

## **The effect of prenotification techniques on the refusal rate in telephone surveys. A real-life study in the light of the compliance and elaboration likelihood theory**

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### **SUMMARY**

The response rate is of high importance for the representativeness of a study. When it is low, there is a chance that the response is selective, as the people who refuse may constitute a selective sample of the target population. A lot of research has already been done into the socio-psychological aspects affecting response, but so far little attention has been given to the effect of different communicative approaches. In our study we examined the effects of a two-phased communication plan on the refusal rate in telephone surveys. By means of real-life experiments, we investigated the effects of two prenotification techniques: sending advance letters and leaving a message on answering machine or voice mail. Sending advance letters led to a statistically significant decrease in refusals by 25%, but leaving a message on answering machines or voice mail led to no statistically significant decrease in refusals. The results are interpreted in the light of the *Compliance Theory* and the *Elaboration Likelihood Theory*. The possible consequences for research bureaus that conduct telephone surveys are discussed .

### **KEYWORDS**

nonresponsee, refusals, telephone survey, prenotification techniques, advance letters, answering machine, voice mail, two-phased communication plan, compliance, elaboration likelihood

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## 1 DECREASING RESPONSE

In the last decade of the twentieth century, research bureaus all over the world observed a decrease in response (De Heer 1999). This decrease was particularly strong in the Netherlands. Between 1983 and 1997, the response to the Labour Force Survey, a survey conducted in a large number of countries, decreased from 81% to 56%, whereas the decrease in most of the other countries was no more than 10% (see Table 1).

Table 1: Response rate of Labour Force Surveys in several European countries where it is not compulsory to take part in the survey.

Country	1983	1997
Netherlands	81%	56%
Belgium	90%	86%
United Kingdom	81%	80%
Sweden	94%	87%
Finland	96%	87%

A high nonresponse is alarming because it may have consequences for the generalizability of the results of surveys and this may lead for instance to faulty diagnoses of politicians. This happened in the Netherlands shortly before the start of the European Football Championship in 2000. The results of a survey among Dutch police officers showed that 90% of them were apprehensive that hooligans would cause riots, 80% thought the police force was not sufficiently prepared for the event and over 90% thought that they would not be able to do their normal tasks. The Minister of Home Affairs defended himself in the Lower House by pointing out that only 400 of the 1,500 police officers approached for the survey had actually participated (Van Delft 2000). The nonresponse to the survey in question was more than 70%. A high nonresponse is even more disturbing when it is selective, i.e. when the people who refuse are a selective sample of the target population. It is not clear to what extent the 400 police officers who took part in the study are representative of the entire police force. If the 1,100 officers who refused to participate did not take an as gloomy view as those who did participate, the results of the survey do not represent the real situation, and then all the political commotion has been unwarranted.

Another example of the detrimental effect that nonresponse may have, is described by Visscher (1998). In a study into social phenomena such as living conditions and political interests, nonresponse among the people with a low level of education was twice as high as among the people with a high level of education. The results therefore showed a distorted picture.

It is possible to compensate for such a selective nonresponse by means of statistic corrections (Van Bochove 1999), but there is a lot of discussion among methodologists about the question which techniques have to be used for which cases

and it is not always easy to apply those techniques. In view of the generalizability of the results, it is better to have a high response: the smaller the number of nonparticipants in the target group, the more reliable the results will be. The problems with nonresponse exercise many minds all over the world as appears from special issues on nonresponse such as the *Journal of Official Statistics* of June 1999 and the fact that a large annual conference is dedicated to it: the *International Conference on Survey Nonresponse*. In these studies a distinction is made between nonresponse due to the fact that a part of the target group is not reached (noncontacts) and nonresponse due to the fact that people that are reached refuse to take part in the interview (refusals). In this study we restrict ourselves to nonresponse in the second sense, refusals. We will investigate the effect of a two-phased communication plan on the refusal rate. An overview of what is known so far about the influence of (socio)linguistic and socio-psychological factors on refusals in telephone surveys can be found in Palmen (forthcoming), Palmen, Gerritsen & Bezooijen (1999) and Gerritsen and Palmen (1999).

In this article we investigate by means of real-life experiments whether prenotification techniques such as sending a letter in advance and leaving messages on answering machines or via voice mail decrease the refusal rate in telephone surveys for example, a public opinion poll. This study does not deal with telemarketing for commercial purposes such as the sale of subscriptions, insurances, etc.

In Section 2, we discuss the theoretical backgrounds of prenotification techniques. Section 3 deals with the design and results of our study into the effects of advance letters on refusals. Section 4 outlines the design and results of our investigation into the effects of leaving messages on answering machines or via voice mail. In Section 5, we draw some general conclusions about the effects and efficacy of prenotification techniques and we discuss what our results could mean for research bureaus that conduct telephone surveys.

## 2 THEORETICAL BACKGROUNDS

The *Compliance Theory* and *Elaboration Likelihood Theory* are two socio-psychological theories in which processes underlying the forming of opinions are described. Since the refusal rate is determined by the respondents' willingness, these theories can be used to gain insight into why some respondents are more willing to participate in surveys than others. The *Compliance Theory* describes by which *information* people are guided in the forming of their opinions, and the *Elaboration Likelihood Theory* how this information is processed. We will briefly outline both theories and discuss which predictions they do about the effect of advance letters and messages on answering machines on the refusal rate.

### **Compliance Theory**

According to Groves, Cialdini and Couper (1992), there are six psychological principles by which people are guided when they have to decide to answer a request (*compliance theory*). These six principles are: scarcity, authority, liking, consistency, reciprocation and social validation. Below we give a brief description of each adapted to a situation in which someone is asked to participate in a telephone survey.

*Scarcity* has to do with the wish to profit from rare occasions. Assuming that the respondent attaches value to expressing his opinion and likes to be heard, he will be sooner inclined to take part in an interview if the interviewer lets on that he is a special and valued respondent or when he normally does not have an opportunity to express his opinion.

The *authority* principle has to do with the fact that people are sooner inclined to comply with a request from someone they regard as a legitimate authority. In telephone surveys this usually involves the well-known name and reputation of the research bureau. Usually, (semi-)government institutions and large market research bureaus have such a reputation. The former also have the advantage of having an aura of reliability, for example, official agencies that carry out censuses such as the US Census Bureau or the *Statistisches Bundesamt* in Germany.

*Liking* has to do with the fact that people are sooner inclined to comply with a request from someone they like. In a survey situation, this means that a person will sooner participate when the request to participate is made by an interviewer whom he finds sympathetic. Whether this will be the case, depends on many factors, but the chances that the respondent likes the interviewer will increase the more alike they are (*agreement*), for example, in terms of gender, age, social background, personality and language use (Coupland & Giles 1998).

The notion of *reciprocation* is aptly summed up by the expression ‘Scratch my back and I’ll scratch yours’. If a request to take part in an interview is accompanied by the prospect of a reward, people will be inclined to do something in return and take part in the interview.

*Consistency* refers to the fact that people like to be consistent in their thinking and actions, and that they like to provide a logical sequence to a previously held opinion or an action carried out already. In telephone surveys, this means that people are sooner inclined to participate when they regard themselves as someone who likes to do things for other people or when they have participated in earlier surveys.

The last principle, *social validation*, implies that a person will sooner comply with a request if he thinks that someone like him or someone he would like to be would also do so. An interviewer may appeal to a person’s need for social validation, for example, by emphasizing in the introduction that many others or well-known persons have also participated.

When research bureaus use prenotification techniques such as advance letters and messages on answering machines, they particularly resort to the first three principles: scarcity, authority and sympathy. Because so much effort is put into informing and reaching the respondent, he probably gets the impression that he is special and thus lets himself be guided by the scarcity principle. The authority principle also plays a role in prenotification techniques, since the name of the agency conducting the survey will be mentioned. When this is done in writing, for example, in the letterhead and on the envelope, the effect is likely to be even greater than when it is done verbally. The sympathy principle may also play a role in both prenotification techniques. In advance letters, it will only be the tone of the letter and the image of the sender which determine whether or not a person will be sympathetic to a request. In a spoken message, there will be additional factors such as the gender, voice, accent, and age of the interviewer. The fact that a letter was written or a message was left as such will probably also arouse sympathy since the request to participate does no longer come entirely out of the blue.

On the other hand, it is also possible that, on the basis of the information provided, the respondent will decide not to participate, or that he will become agitated when confronted with the prospect of receiving 'another one of those calls'. The prenotification will then give the respondent time to prepare a well-founded refusal, whereas - if he had not received a message beforehand - he might have been willing to participate because he was caught by surprise.

A research bureau may, of course, also resort to other principles when using prenotification techniques, for example, by offering a reward (*reciprocity*) or emphasizing that most people find it interesting to participate (*social validation*). However, these principles are not inherent to these prenotification techniques, whereas scarcity, authority and sympathy do appear to be so.

### **Elaboration Likelihood Theory**

According to the *Elaboration Likelihood Model* introduced by Petty and Cacioppo (1986), the extent to which people react to information depends mainly on their personality and the circumstances in which they find themselves at the moment in question. In some situations people may be open to certain information and consider all the relevant aspects carefully (*issue-relevant elaboration*), and in other situations they may be less open and not be prepared to think seriously about the request, or they may even get bogged down in inessentials. It goes without saying that there are many gradations between these two extremes.

The two most important processes that lead to conviction are the central route and peripheral route. When the *central route* is taken, there is a rather high *elaboration likelihood*. This means that the person in question is motivated to process the information carefully. When someone decides to do something via the central route he will consider the key elements in the information meticulously and assess what the advantages and disadvantages of his behaviour will be. In telephone surveys, this means that people consider the request seriously. They will examine the interviewer's arguments and will mainly look at the *content* of the message. For example, they will form an opinion about the topic of the survey and will also weigh up the pros and cons of participation. When they take the *peripheral route*, people will let themselves be guided by the *context* of the message and will take a decision that is not founded on an elaborate cognitive process (*simple decision rules activated by simple cues*). In that case, there is relatively low *elaboration likelihood*. This means that people are not really willing or not able to consider the relevant aspects of the information and that minor details determine their decisions. Examples of *simple cues* in a telephone survey are the extent to which an interviewer is found sympathetic or the well-known name of the research bureau. The real value of the message is not taken into account.

When one provides respondents with information on a study beforehand, one gives them the opportunity to take the central route and the time to decide whether or not they will participate. The chance that a person will participate indeed seems greater when the information is provided in writing than when the message is spoken. A written message can easily be read a second time so that more attention can be paid to details, etc. It takes more time and work to listen again to a spoken message. On the other hand, information in advance can also provide all kinds of cues that may lead to a decision via the peripheral route: the tone of the letter, the subject of the survey, the agency that conducts the survey, the fact that a letter was sent or a message was left. When the message is left on an answering machine, there are additional factors such as the voice,

accent and gender of the interviewer. It must be mentioned, however, that it is almost impossible to determine whether respondents take the central or peripheral route when they cannot be interviewed afterwards about the reason of their decision.

As may be inferred from the theories above, supplying information in advance may increase response rate. The effect of prenotification techniques on the refusal rate have, however, been tested seldom. We have only found two studies.

Dillman, Gallegos & Frey (1976) studied the effect of sending a letter in advance on the refusal rate in telephone surveys. They performed their study in the State of Washington in the USA. The respondents were 1,119 persons which they had reached by telephone in a survey for which all respondents were randomly selected from the published telephone directories of the State of Washington. Of the 1,119 persons reached 839 had received an advance letter, 280 had not. University students who had received training in general interviewer behavior said that they called long distance for a Social Research Center, that they were doing a statewide research study in an attempt to better find out how people feel about the communities in which they live, and what can be done to improve them. Subsequently they asked the respondents to whom an advance letter was sent whether they had read that letter. The 839 who had read the letter were requested to take part in the interview. The 280 people to whom no advance letter was sent, got the same request. All respondents were told that the interview would not take more than ten minutes. Sending an advance letter had a positive effect, the rate of compliances increased from 85% for those respondents who had not received a letter to 92%, for those who had received a letter, an increase that is statistically significant ( $\chi^2=10.10$ ,  $df=1$ ,  $p<.01$ ).

Dillman et al. (1976) also investigated whether the content of the letter had effect on the compliance rate. A short letter was sent to 278 respondents in which they were only told that a survey was being conducted and that they would receive a call. 287 received a letter covering one full page which contained the same information but also mentioned other aspects. It contained information about the survey, explained how respondents were selected, and also mentioned a telephone number which people could ring if they wished to receive more information. The third letter, covering two pages, was sent to 274 respondents. This letter contained the same information as the second one but also explained the social relevance of the survey. The compliances to all three letters were practically the same, respectively 91,7%, 93,4% and 89,4%. This indicates that it is the provision of information in advance that causes a decrease in refusals, and not so much the content of this information.

Xu, Bates & Schweitzer (1993) studied the effect on the refusal rate of leaving a message on an answering machine. The experiment was conducted during three telephone surveys dealing with public opinion, media use and government election in Texas. University student who had received training in interview techniques conducted the interviews. Only households in which the interviewers had encountered an answering machine on the initial call attempt ( $N=391$ ) were taken into consideration. On 25% of the answering machines no message was left, on 75% a message was left. Only households that were reached in three attempts or less were considered. Leaving a message on an answering machine appeared to have a positive effect on the compliances, the compliance rate increased from 33% to 46%, an increase that is statistically significant ( $t=2.28$ ,  $p<.05$ ).

In this study also three different messages were used, a short one stating that some one from the Institute for Communication Research had called in connection with a survey and that he would call again. In the second message it was added that the study was conducted by Texas Tech University. The third message added to the second that the results of the study would be used by the state legislature and that it was very important to speak with the person called. Again, the form of the message had no effect: the rate of compliances to all three types of spoken messages was practically equally high, respectively 48.0%, 44.3% and 45.7%.

The results of the two studies described above indicate that refusal rate can be reduced by using prenotification techniques. In both studies the different persuasive techniques that were used hardly differed in effect on the refusal rate. It seems that it is the fact that information is provided in advance that causes the increase of compliances. The prenotification as such probably appeals sufficiently to the scarcity, authority and sympathy principle. Whether the prenotification affects the decision via peripheral or central route in the Elaboration Likelyhood Model cannot be said, since we can only determine which road a respondent took when we can interview him extensively about his decision.

So far the effect of prenotification techniques on the refusal rate has only been investigated in two studies, both in the USA of which one long time ago. The question is whether the results of these two studies also hold for other parts of the world nowadays. In the next two sections we describe the design and results of our study of the effect on the refusal rate of sending an advance letter and leaving a message on an answering machine

### 3 THE EFFECT OF AN ADVANCE LETTER noot 1

#### 3.1 Design

Our study into the effects of advance letters was structured analogously to that of Dillman et al. (1976) It can be qualified as an experimental real-life study, i.e. the working method was, as far as possible, in line with the current survey practice. The interviewers were people who also worked for research bureaus and the people we telephoned could also have been selected by research bureaus.

The study was carried out in Nijmegen in 1998. Nijmegen is a town in the south-east of the Netherlands and has 152,000 inhabitants. Regarding to population size, facilities, industry it is the tenth town of the Netherlands and the largest town in the south east part of the Netherlands. We randomly selected 200 people listed in the telephone directory. Of this group, 100 people got a letter (see Appendix I) from Research Bureau BC (a fictitious organization) in which they were told that they would receive a call in connection with a study on meat consumption and informed about the selection procedure. They were given the assurance that all information would be treated as strictly confidential. The letter was largely based on the most successful letter, i.e. the second letter (see 2), in the study of Dillman et al.. A few days after the letter was sent, one male interviewer and one female interviewer telephoned the 100 people between 7 and 9.30 p.m. as that is when most research bureaus make their calls in the

Netherlands. These seem to be the best hours to telephone, because most of the people will then be home. The interviewers used the following introduction (1):

- (1) *Good evening. This is Y from Research Bureau BC. We are currently conducting a noncommercial survey on meat consumption in the Nijmegen region. We recently sent you a letter. Did you receive it?*  
 If ‘yes’: *Would you mind answering six questions about this subject? It won’t take more than five minutes.*  
 If ‘no’: *That’s strange. It must have been lost in the mail. Sorry to have disturbed you.*

In that same period, the interviewers also tried to reach the other 100 people who had not received a letter. In this case, the following introduction was used (2):

- (2) *Good evening. This is Y from Research Bureau BC. We are currently conducting a noncommercial survey on meat consumption in the Nijmegen region. Would you mind answering six questions about this subject? It won’t take more than five minutes.*

### 3.2 Results

For each address of the 200 telephone numbers two attempts were made in order to reach a person. Of the 100 people to whom a letter was sent, 75 could be reached in one or two attempts. Seventeen were not reached in two trials, 3 numbers did not exist any more or were fax numbers and 5 numbers were connected to an answering machine. Of the 75 respondents in the “letter condition” who were reached, 16 had not received or not read the advance letter. In the group that had been prenotified we only considered the 59 people who had both received and read the advance letter.

Of the 100 telephone numbers of people who had not received an advance letter 64 people were reached in one or two attempts, 18 people were not reached in two attempts, 11 numbers did not exist any more or were fax numbers and 7 numbers had answering machines. In Table 2 columns 2 and 3 represent contacted and noncontacted (after two trials) respondents for each condition. Column 6 and 7 of Table 2 show for the respondent which were reached the number and percentage of people that refused to be interviewed (refusals) and the number and percentage of people that were willing to be interviewed (compliances) in the two conditions.

Table 2 Number of people reached, refusals and compliances for people who had received an advance letter and people who had not

Advance letter sent	Not reached in two trials	Reached in one or two trials	Letter not read or received	Number of people in each experimental group	Refusals	Compliances
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<b>Yes</b> N=100	N=25 (25%)	N=75 (75%)	N=16	<b>Advance letter sent and read</b> N=59	N=20 (34%)	N=39 (66%)
<b>No</b> N=100	N=36 (36%)	N=64 (64%)	--	<b>Advance letter not sent</b> N=64	N=38 (59%)	N=26 (41%)
<b>Total</b> N=200	N=61 (30%)	N=139 (70%)	N=16	N=123	N=58 (47%)	N=65 (53%)

Table 2 shows that advance letters have a positive effect on the rate of compliance: it is 25% higher for the group that had received a letter in advance than for the group that had not received a letter (column 6 versus column 7). The difference is also statistically significant ( $\chi^2=8.00$ ,  $df=1$ ,  $p<.05$ ).

### 3.3 The effect of an advance letter: conclusion and discussion

We have shown in section 2 that an advance letter may be expected to increase the compliance to a telephone survey. The results of our study confirm this expectation. The softening-up technique which had effect in the United States in the past, also proved effective in the Netherlands in 1998. It is striking, however, that the difference in decrease of refusals was much smaller in the USA. The effect of advance letters was much lower in the United States (7% difference in Dillman et al (1976)) than in our study (25% difference). The difference between the two studies could be due to the fact that the rate of compliance in the study of Dillman et al (1976) is high, 85%, for the people who had not received an advance letter, whereas it is 41% in our study. It is not only much easier to increase a rate of compliance of 41% than a rate of compliance of more than 80%, but a compliance rate of 85% can even not increase more than 15%. It is also possible that the difference in effect has to do with the fact that the American study were carried out in 1976 and ours in 1998. Precisely in this period new communication media (fax, e-mail) emerged and their growing use might have given personal letters a special status. For example, the Dutch postal services launched a full-page advertising campaign in the summer of 1996 to promote the writing of letters: 'If you want to send a really personal message, the smell of fountain pen ink is still preferred' and 'the *love letter* has been the tried and tested method since times immemorial to reveal your feelings in a very personal way at a distance'. A request to participate in a survey is, of course, not quite the same as such a personal letter, but the campaign does indicate how special letters have become nowadays. It is not inconceivable that, in 1998, a Dutchman will be more impressed by an advance letter, and therefore more willing to participate in a prenotified telephone survey, than an American in 1976.

The effect of advance letters can probably be explained by their increasing the reliable image of a study, if only because of the use of company stationery, particularly from a reputable research bureau (the effect of the authority principle in *compliance theory*). An advance letter usually states: the content and aim of the survey, the name of the agency conducting the survey, the approximate time at which the respondent will be contacted, the duration of the interview and, possibly, the exact nature of the participation. In short, exactly those elements of the torrent of information that normally overwhelms the respondents when the interviewer fires the first sentences of the introduction at them. In a letter, these points can be offered in a structured way. In

addition, it may include information on the way in which the test subjects were selected, the name of the person they can contact if they have any questions, or a phrase indicating that the information provided will be treated as confidential. All this does make a professional impression and works in accordance with the sympathy principle as formulated in *compliance theory*. Sending such a personalized letter also immediately emphasizes scarcity. The respondent gets the idea that some effort is made to reach him and that his participation in particular is deemed important. Perhaps this personal aspect is even more important than the factual information provided (Groves & Lyberg 1988).

## 4 THE EFFECT OF A MESSAGE ON AN ANSWERING MACHINE noot 2

### 4.1 Design

In order to investigate whether leaving a message on an answering machine has a positive effect on the refusal rate, we conducted a study in May 1999 and in March 2000, which in terms of design and subject was analogous to the one described in section 3, i.e. an experimental real-life study. Only now, instead of sending advance letters, messages were left on answering machines or voice-mailboxes. We randomly selected 1870 numbers from the Nijmegen telephone directory, taking care that they were not selected from the part that was used in the study into the effects of advance letters (3.1). These 1870 numbers were called and only the 295 people who had their answering machine or voice mail switched on were involved in the survey. Of this group, 151 people got the following message on their answering machine or in their voice-mailbox (3):

(3) *This is Y from Research Bureau BC. We are currently conducting a noncommercial survey on meat consumption in the Nijmegen region. We would like to talk to you about this subject. It won't take more than five minutes. You were selected by means of a random selection procedure. We will, of course, treat all the information you provide as confidential. Your participation would be much appreciated. We will call you again later this evening/this week.*

In a nutshell, this message contained the same information as the advance letter (see 3.1 and Appendix I). No message was left on the answering machines and voice-mailboxes of the other 144 respondents in the sample. A few days after the messages were left, the numbers were called again in order to try to get the people themselves on the phone. To those who had received a message on the answering machine or voice-mailbox, the following was said (4):

(4) *Good evening. This is Y from Research Bureau BC. We are currently conducting a noncommercial survey on meat consumption in the Nijmegen region. We recently left a message on your answering machine. Did you hear it?*  
If 'yes': *Would you mind answering six questions about this subject? It won't take more than five minutes.*  
If 'no': *That's odd. Something must have gone wrong. Sorry to have disturbed you. Have a nice evening.*

To those who had not received a message on their answering machine or voicemail, the following was said (5):

(5) *Good evening. This is Y from Research Bureau BC. We are currently conducting a noncommercial survey on meat consumption in the Nijmegen region. Would you mind answering six questions about this subject? It won't take more than five minutes.*

## 4.2 Results

For each address of the 295 respondents who had their answering machine switched on four attempts were made in order to reach a person ‘live’ on the phone. The second and the third column of Table 3 shows how many people were reached. Of the 151 people who had received a message on their answering machine, 95 (63%) were reached. Of the 144 people who had not received a message, 78 (54%) were reached. Of the 295 people who had an answering machine, the interviewers eventually got 52% ‘live’ on the phone.

Of the 95 people who had got a message on their answering machine and who were reached 19 had not heard the message. We only considered the 76 respondents who had heard the message in the group that had been prenotified.

Table 3 gives for each condition a summary of the people that were not reached after four trials and the people that were reached. Column 6 and 7 show the number and percentage of people that refused to be interviewed (refusals) and the number and percentage of people that were willing to be interviewed (compliances). Leaving a message on answering machines led to a slight increase of the response, but this increase is not significant ( $\chi^2=1.50$ ,  $df=1$ ,  $p=.17$ ).

Table 3 Number of people reached, refusals and compliances for people who had received a message on the answering machine and people who had not

Message on answering machine	Not reached in four trials	Reached in one to four trials	Message not heard	Number of people in each experimental condition	Refusals	Compliances
<b>Yes</b> N = 151	N = 56 (37%)	N = 95 (63%)	N = 19	<b>Message received and heard</b> N = 76	N = 24 (32%)	N = 52 (68%)
<b>No</b> N = 144	N = 66 (46%)	N = 78 (54%)	--	<b>No message</b> N = 78	N = 33 (42%)	N = 45 (58%)
<b>Total</b> N = 295	N = 122 (41%)	N = 154 (52%)	N = 19	N = 154	N = 57 (37%)	N = 97 (63%)

## 4.3 The effects of messages left on answering machines: conclusion and discussion

The results of our survey correspond with the the results from earlier research in the United States (Xu, Bates & Schweitzer 1993), but the increase in response rate of 10% was not significantly significant. It is remarkable though that the increase was almost equal to the one achieved in the United States (13%).

Comparison of the response of people on whose answering machine no message was left (Table 3, column 7, row 3) with that of the people who had not received an advance letter (Table 2, column 7, row 3) reveals a considerable difference: 58% versus 41%. This difference is significant ( $\chi^2 = 4,10$ ;  $df = 1$ ;  $p < .05$ ). This result supports the presumption of De Leeuw and Hox (1998) that the response of people who use answering machines and voice mail would be higher than from people who do not use them, because the former would have a more open attitude towards the outside world. Our data seem to support this theory. However, the problem here is that we do not know for sure whether the people who did not receive an advance letter and were reached by us (Table 2, column 3) will not use an answering machine at other moments – for example, when they are not home or do not want to answer calls. We simply did not ask

them. To determine whether or not the presumption of De Leeuw and Hox (1998) is indeed correct, further research will be required in which the response from two groups needs to be examined: people of whom with certainty can be said that they use an answering machine or voice mail, and people of whom with certainty can be said that they never use an answering machine or voice mail.

## 5 CONCLUSIONS, DISCUSSION AND RECOMMENDATIONS

In 1998, the prenotification technique sending an advance letter proved to decrease the refusals to telephone surveys in the Netherlands. Of the respondents who were 'softened up' by means of an advance letter, 25 % were more willing to participate in a telephone survey than the respondents who had not received this 'treatment'. Leaving messages on answering machines had a refusal-decreasing effect of 10%, but this difference was not significant.

The difference in effect of an advance letter and a message left on an answering machine is remarkable. The cause of this is not quite clear. There are a number of possibilities. Firstly, it may be due to the fact that a letter relates more to the scarcity, authority and sympathy principles. At the end of the second millennium, the written message has become more special than the spoken message (see Section 3.3). A personal letter with the address and logo of the company and a personal signature is more convincing proof of a real research bureau being involved than a message on the answering machine from a interviewer saying that he is conducting a survey on behalf of an agency (see 2). In the spoken message it is not just the formulation of the message and the image of the agency conducting the survey that determine whether or not someone will be sympathetic to the request, but also such aspects as the interviewer's voice and accent. These may either increase or decrease response. This may have been the case here, i.e. cues that lead to the peripheral route (voice, accent) may have had more weight than those leading to the central route.

Secondly, it is possible that a letter leads the respondent more directly to the central route and decision-making than a spoken message, even though the content of both is largely the same. A written text can be read and reread at leisure, while a spoken message dictates the tempo at which it must be interpreted and it takes more effort to replay the message and listen to it again than to reread a letter. It is not unlikely that written information offers more possibilities for contemplating participation via the central route than the spoken information.

A third possibility is that the difference in the response-increasing effect of the advance letter and the message on the answering machine has to do with the fact that the texts are not all quite the same. We have done our utmost to make the contents of the written and spoken information as similar as possible, but there are nonetheless obvious differences between the letter in Appendix I and the message in (3). For example, the spoken message is much more compact. This may have made the message less 'friendly' so that its compliance-increasing effect turned out to be lower than that of the advance letter.

Finally, there is also the possibility of a ceiling effect with regard to the message on the answering machine. If the presumptions of De Leeuw and Hox (1998) and Xu, Bates & Schweitzer (1993) are correct, i.e. that people using an answering machine or voice mail have a personality that makes them sooner inclined to participate in a survey

(see Section 4.3), then leaving a message will hardly have any effect. If leaving a message were to have an equally large response-increasing effect as sending an advance letter (25%), the response from answering machine owners would be 83%, a percentage that is rarely achieved in telephone surveys.

Besides the above-mentioned principles of scarcity, authority and sympathy from *Compliance Theory*, there is in our opinion also another principle from this theory that may play a role: the reciprocity principle, not in the sense of offering a reward (see 2), but rather in terms of politeness. It is possible that the chosen approach (i.e. providing information in advance) is so polite in the eyes of the respondent that he feels it would be very rude for him to refuse to participate.

So far we have only looked at the respondent in order to explain the fact that information in advance leads to an increase in response, but information in advance may also influence the interviewer's attitude. As the first telephone attempt is no longer such a 'cold start', the interviewer will probably feel more at ease. The interviewer will be able to do his work in a more relaxed way (and probably better), because it has become less stressful. For he can now begin with the simple question of whether the respondent has received the letter or has listened to the message on the answering machine. The interviewer will be more at ease because he will have the idea that the respondent already knows who he is to some extent. There is a good chance that he will therefore score higher on the sympathy principle.

We expect the refusal-decreasing effect to occur also in other than the Dutch and American cultures because of the above-mentioned effects on the attitude of both the respondent and interviewer. There may, of course, be differences between cultures in how a letter is appreciated or in how established the use of voice mail is. These may explain possible cultural differences in the effects of prenotification techniques.

Our experimental real-life study showed that information in advance has a compliance-increasing effect. However, it also leads to an increase in research costs. Addresses and telephone numbers need to be selected, letters must be sent, and the addressees need to be called a few days after the letters were sent. In short, this technique involves a lot of work. Another disadvantage is that it is sometimes not possible to send a letter, for example, in the case of topical research that has to be carried out in the very short term, or when using *random digit dialling* (in which telephone numbers are randomly generated by a computer), and addresses are not available.

The problem with leaving a message on an answering machine is that it is often difficult to telephone the people on whose answering machine a message was left. Firstly, people with answering machines are difficult to reach 'live'. In our study, it sometimes took four calls to reach a person, and about 40% of the people who used an answering machine or voice mail were never reached. Secondly, this approach requires a considerable degree of organization. Only if the research bureau has a system for computer-assisted surveying does calling back become relatively easy as such systems have advanced memo and callback routines.

Prenotification techniques increase response, but whether the costs incurred will be lower than the profits from the increase in compliances is something that will need to be examined case by case. On the one hand, one should take into account that, generally

speaking, the increase in compliances also leads to an increase in reliability. On the other hand, one should be aware of the fact that the use of prenotification techniques may also lead to selective refusals. It is plausible that the use of answering machines or voice mail, and the impression that ‘real’ letters make, are not equally divided along the entire target population.

#### NOTES

This article is a revised version of Gerritsen & Palmen (2000). The authors wish to thank the reviewers for their comments.

<sup>1</sup> This study was conducted by Tonnie van Doorn and Femke de Geus within the context of the series of research lectures on *Sociolinguistic aspects of response in telemarketing* that we offered the last-year students of Business Communication Studies in the autumn of 1998.

<sup>2</sup> The study was conducted by the student assistants Josje Kets, Sebastiaan Meijwes, Maarten Schumm, Stefanie Hermens and Mel Kemps.

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APPENDIX

**Research Bureau BC**  
P.O. Box 9103  
6500 HD Nijmegen

12 November 1998

Dear Sir or Madam,

Re: meat consumption survey

Research Bureau BC is currently conducting a survey on meat consumption in the Nijmegen region. In order to chart current trends, two hundred inhabitants of Nijmegen and its environs will be approached by telephone. You were included in the research population on the basis of a random selection procedure. You will be approached by telephone in the course of week 47 by one of our employees, who would like to ask you or the members of your family a number of questions. We therefore kindly request you also show this letter to the members of your family.

The interview will not take more than 5 minutes. This survey does not serve any commercial purpose.

Your participation would be much appreciated. We will, of course, treat your personal data and the information you provide as strictly confidential.

Yours faithfully,

On behalf of Research Bureau BC

[illegible signature in blue ink]

D. de Nooijer  
Project Leader