Do Experience and Cheap Talk influence Willingness to Pay in an Open-Ended Contingent Valuation Survey?

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Abstract
In this paper we analyze the effect of information on respondents' willingness to pay to avoid power outages in Sweden, by employing an open-ended contingent valuation survey. Two aspects of information are tested; (i) if increased experience from power outages manifested by one of the worst hurricanes ever in Sweden with long power outages as a result and (ii) if a cheap talk script affect the respondents' WTP. The results indicate that experience increases the proportion of respondents with a zero WTP significantly, which is consistent with the view presented in media in the backwash of the hurricane stressing the right to access power without outages. On the other hand, the cheap talk script decreased the proportion of respondents with zero WTP. In both cases, however, there is no significant effect on the stated WTP conditional on reporting a positive WTP. Thus, information seems to affect the proportion of respondents with a zero WTP, and implications of this on future applications of open-ended contingent valuation surveys are discussed.

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Key-words: Contingent Valuation; Cheap talk; Information; Power outages.

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1. Introduction

Valuation methods, such as contingent valuation and choice experiments, are important economic tools used for eliciting the value individuals put on non-market goods and services. In many cases, valuation of non-market goods takes place after a major change has occurred such as after a natural disaster. During and after such an event individuals receive more information about its consequences both from media and friends. Moreover, they might also have faced the consequences of the change. The objective of this paper is to study two different aspects of information related to power outages by using an open-ended contingent valuation study to elicit Swedish households' willingness to pay (WTP) for avoiding power outages of various durations up to 24 hours. First we study the effect of information directly by comparing the WTP a year before and directly after the severest hurricane that ever hit Sweden in terms of its effect on power outages. We distinguish between households located in the affected southeast region of Sweden and other households.[1] Second, we study how the WTP is affected by an introduction of a cheap script talk that in addition to saying that respondents may for different reasons deviate from their true WTP, stresses that individuals' responses are sometimes expressions of particular views, in our case that everyone should have the right to power without outages.

In the evening of 8 January 2005, the hurricane "Gudrun" hit the southeast part of Sweden.[2] During the hurricane approximately 75 million cubic meters of trees fell, and in the worst hit areas the amount of trees that fell in a few hours was equivalent to what is normally harvested in five years. Falling trees caused major power outages and approximately 20,000 kilometers of power lines were destroyed, which had a severe impact on the distribution of power in the southeast part of Sweden. As a result of the hurricane, 663,000 households out of the approximately 4.5 million households in Sweden suffered from power outages

[1] This is related to the literature on experience of for example visiting national parks; see for example Cameron and Englin (1997) and Whitehead et al. (1995). However, in our case individuals are not self selected as they would be if we were to compare visitors and non-visitors.

[2] The hurricane is called Gudrun in the Nordic countries, while it is internationally known as Erwin. This windstorm made its way from Ireland to Russia during 7-9 January 2005.

(Statens Energimyndighet, 2005). Over half of these households had their power back within 24 hours, while 68,000 households were still without power eight days after the hurricane and in some cases it took over a month before power returned. Power outages do of course occur in Sweden from time to time, but the geographical spread of the outage and the length of the outages were unique.[3]

We conducted the original contingent valuation study in the autumn of 2004, and used an open-ended contingent valuation survey to elicit individuals' maximum willingness to pay for avoiding power outages of various durations up to 24 hours. Conducting exactly the same study after the hurricane, using exactly the same design on a different random sample of respondents, gives us the opportunity to study the influences of the hurricane on the valuation of power outages.[4] During as well as some time after the hurricane, newspapers, radio and TV were full of reports about the effects of the hurricane, and many of those interviewed blamed the power companies both for the power outages per se and the long duration of them. In this case, it should be noted that the increased information about the power outages mainly came from two sources: (i) those directly affected by the power outage and/or (ii) secondary sources including the increased media coverage as well as knowing affected people. The personal experiences and reports of the outages per se could result in an increased WTP after realizing the impacts of an outage. On the other hand, the experience could have the opposite effect if individuals realize that their suffering from the outages was not as big as they expected. At the same time, people might undertake preventive activities to avoid the negative consequences of future outages by for example buying candles, batteries and/or spirit stoves, and thereby reduce the actual disutility of a future outage. Overall, it is not clear what the effect of Gudrun on WTP is, if any. Moreover, people do have some experiences form outages, although on average these outages have been local and much shorter.

[3] On average, a household in Sweden experiences one outage per year; an average of around 20 minutes for households located in populated areas and 200 minutes for households in sparsely populated areas (Svenska Kraftnät, 2002).

[4] It would of course have been interesting to include questions directly related to the hurricane, but the trade-off would have been not having exactly the same survey.

The views expressed in the media were to a large extent focused on the inabilities of the power companies to handle the situation and that the customers had the right to have the power back as soon as possible irrespective of the costs for the power companies. The question about property rights relates to the elicitation format, and using the most common format, i.e. WTP, implies that the customers do not have the right to power. In our study we used an open-ended elicitation format, while there is a general opinion among many CV practitioners that the closed-ended elicitation format is preferred. Two important reasons for the scepticism towards open-ended questions are that they are more difficult to answer and that the question format is not incentive compatible (Carson et al., 2000). However, there are a number of advantages with the open-ended format, in particular the amount of information obtained from each respondent since the maximum WTP is directly obtained, and the lack of anchoring effects of the bid. The general tendency found in the literature is that the open-ended format results in lower WTP estimates than the closed-ended format when used in a hypothetical setting (e.g. Brown et al., 1996; Kriström, 1993). Furthermore, there are experimental results comparing hypothetical and actual WTP showing that the hypothetical bias is not higher, or even lower, for the open-ended format compared with the closed-ended format (e.g. List and Gallet, 2001; Baliestreri et al., 2001). However, one problem with hypothetical surveys is that not all respondents have the incentive to overstate his or her WTP in the survey situation. In particular, this has been suggested to be the case for many responses in open-ended studies; a respondent whose expected cost of the scenario is larger than his or her WTP has incentives to state a zero WTP. In many open-ended studies, the fraction of respondents with zero WTP is often non-negligible. In the literature, there are several suggestions on how to reduce the hypothetical bias. One of the most successful attempts to reduce hypothetical bias in a closed-ended survey has been to use cheap talk scripts (Cummings and Taylor, 1999). The original idea was to bring down the hypothetical bias in closed-ended contingent valuation surveys by thoroughly describing and discussing the propensity of respondents to exaggerate their WTP. A number of papers have shown that cheap talk script can be successful in terms of reducing the hypothetical bias in closed-ended contingent valuation surveys (e.g. Cummings and

Taylor, 1999; List, 2001; Brown et al. 2003; Bulte et al., 2004; Aadland and Caplan, 2006). However, the effect and the formulation of a cheap talk script for open-ended valuation questions are not necessarily the same, not the least because of the incentives to understate the true WTP. Given the discussion in the media, we stressed that individuals' responses sometimes are an expression of a particular view, in our case that everyone should have the right to power without outages. Our hypothesis is therefore that the effect of the cheap talk script is that it will increase the willingness to pay.

The rest of the paper is organized as follows. In Section 2 we describe our contingent valuation survey, and especially focus on the three different treatments: (i) the survey before the hurricane and without the cheap talk script, (ii) after the hurricane and without the cheap talk script, and (iii) after the hurricane and with the cheap talk script. In Section 3 we present and discuss our results and finally, in the last section, we conclude the paper.

2. The Contingent Valuation Study

In the contingent valuation survey, the respondents were asked to state their maximum WTP for avoiding a power outage of a certain duration starting at 6 pm on an evening in January, which is supposed to represent a worst case scenario.[5] We included both planned - announced at least 3 weekdays before - and unplanned outages with durations of 1, 4, 8 and 24 hours. For unplanned outages we also included a case where the duration of the outage is uncertain with a duration between 2 to 6 hours with an equal probability of ending at any time during this period. The respondents were explicitly told that for each valuation question they should give the maximum amount their households would be willing to pay in order to avoid one power outage with the characteristics mentioned in the question.

The final questionnaire consisted of three parts. The first part contained questions about the households housing conditions, for example to what extent they could cope without power.

[5] Our scenario is similar to the previously conducted 1994 study in Sweden on power outages (Svenska Elverksföreningen, 1994).

The second part consisted of the contingent valuation survey and the last part contained socio-economic questions. The questionnaire was developed in collaboration with representatives from various power companies and from engineering researchers on power outages. Before the questionnaire was finalized, it was tested in several smaller focus groups followed by a large pilot study mailed to 200 individuals in the beginning of 2004.

The original contingent valuation survey was conducted in May 2004. For details on that survey and the results see Carlsson and Martinsson (2004). While we were analyzing the results, the hurricane Gudrun hit parts of Sweden in January 2005. Therefore we decided to conduct a follow-up contingent valuation study with exactly the same design as the survey sent out before the hurricane. This meant that we did not include any specific questions about the hurricane and to what extent the respondents had been affected by it. Although this would have revealed interesting information, we wanted to keep the survey exactly the same as the one sent out before the hurricane to make them completely comparable. However, apart from this we also sent out a questionnaire that included a cheap talk script, which was in all other aspects exactly the same as the original survey. The scenario and the open-ended valuation question for the cheap talk treatment are presented below in Figure 1. In the survey version without cheap talk, the box including the cheap talk was excluded.

>>> FIGURE 1

Thus, our study contains three treatments: (i) before the hurricane without cheap talk, (ii) after the hurricane without cheap talk and (iii) after the hurricane with cheap talk. We test for the effect of experience of the hurricane by comparing treatments (i) and (ii), and we test for the effect of the cheap talk script by comparing treatments (ii) and (iii).

3. Results

Our samples were randomly drawn from a register containing all individuals aged 18-75 with a permanent address in Sweden. The first survey was sent out to 3,000 randomly

selected individuals in May 2004. Each of the other two treatments were sent out to 500 randomly selected individuals in April 2005. The response rates were 56% for the original survey, 47% for the survey version after the storm without the cheap talk and 49% for the cheap talk script survey. Comparing the sample statistics with Swedish population statistics to each treatment respectively, shows no statistical difference at the 5% level related to gender composition and geographic representation based on the postal codes. However, there is a slight and significant overrepresentation of older people in our samples. There is no significant difference among the three survey versions with respect to gender composition, geographic representation and age.

Below in Table 1, we present the descriptive statistics of the WTP responses to the nine valuation questions. We report mean WTP for the whole sample, the proportion of respondents with zero WTP and mean WTP conditional on a positive WTP. The overall results with respect to stated WTP are as expected. Mean WTP increases and the share of zero WTP decreases as the length of the power outage increases, and the WTP is higher and the proportion of zeros is lower for unplanned outages compared to planned outages. Moreover, the WTP for the uncertain power outage with an expected duration of 4 hours is higher than the WTP for a power outage that for sure will last 4 hours.

Let us begin with a comparison between before and after the hurricane without a cheap talk script. For all outage durations, the mean WTP is lower for the sample that received the survey after the hurricane. This result seems to be caused by an increase in the proportion of respondents with zero WTP, which in all nine cases is higher for the treatment after the hurricane. In Table 2 we report the p-values of tests of the null hypothesis of no difference between treatments, i.e. before and after the hurricane, and with and without cheap talk script. For sample WTP and the conditional WTP we use the Mann-Whitney test and for the share of zero WTPs we use a Chi-square test. As shown in column 3 in Table 2 there is a significant difference in the sample WTP at the 5% significance level in five out of the nine valuation questions. Interestingly, the null hypothesis of an equal proportion of zero WTPs is rejected in the same five cases. Moreover, if we look at the conditional mean

WTP, i.e. the mean WTP for respondents with a positive WTP, there is no statistically significance difference at any conventional levels between before and after the hurricane in any of the nine questions (see column 5 of Table 2). Thus, the decrease in WTP after the hurricane is due to an increase in the proportion of respondents with zero WTP.

If we then look at the effect of the cheap talk script, which was included in half of the surveys after the hurricane, we find that mean WTP is significantly different at the 5% level between the two treatments in three out of the nine valuation questions. Moreover, the share of respondents stating zero WTP is consistently lower with the cheap talk script, and the difference in shares is statistically significant at the 5% level in six cases out of nine (see column 7 in Table 2). Again, there is no statistically significant difference at the 5% level between the two treatments in any of the nine questions with respect to conditional WTP (see column 8 in Table 2).

>>> TABLE 1

>>> TABLE 2

We can also test the effects of the experiences of the hurricane and the cheap talk script by estimating WTP functions. The dependent variable, the stated maximum WTP, is censored since it equals zero for a substantial fraction of the respondents. A number of more or less restrictive models can be applied to this type of data, where one main decision relates to how to treat the zero WTP responses; see e.g. Carlsson and Johansson-Stenman (1999) and Moeltner and Layton (2002). A feature of most so-called selection models is that they are modeled with a correlation between the first stage (the probability of a positive WTP response) and the second stage (the WTP response given a positive WTP). In empirical applications, it is often difficult to explain the selection in the first stage resulting in sensitive estimations with low explanatory power, and this is also the case in our study. Therefore we focus on a less sophisticated, but a more robust, independent selection model. The decision on whether or not to state a positive WTP is modeled with a standard probit model, followed by an independently estimated regression on the positive responses. Since

we have multiple responses from each respondent, both models are estimated as random effects panel data models. In total we estimate four models. The two first models are presented in Table 3 based on the responses from the treatments without a cheap talk script. The last two are based on the responses after the hurricane, where we investigate the effect of using a cheap talk script.

As explanatory variables we include eight dummy variables for each of the different contingent valuation questions except for the one hour unplanned power outage, which is the reference case. The other explanatory variables relate to population density of the place of residence and to if the respondent lives in an area affected by the Gudrun hurricane. Whether or not the respondent lives in a house and has no heating possibilities during a power outage are introduced separately, both are expected to increase WTP ceteris paribus. In addition, a number of socio-economic characteristics are included: gender, age and household income after tax. In order to consider the effects of the hurricane and the cheap-talk script, we include dummy variables for these events. Moreover, we interact these two dummy variables with all socio-economic variables. The results from the estimations are presented in Table 3. Note that for the two probit models, the marginal effects are presented.

>>> TABLE 3

Note that the dummy variables identifying duration and type of power outage should all be compared to the reference case which is a planned outage of a one hour duration. The effects are as expected and in line with the descriptive statistics presented in Table 1, i.e. WTP increases with duration and is higher for unplanned outages. It is interesting to investigate the differences among the treatments. We begin with the comparison between the treatment before and after the hurricane. The results basically confirm what was found in the non-parametric analysis. Since we control for respondents living in areas directly affected through the interaction term discussed above, the general impact of information from media can be studied from the dummy variable picking up the treatment effect, i.e. the variable indicating whether the survey was received before the hurricane. Those who

received the survey after the hurricane were less likely to state a positive WTP. The marginal effect in this case is -0.19, which means that the probability of stating a positive WTP was 0.19 units lower if a respondent has received the survey after the hurricane. This negative and significant effect could be interpreted as expressing an attitude that individuals have the right to power without outages. The interaction term between receiving the survey after the hurricane and living in the area affected by the hurricane is significant at the 5% level, indicating that these respondents were more likely to state a positive WTP compared to those who received the survey after the hurricane and were not living in the affected areas ceteris paribus. The interaction term indicates that increased exposure to the outage caused by the hurricane has a positive and significant impact on stating a positive WTP. This may indicate that additional experiences of outages result in the respondents realizing disutilities than they previously had thought of. Of interest is also that the probability of stating a positive WTP is significantly affected by location, where people living in medium sized cities and on the countryside are less likely to state a positive WTP compared to those living in bigger cities. There is no significant difference between the two treatments when it comes to the stated maximum WTP given that the respondents state a positive WTP. Moreover, neither the dummy variable for the treatment that received the survey after the hurricane nor the treatment variable interacted with the socio-economic characteristics has a significant effect on the conditional WTP.

If we then compare the results from our econometric analysis to the treatments with and without cheap talk, the results of the non-parametric analyses are again confirmed. The probability of stating a positive WTP is significantly higher for the treatment with the cheap talk script, while there is no significant difference in the conditional WTP between the two treatments. The interaction term between cheap talk script and socio-economic variables shows that the effect of the script depends negatively on if the respondent lives in a medium sized city, while it is positive for the countryside compared to the reference case living in a large city. Interestingly, the cheap talk script does not have a significant impact on those living in an affected area.

4. Conclusions

In this paper we have analyzed the effect on the WTP to avoid power outages of information through experience and a cheap talk script respectively in an open-ended contingent valuation survey. The effect of information was the same for both sources of information, where the proportion of zeros was significantly affected but there was no effect on the conditional stated maximum WTP. The effect of experience per se was an increase in the proportion of respondents stating a zero WTP. A possible explanation for this is that the respondents disagree with the implied property rights, namely that the respondents do not have the right to power without outages, which would be in line with the view presented in the media. In the light of this, it might seem tempting to apply a compensation question and instead ask for minimum willingness to accept (WTA), which would then change the property right to the consumers. However, research on willingness to accept has shown a large discrepancy between these measures. For example, Horowitz and McConnell (2002) found a mean WTA/WTP ratio of around seven in a meta-study using 200 previously conducted contingent valuation studies. This difference can at least partly be explained by individuals not being used to expressing compensation. A more plausible explanation is that their answers are more an expression of attitudes rather than their true WTP (e.g. Kahneman et al., 1999). The cheap talk script seems to have counteracted the effect of expressing an attitude, and increased the proportion of non-zero responses. On the other hand, living in an affected area compared to not living in an affected area had a positive and significant impact on the probability of stating a non-zero WTP. This may indicate that power outages may result in effects that respondents do not generally think about.

From a policy perspective, our results are interesting and important since they show that valuation may differ before and after a negative event has occurred. The changes in valuation are likely to be driven by the expression of new attitudes and more experience, while the a priori net effect on WTP is unknown. Thus, for valuation studies taking place near the time of for example a natural damage, it is important to test the sensitivity in the

elicited valuation by using cheap talk script. Moreover, as shown in Aadland and Caplan (2006), the length of the cheap talk seems to be important. Thus, there is clearly a need for more research on applications of cheap talk as an instrument to improve the quality of the elicited preferences from stated preference surveys. In this paper we have shed some light on the critical but very difficult question to analyze about how peoples stated preferences are affected by a negative event, and the effect of different strategies to handle biases in these statements.

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Figure 1. Scenario and WTP question, with cheap talk script

We will now ask some questions regarding your household's willingness to avoid power outages. Imagine that there is a service with a backup electricity board that can be used in case of a power outage. This electricity board will cover your household's need for electricity during the whole outage. You will only pay the power company if an outage actually occurs. If you do not want to pay anything, your household will experience power outages because you will not be connected to the backup electricity board. There are two types of outages, and we would like your answers for both of them:
- Planned outage: An outage that you have been notified in advance about.
- Unplanned outage: An outage that comes as a surprise and that you have not been notified in advance about.

Imagine that an outage occurs on an evening in January and that the outage starts at 6 pm. For each question we ask you to answer how much your household at most would be willing to pay in order to avoid this outage by connection to the service. We ask you to consider your answers as carefully as possible and to remember that it is also possible to answer zero kronor.

Experiences from similar studies show that people have a tendency to answer one thing but in reality may want to do something else. For example, you may state a lower amount of money than what you would like to pay, e.g. zero kronor. We believe that this sometimes can be due to one wanting to express a view that one e.g. has the right to have distribution of power. Others may answer a higher amount than what they actually would like to pay. We do not want you to think in this way when answering our questions. There might also be other reasons why you answer the way you do. If you have any thoughts about this, please write down your thoughts at the end of the survey.

Planned outages

How much would your household at most be willing to pay in order to avoid a power outage that starts at 6 pm on an evening in January? You know in advance that the outage will occur. We ask you to answer all 4 questions below.

	Duration of the outage	**I am at most willing to pay (round off to whole numbers)**
Question 1	1 hour	kronor
Question 2	4 hour	kronor
Question 3	8 hour	kronor
Question 4	24 hour	kronor

Unplanned outages

How much would your household at most be willing to pay in order to avoid a power outage that starts at 6 pm on an evening in January? You do not know in advance that the outage will occur. We ask you to answer all 5 questions below.

	Duration of outage	**I am at most willing to pay (round off to whole numbers)**
Question 5	1 hour	kronor
Question 6	4 hours	kronor
Question 7	8 hours	kronor
Question 8	24 hours	kronor
Question 9	Between 2 and 6 hours. It is equally likely that the power returns after 2 hours as after 6 hours, or at any time in between.	kronor

Table 1. Descriptive statistics of stated WTP.

		Before Gudrun No cheap talk			**After Gudrun No cheap talk**			**After Gudrun Cheap talk**		
		WTP all	*Share WTP=0*	*WTP (WTP>0)*	*WTP all*	*Share WTP=0*	*WTP (WTP>0)*	*WTP all*	*Share WTP=0*	*WTP (WTP>0)*
Planned	1 hour	6.3	0.90	60.2	3.0	0.93	39.7	10.2	0.88	83.1
		(39.2)	(0.31)	(107.4)	(14.9)	(0.26)	(40.2)	(52.9)	(0.33)	(131.7)
	4 hours	28.5	0.74	108.0	24.3	0.84	148.9	30.3	0.73	112.7
		(99.9)	(0.44)	(171.2)	(124.8)	(0.37)	(280.4)	(73.4)	(0.44)	(104.3)
	8 hours	84.4	0.51	170.7	82.1	0.57	190.0	71.6	0.49	141.3
		(202.0)	(0.50)	(260.5)	(233.9)	(0.50)	(326.7)	(144.9)	(0.50)	(178.0)
	24 hours	189.3	0.39	308.3	157.7	0.43	280.8	185.8	0.35	285.5
		(377.1)	(0.49)	(441.6)	(350.6)	(0.50)	(428.6)	(360.2)	(0.48)	(413.7)
Unplanned	1 hour	9.4	0.86	65.6	4.8	0.93	72.4	14.2	0.84	87.7
		(45.1)	(0.35)	(102.9)	(28.3)	(0.25)	(87.7)	(52.6)	(0.37)	(104.2)
	4 hours	37.3	0.68	117.5	30.6	0.79	144.4	46.6	0.68	144.7
		(101.9)	(0.47)	(152.7)	(115.7)	(0.41)	(217.9)	(111.8)	(0.47)	(157.6)
	8 hours	108.1	0.46	198.3	96.2	0.55	214.8	103.7	0.44	184.3
		(239.5)	(0.50)	(295.6)	(259.7)	(0.50)	(354.6)	(209.6)	(0.50)	(251.8)
	24 hours	223.0	0.36	350.8	188.9	0.41	322.3	237.3	0.31	345.3
		(430.6)	(0.48)	(496.9)	(382.3)	(0.49)	(454.9)	(446.8)	(0.46)	(503.5)
	Between 2 and 6 hours	68.8	0.59	167.6	64.8	0.68	202.3	68.6	0.58	163.0
		(168.2)	(0.49)	(229.0)	(190.8)	(0.47)	(295.5)	(160.7)	(0.50)	(214.9)

Table 2. Test statistics and p-values from non-parametric tests of the null hypothesis of no difference between the treatments.

		Change in experience			**Introduction of cheap talk**		
		WTP	Share zero	WTP, WTP>0	WTP	Share zero	WTP, WTP>0
Planned	1 hour	0.19	0.14	0.92	0.94	0.10	0.42
	4 hours	0.00	0.00	0.87	0.01	0.01	0.30
	8 hours	0.18	0.09	0.50	0.31	0.12	0.22
	24 hours	0.16	0.19	0.64	0.16	0.07	0.75
Unplanned	1 hour	0.00	0.00	0.79	0.00	0.00	0.57
	4 hours	0.00	0.00	0.81	0.01	0.01	0.39
	8 hours	0.02	0.01	0.90	0.05	0.00	0.61
	24 hours	0.19	0.18	0.80	0.11	0.03	0.69
	Between 2 and 6 hours	0.04	0.02	0.44	0.06	0.04	0.83

Table 3. Marginal effects for estimated models on experience and cheap talk.

		Experience		Cheap talk	
Regression		Probit	OLS	Probit	OLS
Dependent variable		Pr(WTP>0)	WTP	Pr(WTP>0)	WTP
Constant		-0.364[a]	-145.06[a]	-0.416[a]	-178.94[b]
Planned 4 hours		0.243[a]	58.15[a]	0.195[a]	72.10[a]
Planned 8 hours		0.513[a]	144.57[a]	0.462[a]	175.95[a]
Planned 24 hours		0.648[a]	299.73[a]	0.593[a]	317.91[a]
Unplanned 1 hour		0.068[a]	11.69	0.025	2.81
Unplanned 4 hours		0.312[a]	74.70[a]	0.256[a]	113.61[a]
Unplanned 8 hours		0.567[a]	178.17[a]	0.499[a]	220.83[a]
Unplanned 24 hours		0.680[a]	343.16[a]	0.630[a]	364.40[a]
Unplanned between 2 and 6 hours		0.430[a]	135.68[a]	0.364[a]	167.97[a]
Medium City	= 1 if 1,000 – 100,000 inhabitants in municipality	0.098[a]	-10.12	0.031	-20.88
Countryside	= 1 if less than 1,000 inhabitants in municipality	-0.108[a]	-13.96	-0.134[a]	-83.67
Area affected by hurricane	= 1 if municipality was affected by the storm	-0.176[a]	1.79	0.042	-7.72
House	= 1 if detached or terraced house	0.059[a]	87.60[a]	-0.008	93.63
Cannot heat	= 1 if house cannot be heated during outage	0.061[a]	64.37[a]	0.043	-25.22
Age	Age in years	-0.003[a]	-0.10	-0.004[a]	0.17
Female	= 1 if female respondent	-0.065[a]	-23.71	-0.084[a]	8.24
Income	Monthly household income after tax, in 1000 SEK.	0.010[a]	31.77[a]	-0.008	41.71[b]
Gudrun (G)	= 1 if survey received after the Gudrun storm	-0.187[a]	-8.05		
Cheap talk (C)	= 1 if treatment with cheap talk			0.415[a]	241.08
Interaction variables (interacted with either the Gudrun or the cheap talk variable)					
G/C*Medium City		-0.082[b]	-10.61	-0.115[a]	-45.17
G/C*Countryside		-0.14 [a]	-70.40	0.189[a]	86.99
G/C*Area affected by hurricane		0.354[a]	-10.27	0.005	27.89
G/C*House		0.079[b]	4.96	-0.054	-89.38
G/C*Cannot heat		-0.085[a]	-90.02	-0.077[b]	-9.50
G/C*Age		-0.003[a]	0.22	-0.001	-2.43
G/C*Female		0.252[a]	33.15	-0.020	-12.39
G/C*Income		0.032[b]	11.11	0.010	-18.59

a Significant at the 1% level
b Significant at the 5% level