Public opinion without opinions? Item nonresponse and (the absence of) substantive opinions in public opinion surveys

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CHAPTER 6

The Filter Question

6.1 Introduction

The focus is in this chapter on the use of filter questions and the effects on the collection and aggregation of substantive and non-substantive answers. According to Krosnick and Presser (2010, p. 264) 'filter questions should be included, to avoid asking respondents questions that do not apply to them'. Whether filter questions improve the quality of survey data is, however, a topic of debate. On the one hand filter questions may discourage respondents from reporting nonattitudes (Krosnick et al., 2002; Zaller, 1992), but on the other hand a filter question could be used as an easy way out to cut the survey short and limit cognitive efforts (e.g. Eckman et al., 2014; Kreuter, McCulloch, Presser, & Tourangeau, 2011). The goal here is to examine the effects of a filter question.

Many authors refer to a 'Don't Know filter', but that does not necessarily entail the use of a separate filter question; an explicit Don't Know option is considered a 'filter' by some as well (e.g. Heerwegh & Loosveldt, 2008; Leigh & Martin, 1987; Loosveldt, Pickery, & Billiet, 2002). This Don't Know option was central in the previous chapter. Here the focus is on an explicit filter question which is posed before the opinion question. On the basis of the literature (e.g. Converse, 1964; Gallup, 1947; Moore, 2008; Schuman & Presser, 1996; Sudman & Bradburn, 1989; Zaller, 1992) we know that using a filter question can influence the level of item nonresponse, but the relationship with the content of the questions is less clear. Furthermore, how a filter question affects the substantive distribution of opinions is not yet fully understood.

The aim of the experiment reported here is to explore and analyze the effect of filter questions on a) the results of the variants of the questionnaire (with and without filter question); b) the outcome of questions in general. The research question is: *How do filter questions influence the outcome of a survey or poll?* An additional question is: how is the level of item nonresponse after the use of a filter question related to the substance of the question?

6.2 Theoretical Reflection

The filter question is an element of question form which together with respondent and interviewer traits forms the three major sources of response effects (Sudman & Bradburn, 1974). The main effect of filter questions is on item nonresponse: the filter results in extra missing data for separate questions. The consensus is that the use of a filter question results in about 20 percent item nonresponse, regardless of question content (Bishop, 2005; Bishop et al., 1983; Eckman et al., 2014; Schuman

& Presser, 1979). Eckman *et al* (2014) find item nonresponse rates (after a filter question) starting at 21 percent and up to 60 (!) percent, depending on the exact filter format and question content.

In web panels respondents sometimes learn how filter questions work when they are used often, and subsequently they use it more often to lower cognitive efforts. This 'panel conditioning' consequently lowers the number of substantive answers, including those of respondents who would otherwise have provided a substantive answer (Eckman et al., 2014). The presence of an interviewer (in telephone and face-to-face surveys) also affects the 'triggering of filter questions' (Kosyakova et al., 2015, p. 418) and as a result the sample size and amount of valid data gathered with the survey (Josten & Trappmann, 2016; Kosyakova et al., 2015). 'Triggering' means that a substantive opinion question is 'triggered' or accessed when the respondent answers 'yes' to a filter question. The 'trigger rate' is 'the proportion of respondents giving answers that trigger follow-up questions' (Eckman et al., 2014, p. 722), which corresponds to the item response rate for individual opinion questions (see also Kosyakova, Skopek, & Eckman, 2015). So the substantive opinion question is only triggered when the preceding filter question is answered with 'yes'.

Using filter questions may affect both the number of non-substantive answers and the distribution of opinions. Previous studies suggest that 'the filtered distribution of opinions sometimes differs from the unfiltered (standard) distribution and sometimes does not' (McClendon & Alwin, 1993, p. 439). Schuman and Presser (Schuman & Presser, 1996, p. 127) concluded that 'filtering can on occasion significantly alter the division of substantive opinion, but that it typically does not'. And Knaüper (1998) finds, for example, that the number of reported crimes is affected by the wording of the filter question. If skipping a question is a random process among respondents, the overall distribution of opinions is not affected by differences in the offered non-substantive response options. If the missing data are, however, related to a refusal to reveal certain information or opinions, a systematic nonresponse bias could arise (De Leeuw et al., 2003, p. 159). This 'bias only occurs if people who do not answer are different from those who do', either because they are different in terms of individual characteristics or because they hold different opinions (see also Stöss, 2009; Weisberg, 2008, p. 225). This difference in the distribution of opinions or 'substantive proportions' (Schuman & Presser, 1996, p. 115) will be analyzed below.

The aim of the experiment reported here is to contribute to the literature by examining how the use of filter questions affects the outcome of a survey. By looking at the item nonresponse rate and the substantive distribution of opinions, both the loss of (valuable) information and the (non)random distribution are explored. Furthermore, not all filter questions render the same results. Filter questions can

be treated as variables: the strength of the filter question may vary between 'Do you have an opinion on this or not?' as arguably the weakest version with the least item nonresponse, and 'Have you already heard or read enough about it to have an opinion?' as the strongest filter (Bishop, 2005, pp. 22-23; Bishop et al., 1983, pp. 530-535).

6.3 Hypotheses

The hypotheses are summarized in Table 6.1. See chapter 3 for a more extensive discussion.

Table 6.1: Hypotheses

Question design	H1a	The more explicit a non-substantive response option is presented, the more item nonresponse will be measured
	H1b	A filter question results in more item nonresponse than an explicit DK option
Missing data	H2a	(Based on MAR) An increase of the level of missing data does not affect the distribution of opinions
	H2b	(Based on NMAR) An increase of the level of missing data results in a different distribution of opinions
Question content	H3a	If the topic of a survey question is related to a major political dimension, then the item nonresponse is lower compared to a survey question that is not related to such a dimension
	H3b	The item nonresponse for questions about foreign policy issues is higher than for questions about issues related to the core dimensions
Response categories	H4a	The more substantive response categories are offered, the lower the item nonresponse rate
	H4b	A midpoint in the absence of a non-substantive response option results in more use of this midpoint option than when a non-substantive response option is offered
	H4c	A midpoint combined with a non-substantive response option results in less item nonresponse as compared to offering no midpoint category
Response time	H5	The more explicit the DK option is presented, the less response time will be registered
Break-offs	H6	When respondents are forced to answer survey questions, the number of break-offs is higher than when a non-substantive response option is available

6.4 Data and Methods

In order to study the effects of filter questions, a survey experiment was executed. The experiment was an internet survey experiment filled in by the respondents of the *EenVandaag Opiniepanel*. *EenVandaag* is a Dutch daily news program on a public broadcasting channel having its own online panel. The respondents are at least 18 years old and registered themselves to participate in surveys about current affairs[25]. The full panel was targeted, with random selection of seven distinct groups for the various treatments. This between-subjects-design made comparison between subgroups of respondents possible; the random assignment resulted in subgroups which were similar on key demographic characteristics (see Table 6.1 below).

The general instruction in the questionnaire read that the respondents were asked to give their opinion on issues in the poll and that the results would be used for scientific research; usually the results are published in the news program[26]. The question wording was identical to the original question which was replicated, including the introduction and choice of response alternatives. Five general themes were addressed and each theme included three questions of which at least one question came from existing research – see section 4.4 for more information about issue selection.

The experiment was carried out in October and November 2011. Five variants of the questionnaire (1A, 1B, 2A, 2B and 3A) were distributed on Friday 28 October 2011, the other two on Monday 31 October 2011 (due to a software problem). After a reminder on Friday the 5th of November, the survey closed on Wednesday November 9th. In total, 29.333 respondents – 64 percent of the EenVandaag Opiniepanel – participated in the experiment.

25 See http://opiniepanel.eenvandaag.nl/uitleg for more information about the EenVandaag Opiniepanel.

26 The EenVandaag Opiniepanel has been used before as a source of data for (political) scientists. The results were, for instance, used by Kranenburg and Weimar (2008, p. 500) in their mini review of 'surveys that have been performed to study public opinion on the idea of introducing incentives for living kidney donation' and by Bovens and Wille (2008) in their essay about political trust, who used data that were not specifically collected with the purpose of scientific analysis. More rigorous was the analysis of electoral volatility with data from 2006 till 2010 from EenVandaag (Van der Meer, Lubbe, Van Elsas, Elff, & Van der Brug, 2012; van der Meer, van Elsas, Lubbe, & van der Brug, 2012). These analyses, however, used the original data, whereas the data in this survey experiment were specifically gathered with the purpose of using it for (scientific) research. An example in which the EenVandaag Opiniepanel was used to gather data for research is Van Holsteyn's (van Holsteyn & Cupido, 2013a, 2013b) analysis of political cartoons, to see whether respondents understand the cartoonist's message.

Table 6.2: Descriptive Statistics Subgroups EenVandaag Opiniepanel

		1A	1B	2A	2B	3A	3B	4	Total
Gender*	Male	71%	73%	69%	70%	69%	67%	65%	69%
	Female	29%	27%	31%	30%	31%	33%	35%	31%
Age (years)*	Mean	58.6	57.8	59.2	58.7	56.1	54.1	53.6	56.9
	SD	31.8	32.5	53.1	32.9	14.1	35.8	14.6	33.2
Education*	Basisonderwijs	1%	1%	1%	1%	1%	1%	1%	1%
	VMBO	16%	14%	16%	16%	15%	15%	16%	15%
	Havo/VWO	9%	9%	10%	10%	10%	10%	9%	10%
	MBO	22%	21%	20%	20%	21%	21%	23%	21%
	HBO	36%	37%	37%	36%	37%	36%	36%	36%
	WO	16%	18%	17%	17%	17%	17%	14%	17%
Income*	Below modal	20%	21%	22%	22%	23%	25%	26%	23%
	Modal	20%	20%	20%	21%	20%	21%	22%	21%
	More than modal	60%	59%	58%	57%	56%	54%	51%	56%
N		*4412*	*4329*	*4327*	*4283*	*3931*	*3591*	*4460*	*29333*

*Significant difference between the seven subgroups at the .001 level
Gender: percentage of the (sub)group that is male or female.
Age: average age in years, with respondents being 18 years or older.
Education: highest level of education completed, recoded into CBS categories.
Income: recoded into three categories.

Some descriptive characteristics of the seven subgroups and the sample as a whole are displayed in Table 6.2. Comparing subgroups, all variables show statistically significant differences between subgroups at the .001 level. Looking at the substantive differences, however, these are very small; the statistical difference can be explained at least partially by the large N. The similarity of the subgroups is important in a between-subjects-design to determine the effect of the manipulation. The sample as a whole is quite unrepresentative and generalization to the population is not possible. See for example the gender and education of respondents: 69 percent of the total sample is male, compared to 49 percent of the population, and 49 percent of the respondents finished HBO or WO, compared to 32 percent in the population. The use of a nonprobability online panel limits the external validity of the findings, but the between-subjects-design does provide internally valid findings with the possibility to explore causal mechanisms.

Table 6.3: Response Rates

Variant	Number of Respondents	Response Rate – Unit	Number of Items in Questionnaire Filter	Number of Items in Questionnaire Opinion	Average Item Nonresponse
1A – Strong filter, explicit DK	4412	67%	15	17	11% (6% DK)
1B – Strong filter, implicit DK	4329	66%	15	17	7% (1% DK)
2A – Weak filter, explicit DK	4327	66%	15	17	9% (5% DK)
2B – Weak filter, implicit DK	4283	65%	15	17	6% (1% DK)
3A – No filter, explicit DK	3931	60%		17	8% DK
3B – No filter, implicit DK	3591	55%		17	1% DK
4 – Forced choice	4460	68%		17	0% DK
Total	29333	64%			

Average Item Nonresponse combines the two categories for item nonresponse, i.e. 'no' to a filter question and the DK option. The figures between parentheses indicate the number of respondents using the second category (the DK option).

Table 6.3 shows the response rates of the respondents of the *EenVandaag Opiniepanel* participating in the experiment. For each variant, 6,570 people were approached. The response only includes respondents who completed the survey; break-offs are not registered in the same dataset. Usually about 60 to 70 percent of the respondents of the EenVandaag panel participate in surveys (Opiniepanel, 2015); the response rate for this survey experiment is about average with response rates for the subsamples ranging from 55 to 68 percent. The software problem that delayed the start of the survey of variant 3B and 4 did not seem to affect the response rate; these variants resulted in the lowest (55) and highest (68) response rates.

The manipulated variable in this experiment is the use of filter questions (and other non-substantive response options). Filter questions were asked prior to the substantive question and were intended to distinguish respondents without an opinion or knowledge – depending on the wording and purpose of the filter question – from those who did have an opinion or knowledge about the subject. Individuals indicating they did not have the relevant opinion or knowledge were filtered out and routed to a next question. Overall, the design options resulted in

an experiment with seven subgroups: two strongly worded filter question variants (with and without DK option), two weaker worded filter question variants (with and without DK option), two variants without filter question (with and without DK option) and a forced choice variant – see Table 6.4 (see Appendix A for the complete questionnaires). The distinction between 'weaker' and 'strongly' worded filter questions is based on Bishop *et al* (1983) and tested in the analysis below.

Table 6.4: Experimental Conditions and Safety Nets for Item Nonresponse

	Explicit DK	**Implicit DK**	**Forced choice**
Strong filter	1A: 'no' to filter question or say DK	1B: 'no' to filter question or skip question	
Weak filter	2A: 'no' to filter question or say DK	2B: 'no' to filter question or skip question	
No filter	3A: say DK	3B: skip question	4: no safety net, answer obligatory

6.5 Results

In this section, the results are presented of the survey experiment in which both the use of the filter question and the way a DK option was offered were manipulated. It should be noted beforehand that there is little attention for the statistical significance of differences between subgroups: the N is very large, which leads to statistically significant differences easily. Therefore, the focus is on substantive differences between subgroups.

6.5.1 Item Nonresponse

The analysis of item nonresponse focuses on three key aspects: 1) the *use of filter questions* with a strongly worded, weaker worded and absent filter question; 2) the way in which a *DK option* is offered and 3) the *differences between issues* in level of nonresponse and susceptibility to design choices. This section discusses the first two aspects by looking at the effect of offering a filter question and comparing the resulting item nonresponse to the item nonresponse rendered by the (explicit) use of a DK option.

How does the use of a filter question affect item nonresponse? Two hypotheses were developed: H1a expects more item nonresponse for more explicit non-substantive

response options and H1b compares the item nonresponse of a filter question with the item nonresponse of an explicit DK option. Based on H1b, one would expect the variants with a filter question to render most item nonresponse. Questionnaire variants with either weak or strong filter questions are therefore expected to have a higher average item nonresponse rate than variants without filter questions. According to H1a it is expected that variants with a 'strong' filter question render more item nonresponse than variants with a 'weak' filter question. Finally - and comparing pairs of the same filter variant, e.g. the strong filter variants - according to H1a, variants with an explicit DK category result in more item nonresponse than variants with an implicit DK option and the possibility to skip questions.

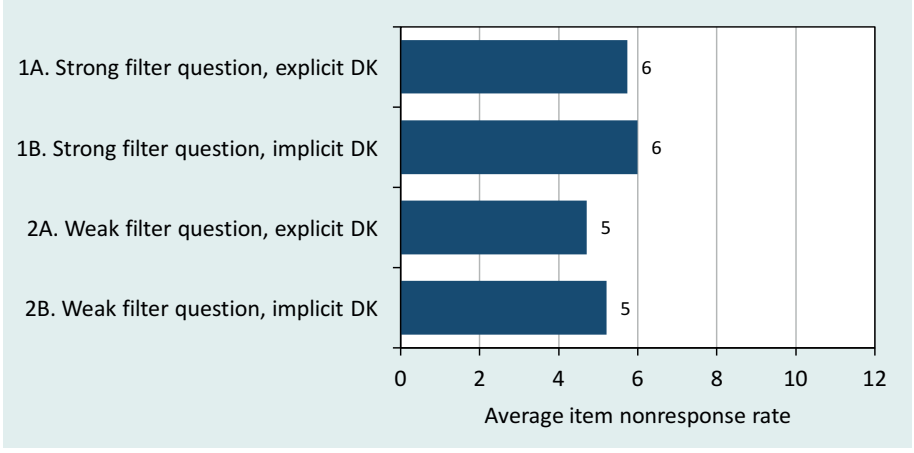

Figure 6.1: Average Item Nonresponse (%) Resulting from Filter Questions

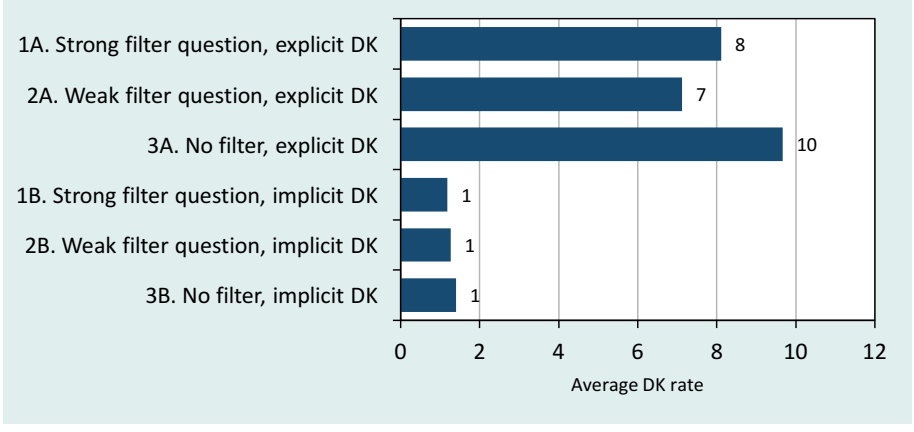

Figure 6.2: Average Item Nonresponse (%) Resulting from DK Option

Figure 6.1 and Figure 6.2 show the item nonresponse resulting from the use of a filter question (Figure 6.1) or a DK option (Figure 6.2). The item nonresponse only shows the isolated effect of a single non-substantive response option. Offering a filter question results on average in about 5 to 6 percent item nonresponse, depending on the exact wording of the filter question[27]. This is a small effect; the numbers are substantially lower than the 20 percent item nonresponse reported in previous studies.

Even more surprising is the comparison of the filter question with other types of non-substantive response options, i.e. the explicit DK option and the option to skip questions. Contrary to hypothesis H1a, the more explicit non-substantive response option, i.e. the filter question, did not have a higher item nonresponse rate than less explicit (DK) non-substantive response options; the item nonresponse rate of the explicit DK option was 7 to 9 percent (see Figure 6.2) as compared to 5 to 6 percent for the more explicit filter question (see Figure 6.1). Even though the filter question constituted the most explicit reminder of the possibility to express a nonresponse, it was used less often than the less explicit non-substantive DK response option. Only the implicit option to skip a question rendered less average item nonresponse: 1 percent (see Figure 6.2). So the least explicit non-substantive response option, i.e. the implicit DK option, generates the least item nonresponse; the most explicit non-substantive response option, i.e. the filter question, does not show the highest item nonresponse rate. *Hypotheses H1a and H1b are not supported.*

The only qualification of the conclusion that more explicit non-substantive response options do not result in more item nonresponse, results from the comparison within type of non-substantive response options. Rather than comparing filter questions with DK options, the two types ('strong' and 'weak') of filter questions can be compared. The expectation that a 'strong' filter– 'Have you already heard or read enough about it to have an opinion' – results in more item nonresponse rate than a 'weak' filter– 'Do you have an opinion on this or not' – is partially confirmed: the item nonresponse of strong filter question variants (1A and 1B) is higher than in the weak variants (2A and 2B). The effect of the wording of a filter question is, however, very small with only 1 percentage point between the 'strong' and 'weak' filter question variants (see Figure 6.1). The same within-type-comparison of the two types of DK options, i.e. explicit or implicit, supports the

27 The item nonresponse rates of the filter questions were calculated by adding the item nonresponse rate of individual filter questions and dividing this sum by 15. The item nonresponse rates of the DK option were calculated by adding the item nonresponse (resulting from explicit DK answers and skipping questions) of individual opinion questions and dividing this sum by 17. The difference in the number of items, 15 versus 17, stems from the fact that two filter questions each preceded two opinion questions.

findings in the previous chapter. The explicit DK option results in an average item nonresponse rate of 7 to 9 percent; the implicit DK option results in about 1 percent item nonresponse (see Figure 6.2).

The discussion so far addressed the isolated effect of one non-substantive response option. In reality, the four filter question variants offered two non-substantive response options to the subgroup respondents: a filter question plus a DK option. It is possible that respondents learned throughout the survey that another non-substantive response option was available to them even after they answered the filter question with 'yes'. Following this line of thought, the item nonresponse rate of the filter variants would have been considerably higher if no other nonresponse (DK) option was offered to them other than the filter question.

This point can be addressed in two ways. The first is that the implicit DK variants resulted in an extremely low item nonresponse rate of 1 percent, which is an indication that many respondents probably did not notice this non-substantive response option[28]. Still, the item nonresponse rate of variants offering a filter question followed by an implicit DK option was less than 1 percentage point higher than in filter variants with an explicit DK option (see Figure 6.1). Secondly, while it is true that filter variants with an explicit DK option result in the highest *total* item nonresponse of 9 and 11 percent (see Figure 6.3), the no filter variant with an explicit DK option ranks third with 8 percent. Even though the latter variant only includes one non-substantive response option, it outranks two filter variants in terms of item nonresponse. Using a filter question does not result in more item nonresponse than including a DK option as an explicit response category.

28 The combination of a filter question followed by a forced choice opinion question was not included in this experiment.

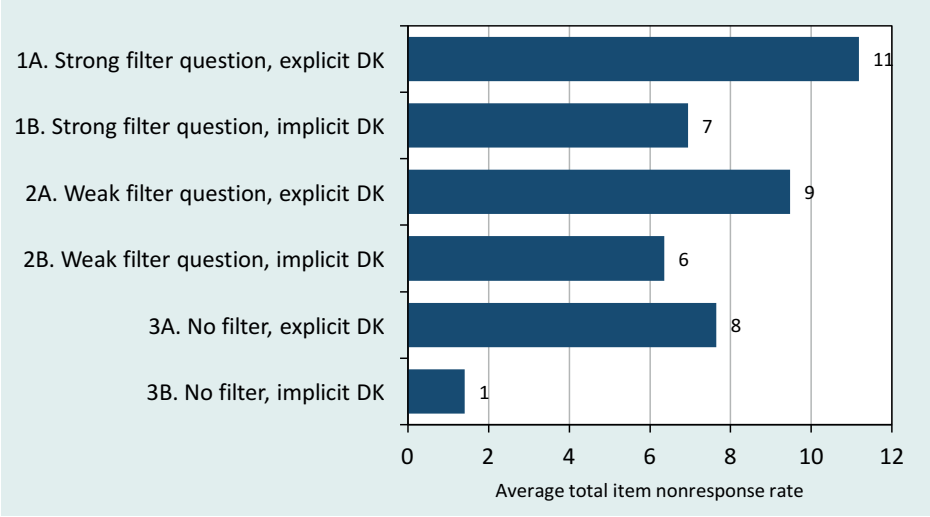

Figure 6.3: Average Total Item Nonresponse (%)[29]

To examine in more detail how question design affects item nonresponse and see both the effect of a filter question on item nonresponse and whether the use of a filter question results in more item nonresponse than offering an explicit DK option, the item nonresponse for all separate items is shown in Table 6.5 (item nonresponse rendered by filter questions) and Table 6.6 (item nonresponse rendered by all non-substantive response options).

29 The average total item nonresponse is computed by adding up the level of item nonresponse of each issue in one variant of the questionnaire, both as a DK answer and as a 'no' to the preceding filter question, and dividing this sum by 17. Since no DK option was offered in the forced choice variant, it is excluded from the analysis.
It should be noted that the average total item nonresponse (in Figure 6.3) does not equal the added up nonresponse rates in Figure 6.1 (filter questions) and Figure 6.2 (the DK option). There are two reasons for this: 1) the average DK rate (in Figure 6.2) is based on the respondents answering the substantive opinion question, which excludes the people saying 'no' to the previous filter question; and 2) the average item nonresponse rate resulting from filter questions and a DK option is calculated differently, because of the difference in number of items. .The average total item nonresponse presented here shows how many respondents did not answer the substantive opinion question, either because they used the filter or the DK option.

Table 6.5: Filtered Out Item Nonresponse (%) of Individual Items[30]

Question	1A Strong Filter, Explicit DK	1B Strong Filter, Implicit DK	2A Weak Filter, Explicit DK	2B Weak Filter, Implicit DK
Self-placement Income Differences	19	17	8	8
Welfare benefits should be lowered in order to stimulate people to work	17	15	8	7
Self-placement Euthanasia	2	3	2	2
Adoption by same-sex couples should be possible	8	9	7	7
Self-placement Foreigners	2	2	1	2
There are too many people of a non-Dutch nationality living in the Netherlands	2	2	2	2
Self-placement European Unification	4	5	3	4
The Netherlands should spend more money on development aid	4	4	2	3
What do you think should happen to the mortgage interest deduction?	6	6	6	7
What do you think is the best solution for the impending deficits of pension funds?	6	8	6	9
The Netherlands should in the next year quit the euro and go back to the gulden	4	4	3	4
Do you think that the King or Queen should have political influence, or should s/he restrict herself to ceremonial roles?	2	3	4	4
Do you think that Maxima's father can or cannot be present at the coronation?	6	7	10	10
[Filter question Libya]	3	4	5	7
[Filter question current cabinet]	2	2	2	3
N	*4412*	*4329*	*4327*	*4283*

30 The last two filter questions (about Libya and the current cabinet) were both followed by two substantive opinion questions. The number of items in this table is therefore lower than in Table 6.6. Another difference between Table 6.5 and Table 6.6 is that the item nonresponse rate in the former only results from the filter question (while ignoring the potential use of a DK option in the substantive opinion question), whereas the total item nonresponse in Table 6.6 combines both non-substantive response options by showing how many respondents did not answer the opinion question – either because of saying 'no' to the filter question or because of the use of a DK option.

Table 6.5 shows how many respondents said 'no' to the filter question, constituting item nonresponse. The filter question could either be 'do you have an opinion on this or not' or 'have you already heard or read enough about it to have an opinion'. It was expected that the latter stronger worded question would result in more item nonresponse, since it assumes more than just having an opinion.

There is an empirical indication that a stronger filter question results in more item nonresponse. On average, 6 percent of the respondents of the strong filter (1A and 1B) said 'no' to the filter question, which is slightly more than the average of 5 percent in weaker variants 2A and 2B. This minor difference of 1 percentage point, however, points to a very small effect of the strength of a filter at best. Moreover, some items show the opposite result, e.g. the questions about the best solution for the deficits of pension funds and Maxima's father[31]. In the latter case the weak filter resulted in 10 percent of the respondents saying 'no' compared to 6 and 7 for the stronger 'Have you heard or read enough?'.

Another noticeable aspect is how often the filter is used over the course of the survey. More respondents in implicit DK variants 1B and 2B say 'no' to the filter question towards the end of the survey than respondents of the explicit DK variants. One explanation is that respondents learn during the survey that the filter question is their only non-substantive response option - or at least that is what they think, because no explicit DK option is included. Rather than answering the opinion question, they may decide not to look at this question and say 'no' to the filter question more often compared to respondents who do have an explicit DK option as a second way out. Also noticeable is that respondents say 'no' to filter questions more often at the start of the survey, especially in the strong filter variants 1A and 1B. The percentages diminish after two opinion questions, possibly because respondents find out how the question format works.

The presence of both non-substantive response options, i.e. the filter question and the (explicit) DK option (see Table 6.6), shows that the expectation that a filter question raises the item nonresponse to about 20 to 25 percent must be qualified. The results here are inconsistent with the at least part of the literature about the effect of filter questions (Bishop et al., 1983; Schuman & Presser, 1979). A filter question in this study results in about 10 percent item nonresponse in both the stronger and weaker variant.

31 The survey question fits within the public and political debate about whether the father of (then future Queen) Máxima should be allowed to attend the accession to the throne of Máxima's husband Willem-Alexander. Jorge Zorreguieta was not allowed to be present at their wedding in 2001 because of his involvement in the military junta in Argentina; in 2011 the discussion centered around his future attendance at the throne accession (AD, 2011; de Volkskrant, 2011). According to Maurice de Hond, whose survey question is replicated in this experiment, 56 percent of the Dutch thought that Jorge Zorreguieta should be allowed to attend – 38 percent disagreed (het Parool, 2011).

Table 6.6: Total Item Nonresponse (%) of Individual Items

Question	1A Strong Filter, Explicit DK	1B Strong Filter, Implicit DK	2A Weak Filter, Explicit DK	2B Weak Filter, Implicit DK	3A No Filter, Explicit DK	3B No Filter, Implicit DK
Self-placement Income Differences	20	18	8	10	1	1
Welfare benefits should be lowered in order to stimulate people to work	19	16	10	8	4	1
Self-placement Euthanasia	3	4	2	3	1	0
Adoption by same-sex couples should be possible	10	9	8	8	5	1
Self-placement Foreigners	2	3	1	2	0	0
There are too many people of a non-Dutch nationality living in the Netherlands	5	3	4	3	4	1
Self-placement European Unification	4	5	4	5	2	0
The Netherlands should spend more money on development aid	7	5	5	4	5	1
What do you think should happen to the mortgage interest deduction?	6	6	6	7	3	1
What do you think is the best solution for the impending deficits of pension funds?	32	12	27	13	30	6
The Netherlands should in the next year quit the euro and go back to the gulden	10	6	8	5	8	2
Do you think that the King or Queen should have political influence, or should s/he restrict herself to ceremonial roles?	4	4	5	5	3	1
Do you think that Maxima's father can or cannot be present at the coronation?	10	8	12	11	8	2
I think that Libya will, in time, become a normal democratic country	23	6	23	8	23	2
The Netherlands should be actively involved to help Libya establish a democratic regime	10	6	12	9	9	2

Table 6.6: Continued

Question	1A Strong Filter, Explicit DK	1B Strong Filter, Implicit DK	2A Weak Filter, Explicit DK	2B Weak Filter, Implicit DK	3A No Filter, Explicit DK	3B No Filter, Implicit DK
How long do you think this cabinet will remain in office?	7	3	7	3	6	1
Suppose that next year another 5 billion euro in budget cuts have to be made. Do you think the PVV will stop supporting the government?	18	4	19	4	18	2
N	*4412*	*4329*	*4327*	*4283*	*3931*	*3591*

Total Item Nonresponse is measured as a percentage of the total number of respondents not responding to a certain opinion question by saying 'no' to the preceding filter question (in variant 1A, 1B, 2A and 2B), by using the explicit DK option (in variant 1A, 2A and 3A) or by skipping the question (in implicit DK variants 1B, 2B and 3B).

How does the filter question compare to the explicit DK option? Do filter questions affect item nonresponse more than an explicit DK option? A high level of item nonresponse is observed for the questions about 'pension funds', income and 'welfare benefits' (when using filter questions), one question about Libya and one question about the current government. A low level of item nonresponse, regardless of which variant of the questionnaire was used, can be seen for questions about 'immigrants', 'nationality' and the Queen. (Potential differences in question content are discussed below.)

The most remarkable finding, however, is that it does not seem to matter whether a filter question was used in combination with a DK option or only an explicit DK option, since these options result in comparable levels of total item nonresponse[32]. This is somewhat counterintuitive, since double explicit DK filter variants 1A and 2A apply a double stimulus to give no opinion, whereas in variant 3A only one stimulus was used: the explicit DK option. Still, even though the filter questions have less impact on item nonresponse than expected and suggested by

32 An analysis of how often the DK option was used, regardless of whether a filter question was posed before the opinion question, can be found in . The general trend is that the explicit DK option is used more often when no other nonresponse option is available. Furthermore, the implicit DK option was seldom used.

the standard literature, the variants with a filter question do generally result in more missing data than variants without a filter question. This supports H1b; the previous analysis of the use of filter questions, however, indicates that the higher item nonresponse rate of filter question variants is the result of the use of *two* non-substantive response options, i.e. both a filter question and a DK option. A comparison of variants with a filter question and without an explicit DK option with a variant with only an explicit DK option suggests that only offering a filter question does not result in more item nonresponse than only offering an explicit DK option; in the implicit DK filter variants, the filter question effect is not stronger than the effect of offering a DK option explicitly. Hypothesis H1b is rejected.

6.5.2 Distribution of Opinions – Towards Public Opinion

How about the outcomes in terms of majorities and pluralities and the overall distribution of opinions? In this section, item nonresponse is treated as missing data and excluded from the findings that are presented. Two pictures of public opinion will be presented: with and without item nonresponse. The main question is: how is the overall distribution of opinions affected by using filter questions? The hypotheses tested are H2a and H2b, which refer to the data (not) missing at random to see whether the resulting picture of public opinion looks different when no filter question (or explicit DK option) is used.

Figure 6.4 to Figure 6.7 present the distributions of opinions of four survey items. Item nonresponse resulting from the use of a non-substantive response option, i.e. a filter question or DK option, is excluded as missing data. The distributions of opinions of all items can be found in Appendix C.

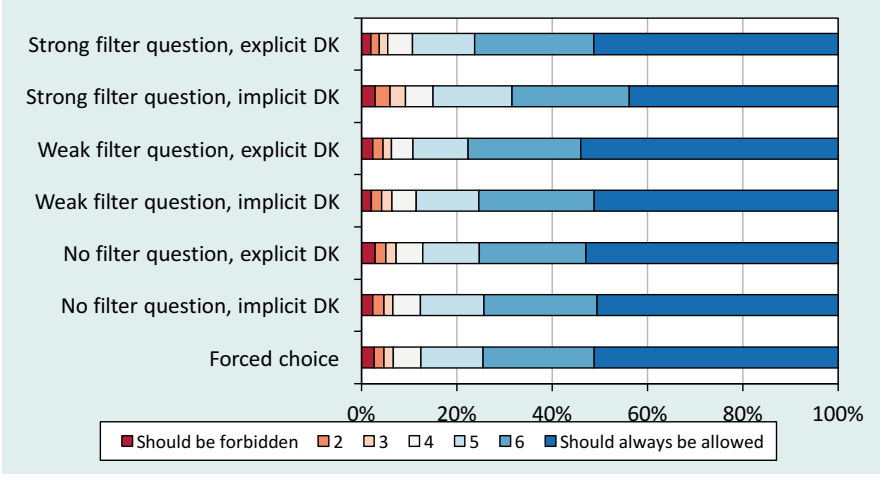

Figure 6.4: Distribution of Opinions Self-Placement Euthanasia

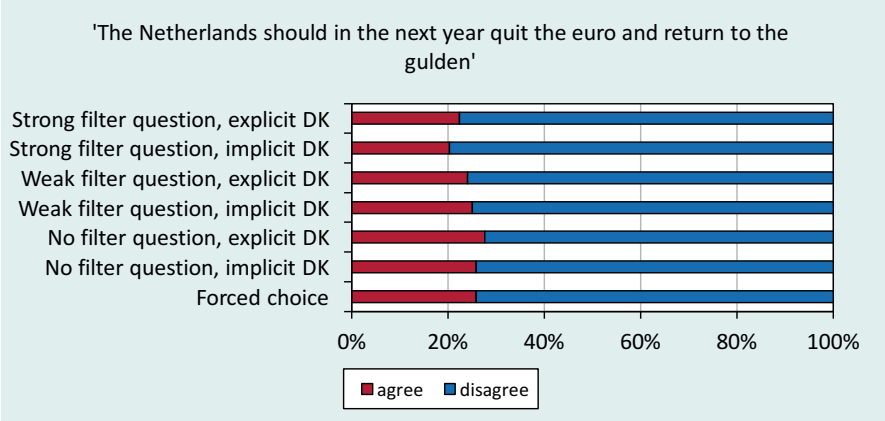

Figure 6.5: Distribution of Opinions Gulden

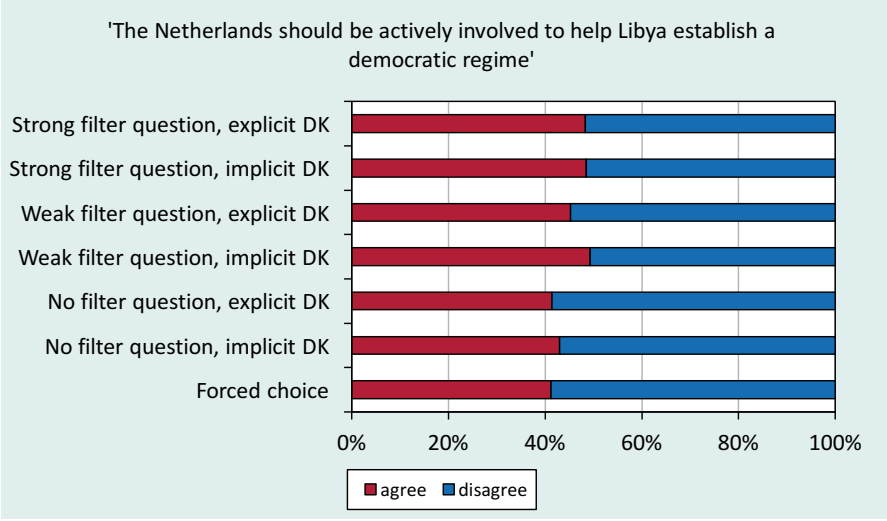

Figure 6.6: Distribution of Opinions Libya 2

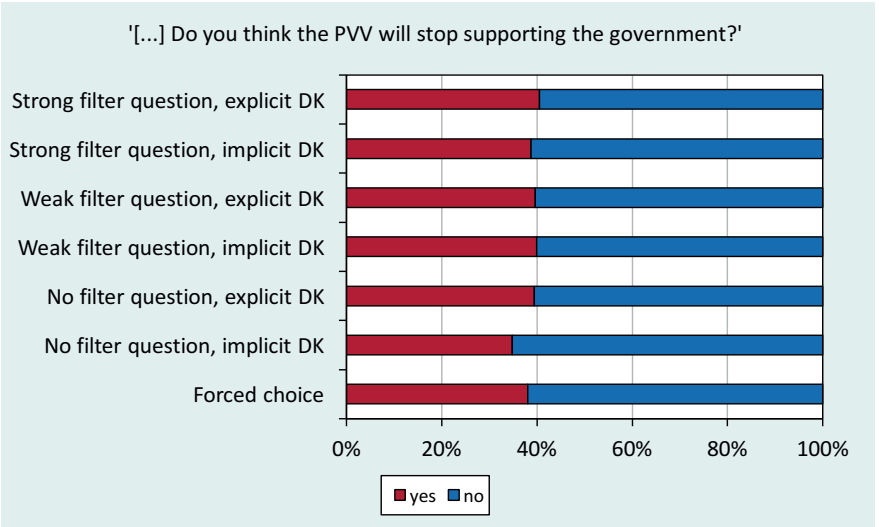

Figure 6.7: Distribution of Opinions PVV

How does the use of a filter question and a DK option affect survey results? Do the distributions of opinions differ for different options? One would expect to see differences when item nonresponse (excluded as missing data) is not randomly distributed. Furthermore, a higher item nonresponse rate resulting from the filter question and an explicit DK option increases the potential for nonresponse bias; items with more item nonresponse should result in a different distribution of opinions.

The results, however, seem fairly robust to question design. Despite the manipulation of non-substantive response options and the consequent variation of item nonresponse, the overall distributions of opinions show hardly any substantive differences. In items with two response categories the same majority preference is held in all seven variants. For example, a majority of 72 to 80 percent of the respondents in all variants thinks the Gulden should not be reintroduced (see Figure 6.5) and 60 to 65 percent disagrees with the statement that the Dutch extreme right-wing political party PVV will stop supporting the government if additional budget cuts were needed (in 2011, see Figure 6.7)[33], regardless of question design. Even in the self-placement items offering seven substantive response categories, the differences between overall distributions are small – see for example euthanasia

33 It could be argued that this statement does not measure public opinion, but respondents' expectations. These expectations do, however, give an indication of the respondents' views of the PVV's support of the government.

in Figure 6.4. This is confirmed by the comparison of means of the self-placement items (see Table C.8 in Appendix C).

More item nonresponse results from using a filter question, but the distribution of opinions is robust and pluralities or majorities do not change. These findings support hypothesis H2a: the data seem to be missing at random and no nonresponse bias occurs. It does not matter which design is used to see what the preferred policy option is. The only difference is the size of the plurality or majority. To give an example: a majority in all seven subgroups disagrees that the Netherlands should be actively involved in helping Libya to establish a democratic regime, but this majority ranges between 51 and 59 percent (see Figure 6.6). These differences may however be consequential. If the public is divided (51 versus 49 percent), a politician may not see this result as a guideline to decide on the policy s/he wants to pursue; a majority of almost 60 percent, however, may be a clearer and stronger signal of what the public wants. So even though the majorities do not change, the size of the majority may be valuable information.

The preliminary conclusion is that the filter effect on the overall outcome is extremely limited or even nonexistent. However, if item nonresponse is *not* excluded as missing data and regarded as valuable information about how many citizens do not have an opinion, the picture of public opinion looks different, at least for some items. Figure 6.8 to Figure 6.10 display for three survey items the two alternative pictures of public opinion: one excluding and one including item nonresponse resulting from non-substantive response options as part of the outcome. All other distributions of opinions can be found in Appendix C.

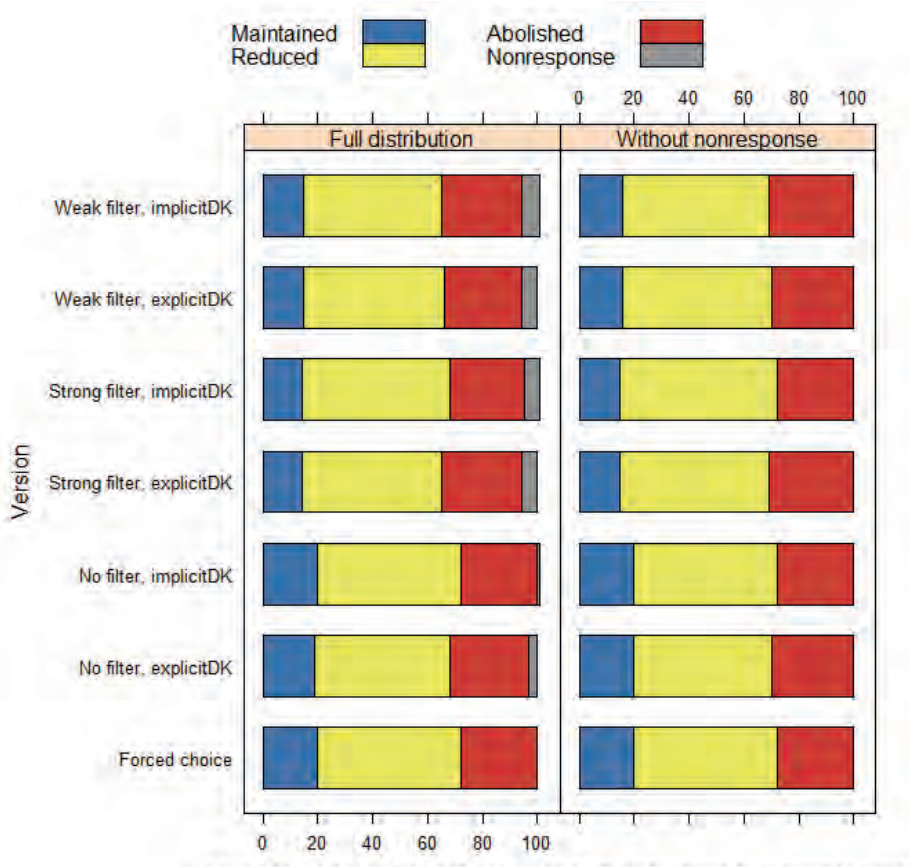

Figure 6.8: Distribution (%) of Opinions ***Mortgage Interest Deduction*** *With and Without Item Nonresponse*

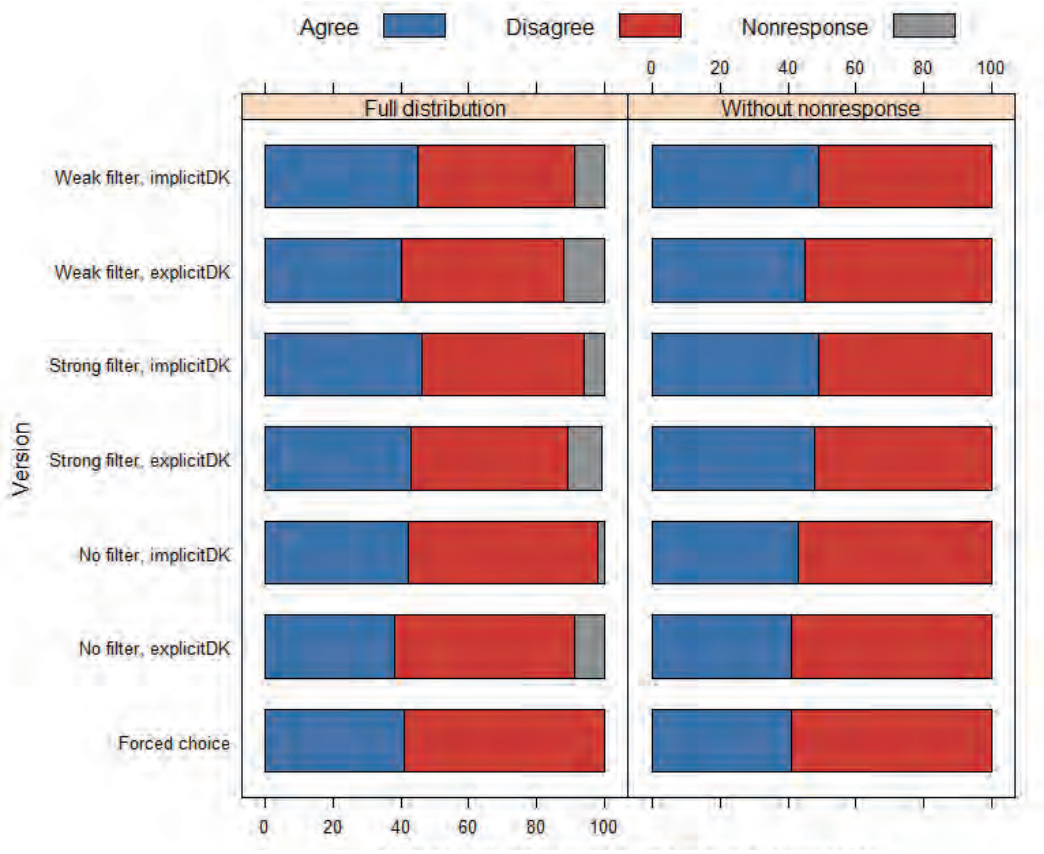

Figure 6.9: Distribution (%) of Opinions ***Involvement Netherlands in Libya*** *With and Without Item Nonresponse*

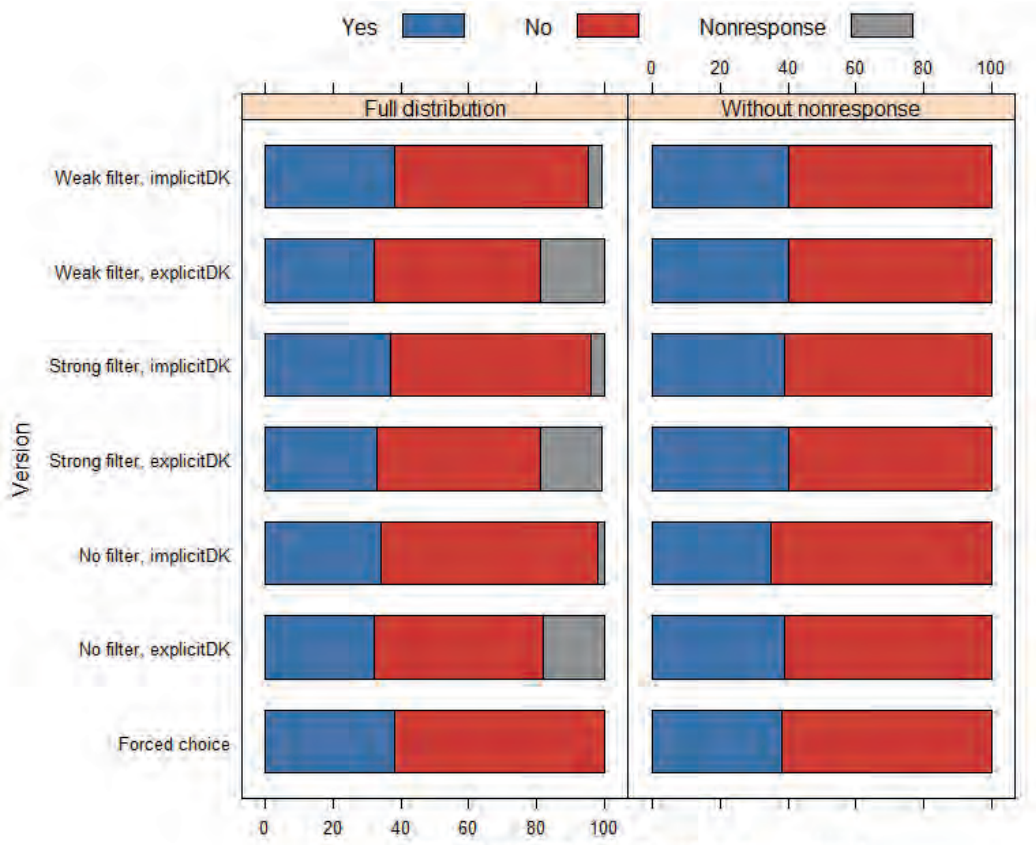

Figure 6.10: Distribution (%) of Opinions ***PVV Support Government*** *With and Without Item Nonresponse*

If item nonresponse is not taken into account, the distribution of opinions and overall picture of public opinion is not significantly affected by differences in the way non-substantive response options were offered. What happens if item nonresponse is included as relevant part of the outcome? Three effects could occur: 1) the preference of the largest group of respondents, either a plurality or majority, is not the same in all seven variants; 2) the preference of the largest group of respondents is the same in all seven variants, but it is not supported any longer by a majority in all variants; and 3) in some subgroups the response category used by a plurality of the respondents is the non-substantive response option. To illustrate these potential effects, they are applied to a hypothetical example in which respondents are asked whether they agree or disagree with the statement that more tax money should be spend on the military. If the first effect occurs, in some variants of the questionnaire the largest group would disagree with this statement whereas in other variants a plurality or majority agrees. Depending on the variant (and the way a non-substantive response option is offered), a different picture of public opinion results and a different conclusion as to whether the public wants to see more tax money spent on the military or not. If the second effect occurs, all seven variants suggest the same direction – e.g. the largest group answers that more tax money should go towards the military – but this preference is not supported by a majority in all variants. And if the third effect occurs, a plurality or majority of the respondents does not substantively answer the survey question.

The first effect was already disproven above, with no changing majorities or pluralities for any item. The second effect, i.e. the same preference but varying degrees of support when item nonresponse is included, is present in several cases: mortgage interest deduction, Maxima's father's presence at the crowning, the two questions about Libya and the PVV's support of the government. In addition to these five items, two items (non-Dutch nationality and pension funds) had a variant where the preferred policy was supported by only 50 percent of the respondents – not a majority. For these survey questions, a variant with a non-substantive response option (either a filter question and/or an explicit DK option) results in a plurality rather than a majority supporting a particular position. For example: most respondents in all variants answered that mortgage interest deduction should be reduced over time, but this position was not supported by a majority in all variants (see Figure 6.8). 49 percent of the respondents of the explicit DK variant 3A wanted it to be reduced over time, compared to a majority of 54 percent in the strong filter, implicit DK variant 1B. Likewise, a plurality of 46 to 48 percent of the filter variant respondents (1A, 1B, 2A and 2B) disagreed with the statement that the Netherlands should be actively involved in helping Libya set up a democratic regime, compared to a majority of 53 to 59 percent in the other non-filter variants

(see Figure 6.6). A plurality of 48 to 50 percent of explicit DK variants 1A, 2A and 3A said the PVV will not stop supporting the government if additional budget cuts are needed, opposed to a majority of 57 to 64 percent in the implicit DK and forced choice variants (see Figure 6.7). The picture of public opinion does look different when item nonresponse is taken into account; non-substantive response options can change a majority into a plurality.

The third effect of non-substantive response options on the distribution of opinions can be that a plurality uses a non-substantive response option by saying 'no' to the filter question, using the explicit DK option or skipping an opinion question in the implicit DK variants. This effect does not occur. Item nonresponse is not the plurality in any of the items for any variant, although it is the second largest response category for the question about pension funds (see Appendix C).

Hypothesis H2b is partially supported: an increase of missing data results in different overall distributions of opinions. Non-substantive response options affect the picture of public opinion; majorities disappear or become less pronounced. The overall conclusions about the effect of a filter question are twofold. Firstly, the substantive effect on the distribution of opinions is small or non-existent when item nonresponse is excluded as missing data. Secondly, the effect on the distribution of opinions including item nonresponse is more substantial with majorities becoming pluralities and a more divided overall picture of public opinion. The main difference relates to the treatment of item nonresponse as either missing data, or as valuable information about what part of the public does not have an opinion.

6.5.3 Question Design in Practice

To determine the extent to which question design affects the actual outcome of a survey question, this section is devoted to an in-depth investigation of one issue, i.e. the PVV's support of the government (in 2011). The first step will be to compare the 'real' poll result to the result of the survey experiment. The point of reference is a question without a filter question and with an explicit DK option. The comparison is two-fold: both for all respondents and for the PVV voters[34], since this distinction between groups of voters was also made in the actual reporting of the survey results. Second, attention is devoted to the distributions of the seven variants, to see whether they differ from each other and find out whether question design affects the resulting picture of public opinion.

34 The PVV voters could be selected on the basis of their reported voting behavior in the national elections of 2010. This is also how Peil.nl selects the voters of a particular party.

Table 6.7: Real Outcome versus Outcome Variant 3A – '... Do you think the PVV will stop supporting the government?'

	Real Result (peil.nl)			*Survey Experiment Result*		
	Yes	*No*	*DK*	*Yes*	*No*	*DK*
All respondents	34%	55%	11%	32%	50%	18%
PVV voters	52%	37%	11%	44%	43%	13%

The survey question read: 'Suppose that next year another 5 billion euro in budget cuts have to be made. Do you think the PVV will stop supporting the government?'. The question was part of a survey about the future of Rutte Cabinet I and about what would happen to this minority VVD-CDA cabinet, supported in parliament by the PVV, although that party did not have any ministers in the government[35]. The results were originally published on the Peil.nl website with an introduction that started as follows: 'Cabinet Rutte exists 1 year. What do the voters expect for the future of this cabinet?[36]'

Table 6.7 contains both the original Peil.nl results and the results of survey experiment variant 3A[37], i.e. the explicit DK variant which is identical to the original question format and offered non-substantive response options. A majority of respondents of Peil.nl (55 percent) expected the PVV not to stop supporting the government if additional budget cuts were necessary. This is rather similar to the 50 percent saying no to the question in the survey experiment, even though item nonresponse is slightly higher in the latter case (18 compared to 11 percent). Looking specifically at PVV voters, however, the conclusions differ: 52 percent of PVV voters in Peil.nl answered 'yes', compared to 44 percent in the survey experiment: the majority has become a plurality. Furthermore, the gap between 'yes' and 'no' has dwindled (from 15 to 1 percent). This means that the poll and experimental results differ substantially. A potential explanation is Peil.nl's weighting procedure. Unfortunately this website does not publish the adjustments that were made to the raw data, so this procedure could not be applied to the experimental dataset.

35 The minority VVD-CDA cabinet, also called Rutte-I, governed from 2010 until 2012. The cabinet fell in 2012 after extensive discussion about budget cuts.

36 Original Dutch introduction: 'Kabinet Rutte bestaat 1 jaar. Wat verwachten de kiezers van de toekomst van dit cabinet? Published on the website www.peil.nl on October 16th, 2011.

37 The Peil.nl survey was carried out in the week before the 16th of October, 2011; the survey experiment was carried out from 28 October to November 9th 2011.

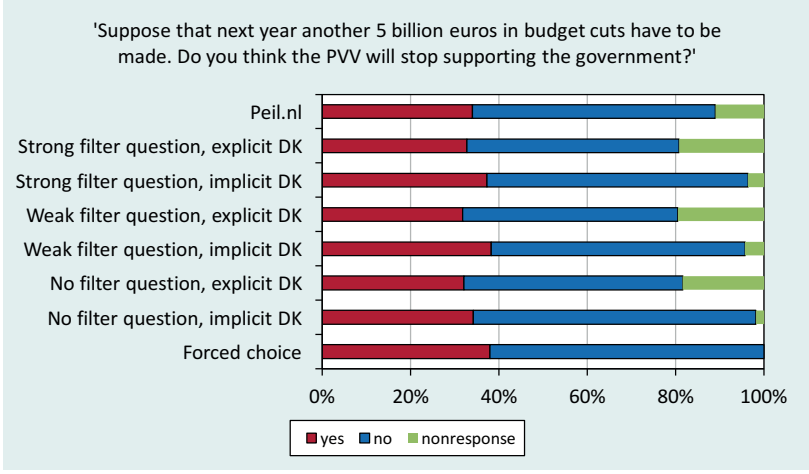

Figure 6.11: Results Seven Variants for PVV Support Government – All Respondents

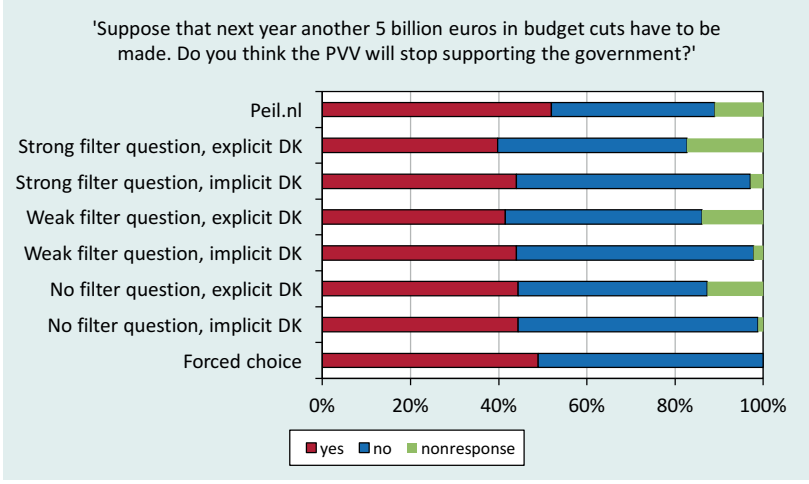

Figure 6.12: Results Seven Variants for PVV Support Government –PVV Voters

To see the effect of offering non-substantive response options on the distribution of opinions, Figure 6.11 (all respondents) and Figure 6.12 (PVV voters) present the results of the seven questionnaire variants.
Figure 6.11 and Figure 6.12 give an indication of what voters in October 2011 expected for the Rutte Cabinet I. The results include the people who used the filter question or said they did not know whether the PVV would stop supporting the government. For all subgroups in Figure 6.11, the largest group expected that the PVV would not stop supporting the government. This is consistent with Peil.nl's outcome of 55 percent, but the largest group is not always a majority: in variant 1A and 2A the percentage of respondents saying 'no' is 48 and 49 and in variant 3A it is 49 percent. So in three of the seven variants half of the respondents seem to hold the position that the PVV would not stop supporting the government.

For the PVV voters (Figure 6.12), the effect is actually the other way around: all subgroups show higher percentages saying 'no' than the 37 percent of the PVV voters reported by Peil.nl. In the implicit DK variants 1B, 2B and 3B it even is a majority saying the PVV would still support the government. In this case, there was therefore also an effect of (not) offering certain response options on the distribution of opinions.

6.5.4 Question Content and Item Nonresponse

Some themes may be more susceptible to question design effect than others. The hypotheses followed from two questions: 1) is the issue related to one of the main dimensions in Dutch politics (McClosky & Zaller, 1984; Wittkopf, 1990) and 2) is the issue related to foreign policy? To examine the relation between question content and item nonresponse, the questions have been ranked per the level of item nonresponse in variant 1A. The analysis of question design effects looks exclusively at item nonresponse, since it is established already that the data seem to be missing at random and the main effect of filter questions is item nonresponse rates.

Table 6.8 shows the ranking based on item nonresponse resulting from the filter question; Table 6.9 shows the total item nonresponse resulting from all non-substantive response options.

Table 6.8: Filtered Out Item Nonresponse (%) – Ranked with Variant 1A

Question	*'No' to Filter Question in Variant 1A*
Self-placement Income Differences	19
Welfare benefits should be lowered in order to stimulate people to work	17
Adoption by same-sex couples should be possible	8
What do you think should happen to the mortgage interest deduction?	6
What do you think is the best solution for the impending deficits of pension funds?	
Do you think that Maxima's father can or cannot be present at the coronation?	
Self-placement European Unification	4
The Netherlands should spend more money on developmental aid	
The Netherlands should in the next year quit the euro and go back to the gulden	
I think that Libya will, in time, become a normal democratic country	3
The Netherlands should be actively involved to help Libya establish a democratic regime	
Self-placement Euthanasia	2
Self-placement Foreigners	
There are too many people of a non-Dutch nationality living in the Netherlands	
Do you think that the King or Queen should have political influence, or should s/he restrict herself to ceremonial roles?	
How long do you think this cabinet will remain in office?	
Suppose that next year another 5 billion euro in budget cuts have to be made. Do you think the PVV will stop supporting the government?	

At first sight, the results (Table 6.8) seem to falsify hypothesis H3a stating that item nonresponse resulting from a filter question is lower when a question is related to a major political dimension. The three items with the highest percentage of respondents saying 'no' to the filter question are self-placement income differences, lowering welfare benefits and adoption by same-sex couples; these items are supposed to be related to a socio-economic or ethical dimension. The other ethical item (self-placement euthanasia) and the two multicultural items, however, render the least item nonresponse (2 percent). So overall results are mixed: some items related to a major political dimension result in less item nonresponse, i.e. 'no' to a filter question, but other items result in more item nonresponse.

The results are also mixed when the second non-substantive response option, i.e. the explicit DK option, is included (see Table 6.9: Total Item Nonresponse (%) – Ranked with Variant 1A). Three of the four items with the highest total item nonresponse rate (the deficits of pension funds, self-placement income differences,

Table 6.9: Total Item Nonresponse (%) – Ranked with Variant 1A

Question	*Item Nonresponse*
What do you think is the best solution for the impending deficits of pension funds?	32
I think that Libya will, in time, become a normal democratic country	23
Self-placement Income Differences	20
Welfare benefits should be lowered in order to stimulate people to work	19
Suppose that next year another 5 billion euro in budget cuts have to be made. Do you think the PVV will stop supporting the government?	18
The Netherlands should in the next year quit the euro and go back to the gulden	10
Adoption by same-sex couples should be possible	
The Netherlands should be actively involved to help Libya establish a democratic regime	
Do you think that Maxima's father can or cannot be present at the coronation?	
How long do you think this cabinet will remain in office?	8
The Netherlands should spend more money on developmental aid	7
What do you think should happen to the mortgage interest deduction?	6
There are too many people of a non-Dutch nationality living in the Netherlands	5
Do you think that the King or Queen should have political influence, or should s/he restrict herself to ceremonial roles?	4
Self-placement European Unification	
Self-placement Euthanasia	3
Self-placement Foreigners	2

and lowering welfare benefits) can be related to the socio-economic theme. Three items related to the ethical and multicultural themes are, however, among the items with the least item nonresponse, i.e. the least number of no's to the preceding filter question and DK answers. Hypothesis H3a is rejected.

What is also unexpected is that the questions within the foreign affairs theme are not ranked higher, i.e. questions on EU self-placement, money spent on development aid and questions about Libya. The expectation (hypothesis H3b) was that the item nonresponse for survey questions about foreign policy issues would be relatively higher. This expectation is not supported by the results in Table 6.8 and Table 6.9: Total Item Nonresponse (%) – Ranked with Variant 1A: questions about foreign policy issues are not ranked higher in item nonresponse. The only exception is a question on whether Libya will become a normal democratic country, resulting in the second highest total item nonresponse (23 percent). The percentage of respondents saying no to the preceding filter question, however, is relatively low with 4 percent (see Table 6.8). Hence the conclusion

about foreign policy issues that the overall item nonresponse is not higher.

Finally, the self-placement questions, with the exception of the one about income differences, have the least item nonresponse: 2 to 4 percent. A possible explanation relates to the number of response categories, or the availability of a neutral midpoint category. The number of response categories for the self-placement items is indicated in the introduction of the filter question and respondents were therefore able to decide whether they would be able to place themselves on a seven-point scale.This will be explored in the section about response categories.

6.5.5 Number of Response Categories & Neutral Response Category

It was hypothesized that survey questions with more response categories result in relatively less item nonresponse. Table 6.10 presents the number of DK answers, implicitly or explicitly, for individual survey questions, ranked according to the number of substantive response categories. Strictly speaking, a better test of the hypothesis would have been to manipulate the number of answer categories while holding all other elements (wording, non-substantive response options, etcetera) constant. The answer categories, however, are not a central part of the research question and were not manipulated. The analysis presented here only explores the relation between the number of answer categories and item nonresponse.

Table 6.10: DK Item Nonresponse (%) of Individual Items – Ranked to Number of Response Categories

Number of Substantive Response Categories	Question	*Explicit DK Variants*			*Implicit DK Variants*		
		1A. Strong Filter	2A. Weak Filter	3A. No Filter	1B. Strong Filter	2B. Weak Filter	3B. No Filter
7	Self-placement Income Differences	1	1	1	2	2	1
	Self-placement Euthanasia	0	0	1	1	1	0
	Self-placement Foreigners	0	0	0	1	1	0
	Self-placement EU	0	0	2	1	1	0
4	The welfare benefits should be lowered in order to stimulate people to work	2	3	4	1	1	1
	Adoption by same-sex couples should be possible	2	1	5	1	1	1
	There are too many people of a non-Dutch nationality living in the Netherlands	4	2	4	1	1	1
	The Netherlands should spend more money on developmental aid	3	3	5	1	1	1
	How long do you think this cabinet will remain in office?	6	5	6	1	1	1
3	What do you think should happen to the mortgage interest deduction?	0	0	3	0	1	1
2	What do you think is the best solution for the impending deficits of the pension funds?	26	21	30	4	4	6
	The Netherlands should next year quit the euro and go back to the gulden	7	5	8	1	1	2
	Do you think that the King/Queen should have political influence or should s/he restrict herself to ceremonial roles?	2	1	3	1	1	1
	Do you think that Maxima's father can or cannot be present at the coronation?	4	2	8	1	1	2
	I think that Libya will, in time, become a normal democratic country.	21	19	23	2	1	2
	The Netherlands should be actively involved to help Libya establish a democratic regime	8	7	9	2	2	2
	Suppose that next year... Do you think the PVV will stop supporting the government?	18	17	18	2	2	2

DK Item Nonresponse is measured as a percentage of the respondents using a DK option in response to an opinion question. Respondents saying 'no' to the preceding filter question are excluded from the analysis.

In Table 6.10 the questions are ranked according to the number of response categories they offered. Four self-placement questions included a seven-point scale, five questions included four substantive response categories, one question included three and seven questions offered two substantive response options. Only DK answers are included as item nonresponse, because the respondent has to see the substantive response categories in order to determine whether the response categories fit the preferred answer. If no suitable response category is available, the respondent may decide to use the DK option.

The items with the least substantive response categories generate the highest item nonresponse in Table 6.10. Questions about the deficits of pension funds (30 percent DK answers), Libya (23 percent) and the PVV's support for the government (18 percent explicit DK) all offer only two substantive answers and result in high item nonresponse rates. It is interesting to note that two of the three items with two response categories, i.e. Libya and PVV's support for the government, are about expectations and not opinions. If these two are excluded, the effect partially disappears.

The self-placement items, offering more options (and a midpoint category, which is discussed below), are ranked highest. For all self-placement items, the DK item nonresponse is clearly lower than for other survey items; the numbers are also lower compared to the other questions referring to the same theme. The self-placement item addressing the multicultural theme (Foreigners), for example, results in 0 to 1 percent DK answers which is considerably lower than the 4 percent of the related item ('There are too many people of a non-Dutch nationality living in the Netherlands'). These findings suggest that a limited number of response categories results in a more frequent use of the DK option. Hypothesis H4a is supported.

One note is in order, however. The conclusion that more substantive response categories result in less item nonresponse can only be drawn for the explicit DK variants (1A, 2A and 3A). The implicit DK option was used so infrequently, that the differences between items with more and fewer substantive response categories are negligible: for example, up to 2 percent skipped the self-placement income item and up to 4 (implicit filter variants 1B and 2B) and 6 (no filter variant 3B) percent used the implicit DK option for the question about pension fund deficits with two response categories. So hypothesis H4a is supported for the explicit DK option, but no effect of the number of response categories is found for the implicit DK variants.

The second issue in this section is the presence and use of the midpoint category, which was included in the self-placement items and for the question about mortgage interest deduction. Based on the meanings of the midpoint or neutral category as either a truly neutral position or as a disguised nonresponse, it

is expected that for questions where a middle response category is offered at least part of the item nonresponse is substituted by such a neutral answer. In the absence of a non-substantive response option, it is expected that at least some respondents use the midpoint option as a pseudo non-substantive response option. Table 6.11 shows how often the midpoint option was used in each variant.

Table 6.11: Use of the Neutral Response Category (%)

Question	*Explicit DK Variants*			*Implicit DK Variants*			4
	1A. Strong Filter	2A. Weak Filter	3A. No Filter	1B. Strong Filter	2B. Weak Filter	3B. No Filter	Forced Choice
Self-placement Income Differences	21	18	24	20	18	24	23
Self-placement Euthanasia	5	5	5	6	5	6	6
Self-placement Foreigners	18	19	16	20	18	17	19
Self-placement EU	14	13	14	15	13	17	17
What do you think should happen to the mortgage interest deduction?	54	54	50	57	53	52	52

Use of the Neutral Response Category is measured as a percentage of answers to the substantive opinion question. Respondents saying 'no' to the preceding filter question are excluded from the analysis.

Hypothesis H4b expected more use of a midpoint option in variants where no non-substantive response option is offered. The data do not show this pattern, however (see Table 6.11): the forced choice variant results in none of the five items with a neutral response category in a more frequent use of that midpoint option. Respondents who have the (explicit) DK option available do not use the neutral response category less than the forced choice respondents.

What also cannot be observed is that in the implicit DK variants (1B, 2B and 3B) the midpoint option is consistently used more often than in the explicit DK variants (1A, 2A and 3A). This was expected because although respondents may be able to skip the question, they are not visually alerted to that option. Like the respondents of the forced choice variant, the implicit DK respondents do not use the midpoint option more often; at least there is no clear and consistent trend.

So the overall conclusion about the use of the midpoint category can only be

that it is not used more often by respondents who do not have other non-substantive response options available (in the forced choice variant) or by respondents who do not have explicit non-substantive response options (in the implicit DK variants). This is a falsification of hypothesis H4b; offering a nonresponse (i.e. DK) option does not result in less use of the neutral response category.

6.5.6 Question Design and Break-Offs

Partial nonresponse becomes a threat to data quality when it results in data not missing at random, i.e. a nonresponse bias. In this study, only the amount of partial nonresponse was registered; these data reveal how much missing data (break-offs) result from question design choices. The specific research question is: how do non-substantive response options, i.e. filter questions and the DK option, influence partial item nonresponse? The expectation (hypothesis H6) is that since non-substantive response options provide an easy way out and therefore require less time and effort, the respondents of variants with explicit non-substantive response options are less likely to drop out. When respondents are unable to see that they do not have or are not willing to give an opinion, this results in frustration and eventual break-offs.

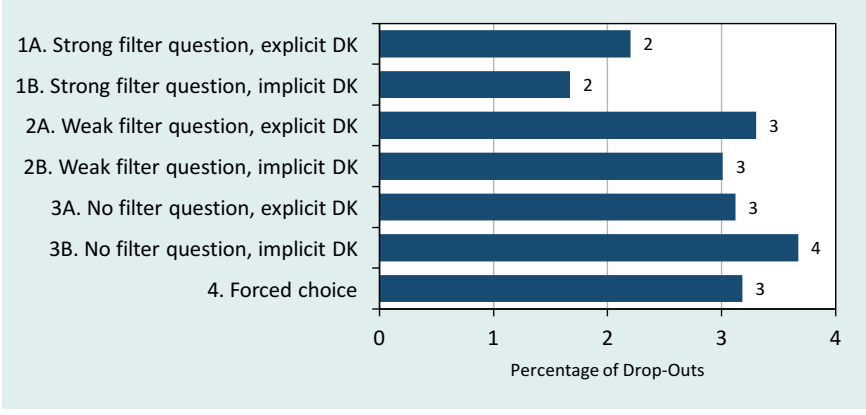

Figure 6.13: Drop-Outs (%) per Survey Questionnaire Variant

Figure 6.13 displays how many respondents dropped out of the survey after having started. The variants with an explicit DK option (1A, 2A and 3A) should result in fewer drop-outs. Indeed, for the strong filter variants the percentage of drop-outs is slightly lower in the explicit DK variant than in the implicit DK variants, but the same cannot be concluded about the weak filter and no filter variants. And while

the forced choice variant should lead to most frustration and consequently most drop-outs, it is one of the two variants with the least break-offs (together with implicit DK variant 3B). The number of break-offs in variants with an implicit DK option or no non-substantive response option at all (forced choice) is not higher than in the variants with an explicit DK option and/or a filter question. Hypothesis 6 is rejected.

It could be argued, however, that the filter variants (1A, 1B, 2A and 2B) result in more drop-outs because of questionnaire length and the increased survey burden. If longer questionnaires result in more break-offs, one would expect relatively high numbers towards the end of the survey. Figure 6.14 and Figure 6.15 show when the respondents of the seven variants dropped out[38]. However, most respondents already drop out soon after starting the survey, i.e. during the first three opinion questions (or the first six questions including filter questions), regardless of the variant they were assigned to. This is not in line with the expectation that questionnaire length is an alternative explanatory factor for the number of break-offs. Respondents simply decide early whether they want to proceed with the survey or not, regardless of design aspects.

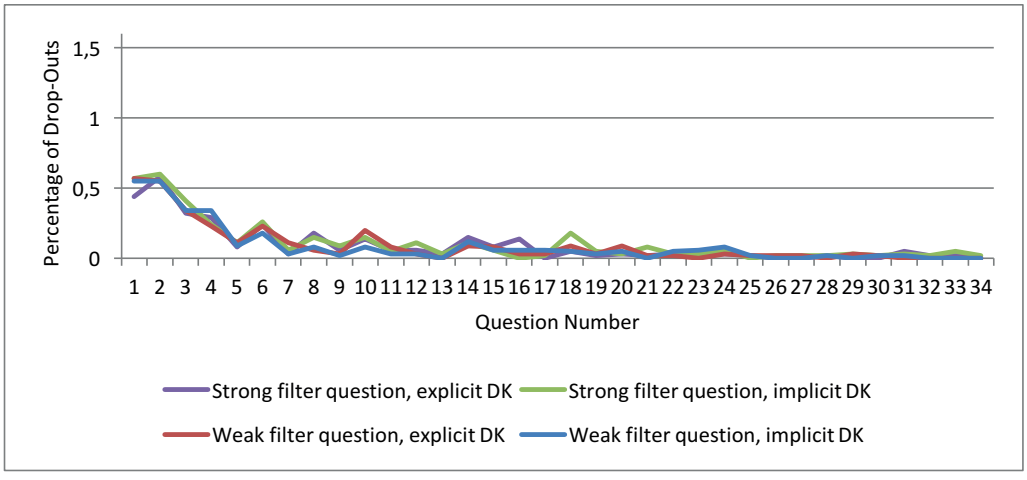

Figure 6.14: Drop-Outs (%) Filter Question Variants

38 It is confusing to display all variants at the same time, because some variants do not include filter questions while others do. The drop-out rates of the seven questionnaire variants are therefore split into two figures, one for the filter question variants and one for the other (no filter question and forced choice) variants.

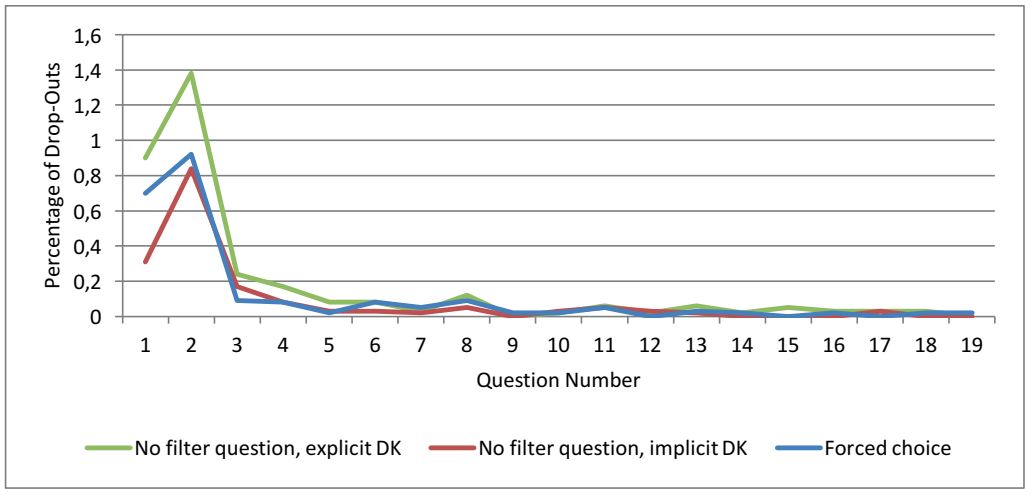

Figure 6.15: Drop-Outs (%) No Filter and Forced Choice Variants

6.6 Conclusion

In this chapter, the results of a survey experiment on the effects of a filter question were presented. The effects were assessed in terms of the collection and aggregation of substantive and non-substantive answers. The expectation was that using a filter question would result in an item nonresponse of about 20 percent regardless of question content, as suggested in the literature. Different types of questions were examined in terms of the number of response categories and the subject of the survey question. Furthermore, the number of drop-outs was examined. The experiment was carried out with the EenVandaag Opiniepanel.

The effect of a filter question can be assessed in two ways: 1) item nonresponse resulting from a 'no' to a filter question, which reveals only what part of the public has an opinion; and 2) the distribution of substantive answers, which shows what overall public opinion looks like. Posing a filter question before an opinion question has a strong effect on item nonresponse, although 20 percent proved to be an overestimation: about 10 to 11 percent of the respondents said 'no' to the filter question, depending on the wording of the filter question and regardless of question content. These findings support hypothesis H1a: explicit non-substantive response options result in more item nonresponse. Hypothesis H1b is also supported: questionnaire variants with filter questions rendered more item nonresponse than an explicit DK option. Nevertheless, the influence of filter questions on item nonresponse is not much stronger than the influence of an explicit DK option; only when a variant

offers both non-substantive response options the item nonresponse is substantially higher than compared variants with an explicit DK option.

The effect of a filter question on the distribution of opinions depends on whether item nonresponse is treated as missing data and as such excluded from the analysis, or included in the distribution. The emerging overall picture of public opinion does not change if a filter question is added and item nonresponse is excluded. If item nonresponse is considered valuable information about for instance public ignorance, the picture of public opinion changes in various ways for some items. Majorities become pluralities, and majorities become less pronounced – 'making' the public more divided about the particular issue. So despite the fact that no nonresponse bias is discovered and hypothesis H2b is rejected since missing data are missing at random (which supports hypothesis H2a), the picture of public opinion can be affected by question design and particularly by the use of a filter question. The distribution of opinions, however, and the 'substantive proportions' are not substantially affected and suggest a limited effect of using a filter question on survey results.

The finding that the picture of public opinion does not change when a filter question (and other non-substantive response options like the explicit DK option) is used, is rather surprising. Missing data appear to be randomly distributed, which seems counterintuitive. More item nonresponse resulting from filter questions definitively leaves more room for a bias and even though previous studies noted that 'the filtered distribution of opinions sometimes differs from the unfiltered (standard) distribution and sometimes does not' (McClendon & Alwin, 1993, p. 439), it was expected that the filtered distribution would differ from the unfiltered distribution for at least some issues. The levels of item nonresponse resulting from filter questions do suggest a less involved public than is actually the case. A politician trying to be responsive to the public could be acting upon what he thinks to be a majority which is actually a plurality or even a minority. Filter questions are therefore a valuable tool to reveal the complete picture of public opinion, including that part of the public that does not have or does not want to express an opinion.

Besides the effect of filter questions on item nonresponse and the distribution of opinions, other factors were considered: question content and response categories. The hypotheses regarding question content (H3a and H3b) could not be confirmed; questions related to a major political dimension in Dutch politics did not consistently result in less item nonresponse and foreign policy issues did not generate more item nonresponse. The same holds true for hypothesis H4b: the midpoint or 'neutral' response category was not used more often by respondents who were not offered non-substantive response options; hypothesis H4b was falsified. Finally, the expectation that more respondents would drop out of the survey in the implicit DK

and forced choice variants, because of frustration due to the lack of non-substantive response options, was also not supported by the data.

The main conclusion here is that design choices concerning questionnaires or, in other words, the way the questions are asked can and in practice do affect the results significantly. Furthermore, small changes may have consequences due to shifts in majorities or pluralities.