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Cognitive Determinants of Data Quality in Public Opinion Polls: Respondents Definition of the Survey¹

Abstract: The public opinion survey conducted by CBOS (Public Opinion Research Center) on a representative nationwide sample of adult Poles (N = 1,024) in February 2004 has included a set of questions developed in order to reconstruct various dimensions of respondents' attitudes towards public opinion polls (e.g. anonymity, confidentiality, role of opinion polling in a democratic society, uses and abuses of public opinion polls, etc.). The aim was to verify the hypothesis that people who are better educated, more engaged in politics and already have some survey experience tend to define the interview situation in a more accurate and more positive way than those who are less educated, less involved in politics and having no survey experience at all. Thus, education, political participation and survey experience were supposed to be the main factors determining positive attitudes towards the interview, consequently leading to more accurate cognitive processes, lower tendency for satisficing and better quality of answers.

Factor analysis (to distinguish patterns of defining public opinion polls) and regression analysis (to verify the hypotheses) were applied in the analysis of findings.

Keywords: Determinants of response quality, respondents' definition of the interview situation, satisficing vs optimizing patterns of responding.

Background and Theoretical Assumptions

Theoretical Background

Participation in the research interview is a social experience for the respondent. Most commonly, the social nature of the interview is understood in a limited way in theoretical and methodological considerations. The interview is perceived as a social encounter based on conversation. It often differs from other such encounters by being instrumental, i.e. focused on a purpose. The interview gathers two parties involved in a conversation i.e. an interviewer and a respondent; each of them being a possible source of survey bias. The interaction between these two might also result in bias.

The interview may be defined as a cognitive task to be performed by the respondent. Such a cognitive task and its effect in a form of answers to survey questions have not been often analyzed from the point of view of social nature of the interaction between the interviewer and the respondent.

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The most commonly used classification of survey errors takes into account just three sources of bias: those caused by the interviewer, those caused by the respondent and those caused by the survey tool itself (like the questionnaire design and contents, question wording, question context, question order, etc.) (Sudman & Bradburn 1997), but not necessarily those caused by the interaction between the three, neither by the respondent's perception of the interaction as a social situation.

The earliest tradition of empirical examination of survey errors focused either on errors caused by sampling method and procedures or on the very task of the survey as the superior source of bias (the tradition of *The American Soldier*, Stouffer et al. 1949; Mosteller, Hyman, McCarthy, Marks & Truman 1949). The early tradition of examining interviewing method and questionnaire as a major source of bias was revitalized in the 70ties and the 80ties (see: Alwin, (ed). 1978; Dijkstra & van der Zouwen 1982). The interviewer as a source of bias in survey research was subject to a detailed analysis by Hyman (1957). In the early studies little attention was paid to the respondent. Moreover, the sources of survey bias were analyzed only in isolation, but not in interaction. In our opinion, this was and still remains the main weakness of the empirical survey methodology.

The researchers gathered around the methodological school in Łódź, Poland, mainly focused their attention on such topics as *inter alia*:

1. The impact of official vs. private situation of the interview on the quality of answers (Słomczyński 1966);
2. Differences in respondents' behavior during the interview dependent on their social position (Gostkowski 1970);
3. The influence of third persons' presence on the respondent's behavior and the quality of answers (Lutyńska 1972);
4. The effect of the interview's location on the respondents' answers (Lutyńska 1972).

At later stage in Łódź there were first attempts to analyze the interview situation as a more complex phenomenon. This approach took into account a psycholinguistic perspective (Wejland 1993a).

The qualitative research by Staszyńska (1989) focused on the social nature of survey research and explained how respondents' perception of survey affected the quality of gathered answers. Four classes of the definition of survey research recognized in respondents' perception were distinguished by this qualitative analysis:

1. The test of individual features of the respondent, such as psychological characteristics, intellectual competence, political opinions, etc.;
2. An excuse for social conversation, regardless of the actual subject of the survey;
3. The method of collecting the information;
4. The tool for social change.

Interestingly enough, the former two types of survey definition are strongly related to the respondents' egocentric predispositions. On the contrary, the two latter types are correlated with their sociocentric predisposition. Within each class of survey definition two types of respondent's role were distinguished. The roles, however, were not recognized as determinants of the quality of answers; neither was the respondents' perception of the use of surveys: e.g. scientific or pragmatic (for the sake of social

change). The primary factor determining the response quality was the type of respondents predisposition: those expressing egocentrism provided answers of a relatively poor quality, while sociocentrics used to deliver high quality answers. The sense of threat associated with answering survey questions was suspected to be more common among egocentric respondents, than among sociocentric ones and was proclaimed as the major reason for giving poor quality answers.

Focus on the respondent as a source of bias directed the researchers' attention to respondents' cognitive reactions to the survey interview. The earliest cognitive model of survey response process developed by Cannel, Miller and Oksenberg (1981) assumed two patterns of responding to survey questions. The first one, resulting in accurate responses, was composed of 5 stages: comprehension of the question, cognitive processing (incl. assessments of information sought, retrieval of necessary memory, integration and response formulation), evaluation of the accuracy of the response, evaluation of the response on dimensions other than accuracy and, finally, accurate responding. The second pattern, resulting in inaccurate responding, involves various sources of bias, such as the interviewer's appearance, behavior and status, questions' wording and context as well as the respondent's beliefs, values and goals. Inaccurate responding was characterized in this model by conformity bias, desirability bias or acquiescence bias.

Another cognitive approach to quality of survey answers exploits an economic term of "satisficing" and recognizes two strategies adopted by the survey participants, namely two routes to respondents' answers: the first one based on satisficing and the second one based on optimizing (Krosnick & Alwin 1987). Respondents who tend to satisfice do not engage all their cognitive powers to give accurate answers but try to deliver a plausible answer at a minimum effort. On the other hand, respondents who tend to optimize, engage their all cognitive abilities to provide the best possible answer.

These two basic models were criticized for offering the dichotomous picture of respondents' cognitive ability to accurately answer survey questions—either the cognitive process goes correctly and respondent gives accurate answers or it goes incorrectly and respondent gives inaccurate answers.²

Tourangeau, Rips & Rasinski distinguished the following four components involved in asking questions: comprehension, retrieval, judgement and response (Tourangeau 1984, 1987; Tourangeau & Rasinski 1988; Tourangeau, Rips & Rasinski 2000). Nevertheless, this approach also failed to analyze how the interaction between various sources of errors generated survey bias.

The authors who analyze survey errors in the cognitive theoretical perspective take into consideration also the logic of conversation as a factor influencing the first cognitive stage of answering questions, i.e. comprehension (Sudman, Bradburn & Schwartz 1996, Sirkin at al. 1999). The logic of an everyday conversation is a filter helping the respondent to better understand the real meaning of questions and the researcher's intentions behind them. Still, no other social factors are taken into ac-

² The best known in Poland is Norbert Schwartz's perspective (Wejland 1993b, Krzewińska 2004).

count and the survey error analysis stays within the traditional frame enriched to some extent by the cognitive psychology perspective. However, the social nature of the research interview is still not given a substantial role in explaining survey bias.³

Proposed Theoretical Perspective

Although the understanding of the social nature of the interview is more or less common among survey methodologists, the implication of this fact for the quality of survey data has not been yet fully examined. The survey research process is a social interaction. This means that the behavior of its participants and its consequences, especially such as the quality of the data obtained, should be discussed as an interaction perceived as a social event that takes place in a broader social contexts and has a particular social meaning. From the respondent's point of view, participation in a survey is just one out of many social experiences, although of a particular character, because not often experienced and repeated. The respondent's performance in a survey interaction is strongly dependent on the way how he or she defines the interview situation. The interview as a conversation in which is asked by a stranger to reveal private experiences, attitudes and opinions. How the respondent defines this conversation, its social role and expected outcome depends to a large extent on his or her previous social experience and the perception of the surrounding social world. All these influence the answers to interview questions.

The respondents' definition of the interview situation includes understanding of the very nature of their task in the survey, the purpose of conducting the survey, the purpose of asking particular questions, the respondents' and the interviewers' roles in survey interaction, the future use of survey results as well as the expected use and the consequences of the respondents' particular answers. Obviously, the definition of the situation is also to some extent created by an interviewer's appearance and behavior, by the features of research tools, such as the questionnaire itself, questions order and wording. How the respondent behaves during the interview interaction is, however, to a large extent dependent on his or her social background and on the meaning he or she attaches to this situation. Our main assumption is that the quality of the cognitive process involved in answering questions is not only related to the respondent's overall cognitive abilities, but to a large extent to the way he or she defines the interview situation.

Thus, we propose to look at the quality of survey data in a broader perspective. We strongly believe that the low quality of survey response can be mainly attributed to an inadequate definition of survey social situation by respondents. Although survey research penetration seems pretty high, the participant-respondent's experience is still not common in our societies. According to CBOS estimates, only a little more than ten percent of the Polish adult population have ever taken part in sociological or market research (Wentzel 2004, Wądołowska 2010, 2011). Thus, the

³ Some experiments conducted by Norbet Schwartz's have been replicated in Poland (Krzewińska 2004) and the results proved that his findings are, at least partially, limited to the specific cultural context where a survey takes place.

social meaning of survey research stays in indeterminate social space.⁴ Ordinary people often fail to fully understand what is behind the surveys, who sponsors them, who uses the findings and for what purposes. Although the media substantially contributed to common understanding of public opinion polling, they still left a lot unexplained, especially the survey mechanics and methods (eg. sampling, methods of data aggregation, etc.), and their social role as a source of published information.

The definition of the interview situation is formed by the respondent's life experience and his or her knowledge about survey research. This definition affects an overall respondent's attitude towards the interview and his or her ability to perform the cognitive process in an accurate way. It also affects the choice between satisficing and optimizing strategy of answering questions and, finally, the quality of answers. In our model such determinants of the quality of the respondent's answers, as an interviewer (his or her appearance, behavior and status) and a research tool (questions order, wording and context) are not taken into account, since we have not implemented an experimental design in our research and, on the other hand, they were subject to many previous considerations. We concentrate our attention on the impact exerted on the response quality by the respondent's definition of survey situation in its interaction with other variables specified in the model.

Empirical Examination: Research Design

The monthly public opinion survey conducted by CBOS in February 2004⁵ included a set of questions developed in order to reconstruct the respondents' definition of public opinion research, such as their perceptions of actual uses and abuses of survey results, role of opinion polling in a democratic society, feeling of being subjected to a knowledge test, assurance of anonymity and confidentiality, etc. The questionnaire was also extended by a set of questions addressed to an interviewer; the interviewers were asked to estimate a level of difficulty faced by each respondent in answering substantive questions and also, to evaluate an overall respondent's attitude towards the interview.

We assume that the definition of the interview situation is related to basic demographics such as gender, age and level of education. It also should be related to political participation as well as to previous experience with surveys. We define the social background of respondents in terms of gender, age and education (number of years of education completed), their interest in politics, declared participation in political elections and their previous survey experience (i.e. survey participation, knowing people who did participate, reading or hearing about surveys and their results in the media).

⁴ This statement might be a controversial one (Lisek-Michalska 2001). The ongoing public dispute—during which public opinion research (and, especially, findings concerning political/party preferences of Poles) are ignored or accused for not being reliable enough—suggests the lack of education on public opinion polls that leads to misunderstandings and confusions, even among some politicians and journalists.

⁵ N = 1,024, nationwide random representative address sample of adults face-to-face interviews.

We have used multi-item questions with a five point scale to reconstruct the ways in which the respondents perceive surveys. Types of definitions of the interview situation were distinguished by means of factor analysis, more precisely by principal component analysis with varimax rotation.

The measure of the respondent's overall attitude towards the interview was based on the interviewer's evaluation. Similarly, the interviewer's evaluation of level of difficulty experienced by the respondent during the interview was used as a measure of the quality of the respondent's cognitive process.

In addition, the actual number of positive answers to all close-ended questions in the interview which could be answered by "yes" or "agree" was regarded as an indicator of the respondent's tendency to satisfice. As such, it could be treated as one of the response quality measures. It has also proved to be a strong suppressor, the inclusion of which in the regression models, i.e. the controlling for which, makes the relation between other variables much more apparent (Zagórski 1999).

The quality of the respondent's answers was simply operationalized as a number of "Difficult to say" answers given in the whole interview. For simplicity, we will use an abbreviation "DK" to denote such answers. The tendency to give DK answers has been interpreted as an indicator of the poor quality of responses on the assumption that they only partly result from the lack of opinion and are often used as a way to avoid the expression of the opinion actually held or to reduce the effort necessary to give a substantive answer. Even the first glance on the frequencies of answers to survey perception questions has assured us that "DK" may be a way of avoiding the answers, which may be perceived as embarrassing, controversial, unpleasant, unwanted or inappropriate in a social situation of the interview.

Hypothesis

People who are better educated, more engaged in politics and already have some survey experience tend to define the interview situation in a more accurate and more positive way than those who are less educated, less involved in politics and having no survey experience at all. Thus, education, political participation and survey experience are the main factors determining positive attitudes towards the interview, consequently leading to more accurate cognitive processes, lower tendency for satisficing and better quality of answers.

Empirical Analysis

The Definition of the Interview Situation

The nine types of definitions of the survey situation have been distinguished by factor analysis.

Firstly, survey can be perceived as a vehicle of democracy. Surveys are conducted to enable the communication between the power elite and citizens and to allow the citizens to express their attitudes, feelings and their will for social change.

Figure 1
Pattern of Response Quality Determination: Operationalization

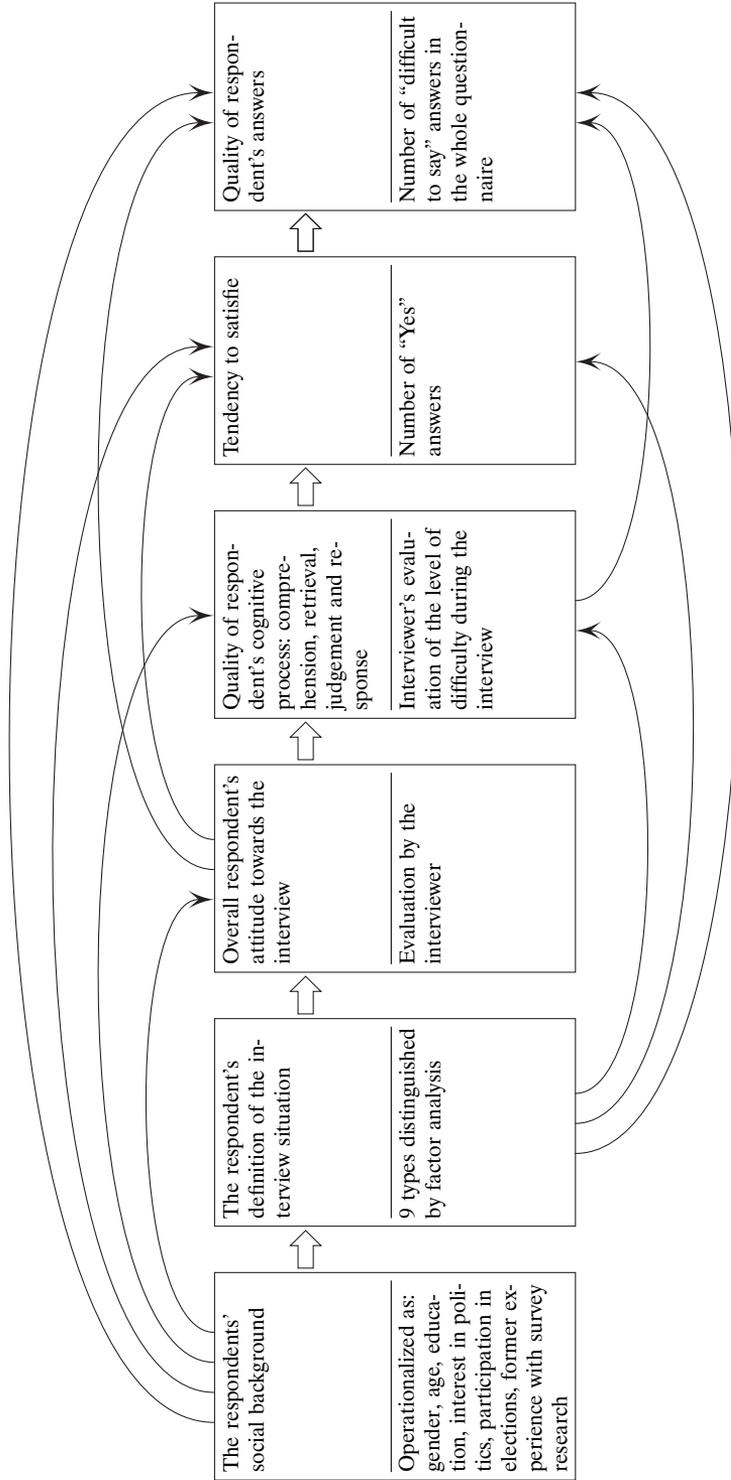


Table 1

Principal component analysis of attitudes to public opinion research

Variables (opinions about surveys)	% positive answers (definitely yes plus rather yes)	Factor loadings
Factor 1. "Vehicle of democracy"		
Surveys are for the authorities to know people's problems	79.8	.71
The authorities want to know what people think about them	76.9	.62
Surveys are conducted to change things for the better	75.5	.62
One should take part in research, since there is no other chance to express one's own opinions	88.1	.60
Surveys tell people what others think	86.9	.59
Thanks to research, we know what the life in Poland looks like	91.3	.55
One has to know people's opinions to take decisions that are good for the society	86.0	.52
There should be more information concerning public opinion research results	82.2	.44
Factor 2. "Vehicle of citizens' expression"		
Public opinion research are a natural way of collecting information about the citizens' needs, feelings and stances	88.4	.68
Surveys are anonymous, so there is nothing to be afraid of	83.5	.64
Surveys provide a good base for evaluation of politicians, institutions and politics	80.7	.60
Surveys give common people a chance to say what they think about various issues	91.3	.53
Factor 3. "Useful for the government and social scientists"		
Public opinion research are useful for the authorities	69.2	.81
Public opinion research are useful for politicians	80.2	.70
Public opinion research are useful for social science	85.1	.58
Factor 4. "Citizen's test and duty"		
People participate in public opinion research because it is a citizen's duty	47.3	.74
Public opinion research is something like a citizen's test	57.7	.66
Decisions about the society should be based on public opinion research results	64.9	.56
Factor 5. "Referendum"		
The authorities should act as public opinion research suggest	55.9	.66
Government should resign if the surveys show a lack of confidence in it	67.2	.56
Everybody would be better should public opinion research results be better used in practice	73.3	.55
Factor 6. "Threat to people"		
The majority of people lie when they answer survey questions	10.0	.69
People usually choose their answers randomly	17.0	.61
Most people regret having taken part in the research	9.0	.60
People are afraid to refuse to take part in the research	14.1	.55
Surveys are conducted to control the citizens	16.7	.51
People are afraid to talk because their name is known	17.3	.50
Factor 7. "Tool for political control, not for ordinary people"		
The authorities want to know everything, even people's thoughts	39.4	.57
Questionnaires concern problems that are important for politicians, but not for ordinary people	36.9	.57
The surveys are mostly used for scientific dissertations	26.7	.56
Common people do not really benefit from the research	68.9	.53
Scientists have to do something so they conduct surveys	35.7	.53
Consumer opinion research about various products is more useful than public opinion research	22.3	.52
Public opinion research are conducted for their own sake, without any applications	16.9	.48
Surveys can not be trusted since they are conducted to bring benefit to those who pay for them	29.3	.46
Survey questions often make no sense	13.1	.41
Factor 8. "Competence test"		
Respondents are afraid that they will fail to answer	30.8	.65
Questions are often too difficult for ordinary people	46.0	.61
People are sorry when they do not know how to answer	53.1	.51
Factor 9. "Blurred perception"		
The majority of Poles don't know why surveys are conducted	54.6	.65
The majority of Poles don't trust surveys and are reluctant to reveal their opinions	48.9	.60
It is necessary to give people more explanations concerning surveys	67.9	.49

This definition stresses the communicative function of surveys. Thus, survey is a tool for communication in democracy, necessary to plan social changes for the sake of well-being of the society. This type of a survey definition is the closest to what the survey really stands for, though perhaps a bit less close to what it really is.

The second type of definition describes survey as a vehicle of citizens' expression. Survey is just a tool to deliver information about people's needs and opinions. It is also a source of knowledge about the citizens' perceptions of the quality of performance of various types of authorities (i.e., politicians, government, self government and other public institutions) as well as their agendas. Survey is a natural way of gathering information. People who define survey this way are not fully aware of its nature, although they perceive it as a neutral instrument.

The survey may also be defined as an activity useful solely for the government and social scientists. Such a definition implies a lack of real knowledge about the survey and inability to figure out the real uses of it. People who share this definition feel that there is something behind surveys and they respect the right of authorities and social scientists to conduct them, although their actual purpose remains unclear to them.

Another way of defining the survey is to perceive it as a citizens' test and duty. There is a conviction behind such a definition that someone (authorities?) has a right to check the citizens' civic maturity. Hence, the participation in the survey is regarded as one of the citizens' obligations, just like tax reporting. There is a lot of indeterminate space in this definition; the actual use of surveys' findings is not under consideration.

Surveys are also defined as a referendum. This definition implies some claims or demands: the government should resign if the public does not have enough confidence in it, the authorities should follow the public will expressed in public opinion polls and their results should be better exploited in practice. The survey is perceived as a tool for expressing the people's common sense and will, which should be obeyed by the authorities. In other words, the survey is a tool for keeping the authorities under control.

Survey can be also defined as a threat to people. This definition implies a considerable sense of insecurity. Most of insecure people are equally well afraid of participating and of refusing to do so. They try to avoid giving true answers. As a consequence, they choose answers by chance, agree with everything or say that they do not know the answer. They believe that people who have taken part in surveys often regret it. They do not believe in anonymity and are afraid to talk openly. There is probably a suspicion behind this definition that answers given in surveys are used for controlling the citizens' loyalty. This type of a survey definition may be a heritage of the communist times, when many people were afraid of disclosing their political opinions, and when the suspected lack of political loyalty could easily lead to oppression.

Another type of a survey definition is based on the rejection of the survey's usefulness. People who define survey as a tool for political control, not useful for ordinary people, do not believe that the survey findings can be anyhow beneficial to the society, and feel that surveys are mostly intended for those

who pay for them, especially for politicians. They believe that market research is much more useful than public opinion polls. Surveys can be useful only for the politicians, because they disclose the citizens' thoughts. In other words, they give the politicians the power to control the social consciousness. Moreover, the results cannot be trusted, because surveys are mainly conducted for the benefit of those who pay for them and, hence, they are often manipulated.

One more type of survey definition is based on a conviction that the survey is a way to examine respondent's intellectual abilities. In such a *competence test*, one must cope with questions which are often too difficult to answer, thus is afraid of providing incorrect answers. In other words, questions can be answered either correctly or incorrectly, the answers are either good or wrong and the accuracy of the respondent's answers is to be evaluated by somebody. The respondents feel sorry if they do not know how to answer and which answer is correct.

The last definition of the survey is, in fact, the lack of any definition and the complete confusion. Let us call this pattern a *blurred perception*. In this case, the respondents are neither aware of the purpose of the survey research, nor have any ideas who actually uses its findings. They wish to be more educated about public opinion polling. Some people who do not understand what surveys are for, are reluctant to participate and do not trust survey results.

The popularity of each of the nine types of public perceptions of social surveys, distinguished and described above, may be measured as the mean percentage of acceptance (definitely yes and rather yes answers) of particular opinions constituting this type of perceptions:

- vehicle of citizens' expression: 86.0%;
- vehicle of democracy: 83.3%;
- useful for the government and social scientists: 78.2%;
- referendum: 59.6%;
- blurred perception: 57.1%;
- citizens' test and duty: 56.6%;
- competence test: 43.1%;
- for political control, not for ordinary people: 31.2%;
- threat to people: 14.0%.

Thus, generally speaking, Polish public perceive public opinion surveys in a quite positive way, though—of course—many of those who think otherwise may not respond to the questions at all.

The particular definitions might vary depending on the actual level of the respondents' sense of security vs. insecurity during the interview. Some participants seem to feel absolutely secure and they define surveys in a neutral way: a survey is just a tool for gathering information and the respondent is not treated as a subject of investigation. Others have an impression of being subjected to investigation and judgment, so they feel quite insecure in the interview situation. Thus, we can formulate a hypothesis concerning the impact of sharing a particular type of survey definition depending on the actual level of the respondent's sense of security.

Table 2

**Hypothetical Features of Respondents Defining Public Opinion Research in Particular Ways
and Their Consequences for the Survey Responses**

Survey definition	Demographics	Political participation	Experience in public opinion research	Overall attitude towards surveys	Tendency to satisfy	Quality of answers
Vehicle of democracy	Better educated, younger	Participate	Took part	Positive	Optimise rather than satisfice	Good
Vehicle of citizens' expression	Better educated	Participate	Took part	Positive	Optimise rather than satisfy	Good
For the government and social scientists	Less educated, older	May participate	May have taken part	Neutral	Tendency to satisfice	Average
Citizens' test and duty	Less educated, older	Participate	May have taken part	Positive	Optimize rather than satisfice	High
Referendum	Less educated, older	May participate	Limited (if any)	Likely positive	Optimize rather than satisfice	High
Threat to people	Uneducated, older	Do not participate	No experience	Negative	Satisfice rather than optimize	Low
A tool for political control, not useful for ordinary people	Uneducated, older	Do not participate	Limited (if any)	Negative	Tendency to satisfice	Low
A competence test	Uneducated, older	Do not participate	No experience	Confusion	Tendency to satisfice	Low
Blurred perception	Uneducated, older	Do not participate	No experience	Confusion	Tendency to satisfice	Low

The most neutral, if not positive, types of definitions include the perceptions of survey as a vehicle of democracy, as a vehicle of the citizens' expression and as a referendum. These definitions seem to protect the respondent against the feeling of being a subject of investigation. The respondent is just a source of information and can deliver valid as well as important answers to survey questions. Such perceptions of surveys do not instigate the feelings of insecurity or threat during the interview.

Much less neutral are those definitions where the survey is perceived as a competence test, a citizens' test, a tool for political control, and something not for ordinary people, or even a threat to people. Respondents who tend to perceive surveys this way feel being treated as subjects of investigation, testing and, implicitly, also evaluation.

The interview is also perceived as a mean to control some personal characteristics, such as psychological features or social and political competence or maturity. It may be assumed that the respondents who share such a survey definition generally feel insecure and believe themselves to be subjected to some investigative action.

Some doubts concern the two remaining types of definitions i.e. when survey is perceived as useful solely for the government and social scientists, but not for ordinary people, and when the perception of survey is totally blurred. In the first case there is a lot of indeterminacy in the respondents' definition of the survey. Although respondents sharing this type of definition seem to respect the survey rules and legitimacy, their roles remain also indeterminate to a large extent—it is difficult to guess whether the survey participants are actually subject to any kind of investigation or just treated as a source of information. The second way of the survey perception leaves the survey meaning and its possible use blurred. The respondent's role is undetermined, hard to understand. We may suspect that the blurred perception is a weakest version of defining the survey as a citizens' test or a tool for political control. Thus, we assume that perception of surveys as conducted for authorities and scientists or a totally blurred perception may imply a relatively high level of respondent's insecurity.

In the light of Staszyńska's (1989) previous research, high level of insecurity in the interview situation leads to the feeling of threat. The higher is the level of insecurity, the stronger is the feeling of threat in the interview situation. The sense of threat in the interview situation is strongly related to the respondent's egocentric predisposition. Besides, both of them are the sources of low quality answers. This leads us to a hypothesis that the respondents who share neutral definitions of the survey, i.e. those who define it as a vehicle of democracy, as a vehicle of citizens' expression and as a referendum, tend to deliver most accurate answers. On the contrary, those who define the survey as a competence test, a citizens' test, a tool for political control, and not for ordinary people, or a threat to people, would rather give low quality answers. In addition, we expect that respondents who perceive the survey as useful solely for the government and social scientists, but not for ordinary people, and whose perception of survey is blurred, would provide low quality answers too.

Determination of Perception of Public Opinion Research

Socio-demographic characteristics are weak determinants of perception of the public opinion research by the respondents. Both positive perceptions, namely appreciation of research as a vehicle of democracy and as a vehicle of citizen's expression, belong to the least explained. It may be explained by the fact that they are very popular, so that very different people share them.

The positive perception of public opinion research as a vehicle of democracy is significantly reinforced by interest in politics but, surprisingly, the impact of education on such perception net of political interest is negative. Educated people do not necessarily appreciate the generally positive role of public opinion research in the democratic society, especially when they are disinterested in politics. Neither such

Table 3

**Determinants of Respondent's Definitions of Public Opinion Research
(standardized regression coefficients β)**

Independent variables	Vehicle of democracy	Vehicle of political control, useless for the society	Threat to people	Vehicle of citizen's expression	Competence test	Instrumental for politics and science only	Referendum	Citizen's test and duty	Blurred perception
Gender (women)	.03	-.04	.00	.00	.01	.00	.02	-.03	.00
Age (years)	.01	.25**	.14*	-.13**	.13**	-.03	.08*	.13**	.15**
Education (years)	-.15**	-.14*	-.07*	-.14**	-.10**	-.02	-.22**	-.12**	-.10**
Interest in politics	.14**	-.26**	-.20**	.13**	-.15**	.13**	.02	.00	-.15**
Participation in elections	.00	.04	-.03	.05	.03	.00	-.03	-.02	-.06
Former experience with research	-.05	-.09**	-.07*	-.03	-.10**	-.01	-.02	-.03	-.04
R-squared	.03	.22	.10	.05	.23	.02	.07	.04	.10

* Significant at .05 level.

** Significant at .01 level.

demographic characteristics as gender and age, nor participation in elections, or former experience with research, determine the public perception of the polls as generally useful for the democratic society. Moreover, almost a negligible fraction of the tendency for such perceptions is explained by all the variables included in the model.

The second positive perception of public opinion research as an acceptable and natural vehicle of citizens' expression is not satisfactorily explained, either. The older and less interested in politics the respondents are, the less often they see the research as an obvious and safe way of expressing their own views and opinions. Similar to the perception of the research as important for the democratic society, its perception as a vehicle of expression is reduced by higher education, when all other variables are kept controlled.

The most negative respondent's definition of public opinion research as a vehicle of political control useless for the society is the second best explained of all kinds of the definitions distinguished. People perceiving the research in such a negative light are older, less educated, less interested in politics and have less experience with the polls.

Seeing the research situation as a threat to citizens is also associated with older age, lack of education, disinterest in politics and lack of previous experience with research.

Respondent's definition of public opinion research as a competence test is the best explained kind of definitions. It is typical mostly of old and uneducated people, who may be afraid of not knowing a supposedly proper answers.

Perception of public opinion research as useful for politicians and social scientists is determined only by the respondent's interest in politics. No other variables affect this kind of perception, which is the least explained of all distinguished here.

Understanding of the role of public opinion research as similar to the referendum is typical of uneducated elderly people, who may not understand the true role of the surveys but consider them very important.

The same two characteristics increase the tendency to perceive public opinion research as a citizen's test and duty.

Finally, the inability to define the research situation shows a determination pattern similar to the pattern concerning its definition as a competence test. Those respondents who are older, uneducated and disinterested in politics are the least capable of defining the research.

Generally, the patterns of determination of the attitudes are not counterintuitive. All positive influence of education if any, is probably exerted through interest in politics. The negative net impact of education on appreciation of public opinion research is the only exception. More interesting is the fact that negative attitudes and feelings about the research, such as its general rejection, fear, feeling of incompetence and confusion are much easier to explain by socio-demographic characteristics of the respondents than positive ones.

Determination of General Negative Attitude to Research

Each interviewer was asked whether the respondent was friendly or negative towards the interview. That assessment was independent of the respondent's socio-demographic characteristics. However, it was significantly influenced by the respondent's interest in politics and his or her former experience with research. Those declaring their interest in politics and having former contacts with public opinion research were obviously more sympathetic to the interviewer.

Not surprisingly, the respondents defining public opinion research as a way to control the society as well as those unable to define the research and so being uncertain about its function and outcome tend to be less friendly during the interview, while those seeing their answers for survey questions as citizen's duty and citizen's test tend to behave in a friendly manner. All in all, however, the interviewer's assessment of respondents' reaction to the interview was not very well explained by respondents' socio-demographic characteristics and their perception of the research.

Determination of Interviewer's Perception of Difficulties Faced by the Respondent

The interviewer's assessment of the respondent's difficulty in answering questions strongly depends on the respondents' socio-demographic characteristics, their involvement in politics and former experience with research. The less educated, the less interested in politics and the older the respondents are, especially women, the more apparent their difficulties are to the interviewer. Those who are less active in political life, i.e. do not take part in elections as well as those without any prior survey experience also show more difficulties during the interview.

With the exception of the previous experience with research, all these characteristics remain statistically significant determinants of perceived difficulties when the

Table 4

**Determinants of Negative Attitude to the Interview as Assessed by the Interviewer
(standardized regression coefficients β)**

Independent variables	Model 1	Model 2
Gender (women)	-.04	-.04
Age (years)	.01	-.06
Education (years)	-.05	-.03
Interest in politics	-.18**	-.10**
Participation in elections	.01	.03
Former experience with research	-.10**	-.08*
Political control, not for people		.18**
Blurred perception		.11**
Referendum		.05
For the government and science		.02
Competence test		.03
Threat to people		.01
Vehicle of democracy		-.06
Vehicle for citizens' expression		-.06
Citizen's test and duty		-.09**
R-squared	.05	.12

* Significant at .05 level

** Significant at .01 level

Table 5

**Determinants of Respondent's Difficulties in Answering Survey Questions
(standardized regression coefficients β)**

Independent variables	Model 1	Model 2
Gender (women)	.09**	.10**
Age (years)	.22**	.16**
Education (years)	-.26**	-.22**
Interest in politics	-.26**	-.18**
Participation in elections	-.07*	-.07*
Former experience with research	-.07*	-.03
Competence test		.14**
Threat to people		.08*
Citizen's test and duty		.05
Political control, not for people		.05
For the government and science		.05
Blurred perception		.01
Vehicle of democracy		-.02
Referendum		-.01
Vehicle for citizens' expression		-.02
Negative attitude to the interview ^a		.12**
R squared	.32	.38

^a Assessed by the interviewer

* Significant at .05 level

** Significant at .01 level

respondent's perceptions of the research are added to the regression model. The difficulties in answering questions are additionally strengthened by the respondent's perception of the research as a competence test and as a threat to people. No surprise that interviewers facing impolite reactions of the respondents tend to see them as less competent, because of their tendency to generalize negative feelings.

Determination of the Tendency to Agree

The tendency to agree during the interview, operationalized as number of positive answers to all survey questions, depends very much on the respondent's definition of public opinion research. Moreover, when different kinds of perceptions, especially negative ones, are included in an explanatory model, the net effect of socio-demographic characteristics becomes clearly shown, while their gross effect was insignificant. The respondent's tendency to give positive answers is considerably strengthened by the perception of research as a competence test or citizen's test, a source of threat to people and by inability to define the research at all. That is consistent with a hypothesis linking the tendency to agree during the interview, as a form of satisficing, with the level of respondent's competence insecurity. More difficult is the explanation of positive effect exerted on the tendency to agree by the general appreciation of public opinion research as a vehicle of democracy.

What is even more surprising, the tendency to agree is positively related to education and interest in politics.

The two explanations are possible. The first one is that the respondents who are better educated and more interested in politics tend to escape—if they do it at all—towards positive rather than “difficult to say” answers. The second explanation may be that education and interest in politics show positive correlation with a number of positive answers because—by their logic—they are negatively correlated with “don't know” or “difficult to say” answers.

Determination of the Number of “Difficult to Say” Answers During the Interview

Our ultimate measure of the quality of the interviewer's response is a frequency of “difficult to say” answers during the whole interview. This is certainly a more objective measure than the interviewer's assessment analyzed above. We have constructed four regression models in order to gradually explain determination of the response quality.

The response quality measured by the tendency to answer “difficult to say” is better among men, people who are young educated and interested in politics, than among women, or people who are elderly, uneducated and uninterested in politics.

This remains significant when the types of survey definitions are added as independent variables to the equation. Of these definitions, however, only seeing the research as a tool for controlling the society and as something useful for the government and academics but not for ordinary people diminishes the response quality. Such a limited influence of perceptions is apparent in a model which does not contain the satisficing

Table 6

Determinants of the Tendency to Agree During the Interview (standardized regression coefficients β)

Independent variables	Model 1	Model 2
Gender (women)	-.03	-.02
Age (years)	.04	-.07*
Education (years)	.01	.09**
Interest in politics	.11**	.18**
Participation in elections	.00	.01
Former experience with research	-.02	.04
Competence test		.31**
Threat to people		.24**
Citizen's test		.22**
Vehicle of democracy		.15**
Blurred perception		.13**
Political control, not for people		.08*
Referendum		.05
For the government and science		.01
Vehicle for citizens' expression		.01
Negative attitude to research ^a		-.01
Inability to answer the questions ^a		-.26
R-squared	.02	.41

^a Assessed by the interviewer

* Significant at .05 level

** Significant at .01 level

ing tendency to agree among independent variables. The next model shows that the tendency to agree is a powerful suppressor, the addition of which to the regression makes net influence of different kinds of respondent's definitions of surveys much more apparent.

Similar to determination models concerning the respondent's difficulties assessed by the interviewer, the inclusion of "yes sir" variable substantially changes net effects of attitudinal variables, without changing previous influences. The response quality appears to be significantly reduced by such respondent's definitions of the research as a threat to people, a vehicle of political control useless for the public, competence test or citizen's test, something useful only for politicians and scientists as well as by an inability to define the research at all.

Interestingly enough, while all these negative perceptions of public opinion research show strong net effect on response quality i.e. they increase the number of "difficult to say" questions, the positive perceptions of research as a vehicle of democracy and a vehicle of expression of citizens' opinions do not increase the response quality. Impact of these positive perceptions is statistically insignificant.

Finally, the inclusion of the interviewer's assessment of the respondent's cognitive competence neither substantially changes the whole determination pattern, nor significantly increases the explanatory power of the model. However, the respondents who show difficulties in understanding and answering questions are more inclined to give positive answers than those who have no such difficulties.

Table 7

R Determinants of Number of “Difficult to Say” Answers (standardized regression coefficients β)

Independent variables	Model 1	Model 2	Model 3	Model 4
Gender (women)	.12**	.13**	.10**	.10**
Age (years)	.20**	.17**	.10**	.09**
Education (years)	-.17**	-.15*	-.06*	-.04
Interest in politics	-.34**	-.30**	-.17**	-.16**
Participation in elections	-.04	-.03	-.02	-.01
Former experience with research	-.07*	-.05	-.02	-.02
Threat for people		.06	.19**	.17**
Political control, not for people		.11**	.16**	.15**
Competence test		-.01	.16**	.14**
Citizen's test		.01	.13**	.12**
Blurred perception		.02	.09**	.09**
For the government and science		.08**	.08**	.08**
Vehicle of democracy		-.04	.05	.05
Vehicle for citizens' expression		.04	.04	.04
Referendum		.00	.03	.03
Negative attitude to the interview ^a		.08**	.06**	.05*
Tendency to agree			-.60**	-.58**
Difficulties to answer questions ^a				.09**
R-squared	.31	.34	.56	.57

^a Assessed by the interviewer

* Significant at .05 level

** Significant at .01 level

Conclusions

Some of the findings are surprising. The most neutral (or positive) definitions of survey cannot be explained in terms of socio-demographic respondent characteristics. We originally expected that education would play a substantial role in determining the ways how respondents perceive the survey. Actually, education affects only negative ways of defining the survey. Educated people not necessarily ascribe a positive role to surveys, but they are also not particularly inclined to negatively perceive their role, either. A hypothesis might be formulated that those who are better educated may look at survey research in a more complex way and, beside surveys' primary functions (gathering information, allowing communication in a democratic society, letting people express their feelings, etc.) they may see other uses and abuses of survey as well (e.g. a threat that survey findings can be easily manipulated, or that announcement of political preferences diagnosed in the survey may influence the changes of them, etc.). Education may also influence perceptions of surveys indirectly, through interest in politics.

Of the other variables, an interest in politics exerts the most significant influence on the way how people define the survey. The respondents who declare their interest in politics tend to define surveys in a more neutral way (i.e. as a vehicle of democracy or vehicle of citizens'). An interest in politics reduces the tendency to perceive the survey as a tool for political control. Those who do not declare any interest in politics, more of-

ten define surveys in a rather negative way (as a competence test, threat to people, tool for political control) or have a blurred idea of what surveys are. An interest in politics, however, does not affect perceptions of the survey as a referendum and citizens' test.

Overall attitude towards the interview, as assessed by the interviewer, is more positive if respondents see the survey as a citizens' test and duty and less positive when respondents perceive it as a tool used to control the society or do not understand its purpose at all. Other types of survey definitions do not explain the overall respondent's attitude towards the interview. Probably, this attitude is an outcome of complexity of factors, such as the actual relation between the interviewer and the respondent, the interviewer's appearance and behavior as well as other situational factors. All of them may have stronger impact on the respondent's attitude towards the interview than his or her perception of survey in general. Those situational factors were not controlled in our analysis.

The above conclusion seems to be confirmed by the fact that declared interest in politics as well as former survey experience are the factors influencing the attitude towards the interview in a positive way. That means, probably, that those interested in politics and experienced with research are more likely ready to neglect the situational factors.

The interviewer's assessment of difficulty faced by the respondent during the interview is strongly related to socio-demographic characteristics of the respondent and his or her interest in politics and prior survey experience. The less educated, the older, the less interested in politics and without prior survey experience the respondent is, the higher the level of difficulty he or she experiences. On the other hand, only two ways of defining the survey (i.e. a competence test and a threat to people) increase the respondent's difficulty assessed by the interviewer. The respondent's cognitive processes during the survey are more accurate if he or she does not see any real threat in the interview situation and if his or her overall cognitive abilities are better.

The tendency to give satisficing "yes" answers is to a large extent related to the way of perceiving the survey. All types of definitions somehow associated with the respondent's insecurity and sense of threat (i.e. a competence test, a threat to people, a citizen's test, a tool for political control as well as a blurred definition) increase the tendency to agree. In the light of above, one can say that the tendency to "yes sir" response set plays an important role in answering survey questions when the respondent feels threatened or insecure. It gives him or her a chance to avoid expressing his or her true opinions. Moreover, it also gives him or her an opportunity to give an answer which he or she considers to be desired by the interviewer, researcher or the sponsor of the research. Interestingly, those respondents who define survey as a vehicle of democracy tend to satisfice as well. The only explanation we have is that those perceiving the survey as a communication tool in democracy might sometimes manipulate their answers to achieve the desired shape of political decisions, at least from the point of view of their own interest.

By its logic, the tendency to satisfice through "yes sir" response set is strongly and negatively correlated with the tendency to choose DKs. This phenomenon is quite obvious: the more substantive answers the respondent gives, positive answers among

them, the less often he or she says that he or she does know the answer. In addition to that, the “yes sir” satisficing may be used as a competitive to “DK” way of escaping the necessity to give a true answer. Some respondents may choose “DK” to escape, while others would rather opt for positive, supposedly pleasing answers. Since we are examining respondent behaviors in a public opinion poll, their interest in politics is the most important determinant of which escape pattern is followed. An interest in politics occurred to be a surprisingly strong positive determinant of “yes sir” response set, while it negatively influences the tendency to provide “DK” answers.

The most important finding of the analysis is the impact of respondents’ definitions of the survey, exerted on the quality of their answers measured by the “DK’s” number. We have assumed that those respondents who share neutral definitions of the survey, i.e. those who perceive it as a vehicle of democracy, as a vehicle of citizens’ expression or as a referendum, give the highest quality of answers to survey questions. The remaining definitions were expected to lead to poor quality answers. Actually, consistent with this hypothesis, the respondents who define survey as a tool of political control, a threat to people, a competence test or as a citizen’s test, i.e. those who seem to face a high level of insecurity and threat during the interview, tend to give low quality answers. In addition, those who perceive surveys in a blurred way or those who regard them as useful for the government and science but not for ordinary people, also tend to provide answers of a low quality. That means that both bring respondents in the interview situation to a feeling of threat, which is one of major factors causing the poor quality of respondents’ answers.

However, the perceptions of the survey in a neutral or positive way, i.e. as a vehicle of democracy, a vehicle for citizens’ expression and as a referendum neither increase nor decrease the tendency to choose DK answers. That means that the sense of security and an absence of the feeling of threat during the interview makes the respondent more prone to answer survey questions in a “true” way, namely to say “DK” when he or she actually does not know the answer and not to say it, when he or she knows. It may be reasonably assumed that in those three cases of survey perception the true lack of answer does not depend on the survey perception.

A very fundamental conclusion is that the quality of answers delivered by the respondent is substantially determined by the way how he or she defines the social meaning of the survey and how he or she perceives the interview situation. The respondent’s cognitive processes cannot be examined in isolation, because they are strongly dependent on the complex, multi-faced social context of the interview and show a complex pattern of interrelations. The respondent’s opinions about various aspects of the survey as a socio-political event, particularly the negative ones constitute a powerful determinant of the survey data quality.

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