,653, 542 Interviewers)				
Within-individual wave		-0.0012	-0.0012	-0.0006
Within-individual question understanding			-0.1364*	-0.1093
Within-individual motivation				-0.0252*
Constant	-0.0058	-0.0051	-0.0051	-0.0055
Variance intercept (interviewer level)	0.0047*	0.0047*	0.0047*	0.0046*
Variance intercept (observation level)	0.2941*	0.2940*	0.2939*	0.2937*
Mid education (N=26,528, 561 Interviewers)				
Within-individual wave		-0.0033*	-0.0034*	-0.0031*
Within-individual question understanding			-0.2281*	-0.2108*
Within-individual motivation				-0.0134*
Constant	-0.0086	-0.0046	-0.0050	-0.0053
Variance intercept (interviewer level)	0.0029*	0.0027*	0.0027*	0.0026*
Variance intercept (observation level)	0.1445*	0.1445*	0.1443*	0.1443*
High education (N=26,650, 555 Interviewers)				
Within-individual wave		-0.0028*	-0.0027*	-0.0026*
Within-individual question understanding			-0.2255*	-0.2194*
Within-individual motivation				-0.0058
Constant	-0.0049	-0.0018	-0.0019	-0.0018
Variance intercept (interviewer level)	0.0010*	0.0010*	0.0010*	0.0010*
Variance intercept (observation level)	0.0927*	0.0927*	0.0926*	0.0925*

Data: SHP 2004-2013 adult sample. N=66,831 observations, 11,941 respondents, 566 interviewers. * significant on 1% level.

Distinguished by education level, we find generally small wave effects on DK, and moderate negative effects from question understanding for all groups. That effects from understanding are smallest for less educated respondents is surprising. However, motivation is most effective for these respondents.

4. Summary and discussion

In this paper we analyze changes of “don’t know” answers on the same political questions in panel surveys. We started with a discussion about general learning and panel conditioning effects. We concluded that effects are probably different across different person groups since respondents with different backgrounds may have a different familiarity with and interest in the survey topic. Also, they may react differently when repeatedly being asked the same survey questions. In general, but in particular for respondents who initially have more trouble to adequately respond to survey questions especially on political issues such as foreigners and especially those who are in the country since a short time only, those answering in a foreign language, or respondents with a lower education, we missed the idea to study the effect of a

possibly increased survey question understanding and motivation. From our findings in the literature, this consideration led to the following hypothesis about learning effects: The proportion of “don’t knows” (DK) on political questions decreases with time in the panel, especially for difficult questions and respondents with initially more problems with these questions: foreigners, those not answering in their mother tongue, and lower educated people. This response quality improvement is in parts mediated by an improved question understanding and higher motivation.

To analyze this hypothesis, we use data from the Swiss Household Panel between 2004 and 2013. We run respondent fixed effects models to control for unobserved individual heterogeneity. That is, we only use within-respondent de-meaned variables: the number of waves, question understanding, and motivation. To construct the within-respondent de-meaned dependent variables, of which each includes several survey items, we de-mean each item first, standardize the de-meaned items, and calculate their mean values for each respondent.

We find interviewer effects that are in the range of 1-5% of the observation effects (net of respondent effect). This is not negligible, and is in the order of what is common as the interviewer specific share of the total variance (respondent and interviewer) on DK in telephone cross-sectional surveys (e.g., Pannekoek 1988). The number of the wave effect on DK is negative for respondents who are less familiar with political issues in Switzerland such as young adults and foreigners, but not for lower educated people, and even positive for older respondents. Such effects from the time in the panel are to some extent mediated by both a better question understanding and a higher motivation. Those with a higher negative number of wave effect decrease DK more effectively by a better question understanding. As for effects from motivation on DK, the picture is more mixed: there is a strong negative effect for lower educated, young or old respondents, those not answering in their first best mastered mother tongue, and respondents in the country since a shorter while. Generally, the effects are rather weak which is very likely also due to the focus on fixed effects models which only use within-respondent’s variance.

Our hypothesis is confirmed. A longer time in the panel, a better question understanding, and an increased motivation make respondents new to Swiss politics more familiar with political issues, increase their knowledge, and ultimately help to reduce DK. Our results suggest that respondents accumulate both knowledge of and interest in political issues during the first waves. We conclude that survey designers

must make sure that not only the “average Swiss”, but all sample members are able to correctly answer survey questions, and have the feeling that these questions are important for them. A generally positive learning effect (less DK) can be achieved more effectively by a targeted better question understanding and more motivation. We are concerned about the response behavior of older people who exhibit even more DK over time. It may be that older people are increasingly overburdened or less concerned by such questions. In addition, they are the only person-group considered here that significantly decrease their question understanding over waves. Nevertheless more motivation is effective for these respondents.

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6. Appendix: Survey Questions considered and Descriptive Statistics

(asked of all adults in the SHP survey during the waves between 2004 and 2013)

a. Political Questions (easy questions with three response categories are marked with an asterisk*):

- Generally, how interested are you in politics, if 0 means "not at all interested" and 10 "very interested"?
- Overall, how satisfied are you with the way in which democracy works in our country, if 0 means "not at all satisfied" and 10 "completely satisfied"?
- How much influence do you think someone like you can have on government policy, if 0 means "no influence", and 10 "a very strong of influence"?
- How much confidence do you have in The Federal Government (in Bern), if 0 means "no confidence" and 10 means "full confidence"?
- If 0 means "never" and 10 "certainly", tell me to what extent, in the future, you are prepared to take part in
 - a boycott
 - a strike
 - a demonstration
- When they talk about politics, people mention left and right. Personally, where do you position yourself, 0 means "left" and 10 "right"?
- Are you in favor of Switzerland having a strong army or for Switzerland not having an army?* (first alternative / neither nor / second alternative)
- Are you in favor of a diminution or in favor of an increase of the Confederation social spendings?* (first alternative / neither nor / second alternative)
- Are you in favor of Switzerland joining the European Union or are you in favor of Switzerland staying outside of the European Union?* (first alternative / neither nor / second alternative)
- Are you in favor of Switzerland offering foreigners the same opportunities as those offered to Swiss citizens or in favor of Switzerland offering Swiss citizens better opportunities?* (first alternative / neither nor / second alternative)
- Are you in favor of Switzerland being more concerned with protection of the environment than with economic growth, or in favor of Switzerland being more concerned with economic growth than with protection of the environment?* (first alternative / neither nor / second alternative)
- Are you in favor of an increase or in favor of a decrease of the tax on high incomes?* (first alternative / neither nor / second alternative)

- Are you in favor of Switzerland having nuclear energy, or are you in favor of Switzerland not having nuclear energy?* (first alternative / neither nor / second alternative)
- If there was an election for the National Council tomorrow, for which party would you vote?
- Do you have the feeling that in Switzerland women are penalized compared with men in certain areas, if 0 means "not at all penalized" and 10 "strongly penalized"?
- Do you, in your everyday life, feel penalized compared with the opposite sex, if 0 means "not at all penalized" and 10 "strongly penalized"?
- Are you in favor of Switzerland taking more steps to ensure the promotion of women, if 0 means "not at all in favor" and 10 "totally in favor"?
- In your own relationships with the opposite sex, does it seem possible to you that something can be done to increase equality between men and women, if 0 means "not at all possible" and 10 "totally possible"?
- Would you say that most people can be trusted or that you can't be too careful in dealing with people, if 0 means "Can't be too careful" and 10 means "Most people can be trusted"?

Descriptive Statistics

	Mean	Std.Dev.
Number of wave	6.843	3.660
Age: 18-25 years	0.115	0.319
Age: 26-69 years	0.759	0.428
Age: 70+ years	0.127	0.333
In Switzerland since 0-5 years	0.024	0.153
In Switzerland since 6-10 years	0.019	0.138
In Switzerland since 11+ years	0.957	0.204
Education level: low	0.166	0.372
Education level: middle	0.400	0.490
Education level: high	0.434	0.496
Survey language is respondent's first best language	0.906	0.292
Survey language is respondent's second-best language	0.071	0.257
Survey language is a respondent's foreign language	0.023	0.150
Nationality: Swiss	0.909	0.288
Nationality: from a neighbouring country	0.056	0.231
Nationality: from another country	0.035	0.184
Question understanding (0-2)	1.915	0.308
Motivation (factor)	0	0.822
Proportion of "don't knows" to polit. Questions	0.024	0.066

Data are from the SHP 2004-2013 adult sample. 66,831 observations, 11,941 respondents