

TIME OF DAY FOR CATI CONTACTS IN AGRICULTURAL SURVEYS

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Introduction

The problems of contacting a person on the telephone in order to conduct a telephone interview are numerous. Wiseman and McDonald (1979) listed six reasons for noncontact. In this paper, we examine the following three:

1. The person to be contacted is not at home at the time of the interview attempt.
2. The person to be contacted is at home but does not get to the telephone in time to respond.
3. The person to be contacted has a telephone which is busy at the time of the contact attempt.

A major factor which affects this non-contact rate is the timing of the attempt, both day of the week and time of day. This paper examines data from the California Fall Acreage and Production Survey (A & P) of November 1985 from the perspective of the number of attempts made and the timing of the attempts made within the day.

Results

Data for the California A & P were collected using Computer Assisted Telephone Interviewing (CATI). The sample selected contained 1,920 farm operations, all of which had previously been contacted in the June Acreage survey. Calling began on Tuesday, November 12, and ended on Monday, November 25. No calls were made on Fridays, Saturdays, or Sundays. The scheduled time for calls during the first 3 working days of the survey was from 3 p.m. until 9 p.m. For the remainder of the survey (5 working days), calling was generally scheduled from 1 p.m. until 9 p.m., with one supervisory enumerator making morning callbacks. On November 19, five of the enumerators started at noon and on the last day of the survey, 2 of the 10 enumerators worked in the morning in an effort to complete the survey. A total of 5,354 contact attempts were coded, resulting in 1,642 completed contacts, 78 refusals, and 200 incomplete responses. Of the latter group, 41 were noted to be inaccessible by telephone and were not followed up in this survey.

The results of each contact attempt were recorded by the enumerators on a call sheet containing the date and time of the attempt in addition to the outcome

of the call: completion, refusal, no answer, busy, or callback. The CATI system created a record (known as the 00 record) which contained a date and time record of every occasion on which the information for the farm operation was called up on the computer screen by the enumerator. Outcomes recorded on the call sheets by the enumerators were checked against the CATI-generated 00 records. A number of discrepancies between the two records were found and were resolved by the researcher as follows:

1. No CATI record for the case in the computer. This was usually due to there being no telephone information available for the operation. A CATI 00 record was created with the outcome coded as inaccessible by telephone.
2. No CATI record but the enumerator record showed that an attempt had been made. A CATI 00 record was created with an outcome coded to match the enumerator recorded data.
3. A CATI 00 record existed but no recorded outcome was available from the enumerator record. The outcome was recorded as other.

For the purposes of this study, the terms "completion" and "complete a call" refer only to those attempts for which the enumerator recorded a completed interview, and do not include refusals or any other outcomes.

The number of attempts required in order to complete a call varied with the outcome of the contact. For those calls which were completed, table 1 gives the distribution of the number of contact attempts required for each of the three classifications of respondent: operator, spouse, and other knowledgeable individual. These responses are separated into the three strata used in the study as well as the overall rates by respondent. Stratum 1 generally consists of small operations, stratum 2 medium sized operations, and stratum 3 large operations.

The effort required, as measured by the average number of contact attempts required to complete a call, tends to increase with the size of the farm operation. This observed trend is statistically significant only when spouses were the respondent (for operators, chi-square = 30.75, df = 22, P

= .101; for spouses, chi-square = 30.34, df = 18, P = .034; for others, chi-square = 11.82, df = 12, P = .460).

The distribution across strata of the number of responses for each type of respondent is significant (chi-square = 35.09, df = 4, P < .001). There are far more responses by the spouse for smaller operations and far more responses by other knowledgeable individuals for larger operations than would be expected if respondents were equally likely to be contacted in all three strata. This pattern reflects the observation that spouses are not likely to be able to answer the questions posed for the larger operations (see Warde, 1986), and also the likelihood of data being provided by an accountant or a bookkeeper for some larger operations.

Table 2 shows the distribution of outcomes as a function of the number of attempts made to contact an operation. The probability of a completion can be seen to decrease as more attempts to contact an operation are made, particularly after the fourth attempt. This trend is in part due to the early successful completion of interviews with those respondents who are relatively easy to contact, leaving those who are "in-and-out" or otherwise difficult to contact to make up those cases for which a large number of attempts to contact are required. This interpretation of this trend is reinforced further by the increase in the percentage of no-answer outcomes as the number of attempts made to contact an operation increases.

Most of the calls terminated early are contacts where no phone number was available or where the phone number provided was incorrect and no new phone number could be obtained. Incomplete responses due to callbacks occur at each level of calls. These are typically due to a contact being made for which the information provided indicates that no one will be available to respond to the questions until some date after the termination of the sampling period. Most of the incomplete responses coded for calls eight or more are no-answer codes and frequently were from situations where every attempt to call that operation had resulted in no answer.

A comparison of the completion rates shows that there is no significant difference among completion rates for calls one through four, and no significant difference among completion rates for calls five through seven. Any of the completion rates for calls one through four are significantly different from any completion rate for calls five through seven, and any of the completion rates for calls one through seven are significantly different from the composite completion rate for call eight or more. In addition, if we compare the completion rate for early calls (defined

as all calls up to and including call 1), with later calls (all calls from call i+1 on), then the early response completion rate is always significantly larger than the later response completion rate.

As can be seen from tables 3 and 4, calls made between 6 p.m. and 9 p.m. had a higher probability of being completed whereas calls made between 3 p.m. and 6 p.m. tend to result in a higher probability of a need for a callback. Of calls which resulted in a completed interview, 49.4 percent were initiated in the peak period of 6 p.m. to 9 p.m. Looking at the data in another manner, we see that 39.6 percent of all calls made between 6 p.m. and 7 p.m. resulted in completed interviews (the highest rate), compared with only 20.6 percent of those attempted between 3 p.m. and 4 p.m. (the lowest rate recorded for the 3 p.m. to 9 p.m. period). Most of the calls made during the morning hours were as a result of appointments made to callback.

Analysis of Callbacks

The information recorded by the enumerator for the 970 attempts (18.1 percent of all attempts) for which the outcome was recorded as a callback is given in table 5. This data has already been collapsed to some degree as the actual data recorded often included a date and a time interval in which to try to contact the farm operator. As can be seen, most of the callbacks (52.5 percent) were requested for the evening hours (after 5).

An analysis of the 845 callback outcomes for which some specific time information was recorded as an "appointment" to call back is presented in table 6. To generate these data, we note that typical "appointments" could be classified into one of the following cases:

1. Call at hhmm; for example, call at 0830.
2. Call after hhmm; for example, call after 1800.
3. Call before hhmm; for example, call before 1000.
4. Call between hhmm and iinn; for example, call between 1200 and 1300.

The data used was constructed from the raw data in the following manner:

1. Call at hhmm. Appointment time was coded as hh. In the example given above, we would code 08.
2. Call after hhmm. Appointment time was coded as hh, hh+1, ..., 22. In the example given above, we would code 18, 19, 20, 21, and 22.

3. Call before hhmm. Appointment time was coded as 07, 08, ..., hh if the appointment was for a later date in the survey period. In the example given above, we would code 07, 08, 09, and 10. If the appointment was for later that same day, then the appointment time was coded as HR, HR+1, ..., hh, where HR was the time at which the callback appointment was secured. For example, if our call had been made at 812, then the example would yield 8, 9, and 10.
4. Call between hhmm and iinn. Appointment time was coded as hh, hh+1, ..., ii. In the example given above, we would code 12 and 13.

Note that each contact which resulted in the outcome callback can result in one or more data records to be used in this table. Hence there were 2,111 data records derived from the 845 usable contacts.

Due to the requirements of another research study (Pafford, 1986a,b) the enumerators were instructed that whenever possible they were to make their own callback attempts. This introduced some bias since there was an attempt to constrain the callback "appointment" into the scheduled working hours for the enumerator making the call. Even with this bias, 52.5 percent of the scheduled "appointments" were in the evening time period (after 5); and the 3-hour period from 6 until 9 was the period requested most often.

Further analysis of the callback data with respect to the outcome gave the following results. The callbacks (if made) were classified as being at the correct time if they were made within some specified interval (fuzz) of the "appointment" time (as defined in case 1 above) or within the "appointment" interval specified (cases 2, 3, and 4 above) extended by the fuzz amount. Fuzz values of 45, 30, 15, and 10 minutes were chosen and results for them are shown in table 6. Note that the value of fuzz affects only the definitions of "on time" and "wrong time" results, and so only these two callback timings are presented in table 6 for the different values of fuzz. Choice of the fuzz values was arbitrary although current definitions in the CATI scheduler routines use 10 minutes for "hard" callback appointments and 30 minutes for "soft" appointments. A "hard" appointment is coded when the respondent indicates that the callback should be at a specific time, whereas a "soft" appointment is coded when the respondent indicates an interval of time. Operational definition of "hard" and "soft" for an appointment is a judgement by the enumerator at the time that the appointment information is keyed into the computer.

If the fuzz value is 30 minutes or more, there is a significant difference in the completion rates between "on time" callbacks and calls returned at some other time (wrong time and wrong day calls pooled). For example, with fuzz set at 30 minutes, there were 667 calls which were made "on time," 354 (53.1 percent) of which were completed. Of the 180 calls returned at some other time, only 56 (31.1 percent) were completed. Thus it is better to make callbacks in an interval of less than 30 minutes around the time that the respondent suggests rather than at some other time. The successful completion rate for callbacks made at the "appointment" time (53.1 percent) is significantly greater than the completion rate for first contacts (33.5 percent from table 2; $z = 8.86$, $P = .00001$). Also, the completion rate for callbacks made other than at the "appointment" time was 31.1 percent, which is not significantly different from the rate for first contacts ($z = 0.65$, $P = .52$).

Analysis of Busy and No Answer Calls

For the 509 calls which resulted in a busy signal and the 1,859 calls which resulted in no answer, the outcome of the immediately following attempt made to contact that operation was examined. There were 4 operations for which the last attempt made was recorded as busy and 79 for which the last attempt made was recorded as no-answer. The remaining 505 busy and 1,780 no-answer data records yielded data for this analysis. For each pair of calls generated in this manner, the time between the calls was computed. This time was determined by the enumerator in this study, but any guidance which can be obtained from this analysis may prove useful in the design of an automatic scheduler for the CATI system. Table 7 shows a summary of the data obtained in this analysis.

If the outcome of a call is a no-answer, then the best time to call back seems to be 4 to 5 hours later, with a reasonably good time period for obtaining a completed call being between 2 and 6 hours after the initial call. If a callback is made within 2 hours, there was a greater than 60 percent chance that another no-answer was the outcome.

Some caution should be used in interpreting these results since larger values of time between calls are highly related to the time of the day when the call was made, which has already been demonstrated to have a significant effect upon the probability of obtaining a completed response. Of the 27 calls which were completed between 4 and 6 hours following a no-answer call, all but 1 was completed after 5 p.m. and all were the result of followup calls to no-answer responses obtained between 10 a.m. and 4 p.m. of that

same day. In a similar manner, the 52 calls completed between 2 and 4 hours following a no-answer call were all completed after 4 p.m. (47 of them after 5) and were the result of followup calls to no-answer responses obtained between 1 p.m. and 6 p.m. of that same day.

If the outcome of the call is a busy signal, then the best time to callback seems to be 15 to 29 minutes later, with a secondary time period 1 to 4 hours later. Callbacks in less than 15 minutes were not very productive, and 39.3 percent of them resulted in another busy signal.

Conclusions and Recommendations

The analyses conducted confirm the usual adage that the evening is the best time of the day to obtain completed telephone interviews. In this study, the hour from 6 to 7 was the best overall period, with 8 to 9 coming in a close second. The relative ranking of these 2 hours varied from day to day during the survey period. In addition, the analysis of callback data indicates a strong preference for contacts to be made between 6 and 9. No analysis of the data was made by day of the week due to the lack of consistency in the operators' working assignments from day to day.

Throughout the analyses conducted on time of contact, as the completion rate increased, the proportion of calls recorded as callbacks and no-answers decreased while the proportion of calls for which busy or refusal was coded as the outcome remained relatively constant. The trend observed across number of attempts made to contact the operation was for the completion rate and the callback rate to decrease and the no-answer rate to increase, while the rates for other outcomes remained relatively constant.

It is recommended that telephone interviewing should be scheduled for the evening hours (6 to 9) wherever feasible. Some provision must still be made for morning and afternoon contacts, and non prime time calling may still be necessary in order to achieve the desired response rates within the limited time period allowed to conduct any specific survey.

Every effort should be made to follow up on a callback within an interval of no more than 30 minutes on either side of the time stated by the person who provided the "appointment" information. In the event that a call results in a busy signal, a followup call should be made between 15 and 30 minutes later. In the event that a call results in a no-answer, indications are not as clear. Callbacks should be made no earlier than 2 hours following the call which resulted in no answer.

References

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Table 3. California A & P results by outcome and hour of attempt

| Hour | Result of the attempt | | | | | |
|-------|-----------------------|----------|------------|---------|-----------|-------|
| | Busy | Callback | Completed* | Refused | No Answer | |
| | # | % | # | % | # | % |
| 8-9 | 1 | 0.1 | 8 | 0.5 | | |
| 9-10 | 1 | 0.2 | 3 | .3 | 5 | 0.3 |
| 10-11 | 2 | .4 | 12 | 1.2 | 10 | .7 |
| 11-12 | 6 | 1.2 | 2 | .2 | 9 | .6 |
| 12-1 | 6 | 1.2 | 17 | 1.8 | 14 | .9 |
| 1-2 | 52 | 10.2 | 70 | 7.2 | 81 | 5.0 |
| 2-3 | 43 | 8.4 | 83 | 8.6 | 100 | 6.1 |
| 3-4 | 78 | 15.3 | 165 | 19.1 | 157 | 9.6 |
| 4-5 | 75 | 14.7 | 186 | 19.2 | 211 | 12.9 |
| 5-6 | 40 | 7.9 | 142 | 14.6 | 232 | 14.2 |
| 6-7 | 63 | 12.4 | 87 | 9.0 | 282 | 17.2 |
| 7-8 | 85 | 16.7 | 105 | 10.8 | 292 | 17.8 |
| 8-9 | 58 | 11.4 | 77 | 7.9 | 235 | 14.4 |
| Total | 509 | 100.0 | 970 | 100.0 | 1,636 | 100.0 |
| | | | | | 78 | 100.0 |
| | | | | | 1,859 | 100.0 |

* Total completed is 1,636 since 6 completed responses did not have date and time information.
 4 completed responses were the result of computer problems with CATI.
 2 completed responses were the result of calls returned by the farm operator following a message being left on an answering device.

Table 1. Distribution of the number of attempts required to complete a telephone interview by respondent type and stratum, California A & P, November 1985*

| Stratum | 1 | | 2 | | 3 | | Overall | |
|--|------|-------|------|-------|------|-------|---------|-------|
| Attempt number | % | cum % | % | cum % | % | cum % | % | cum % |
| For farm operators as the respondent: | | | | | | | | |
| 1 | 40.3 | 40.3 | 40.0 | 40.0 | 35.1 | 35.1 | 38.5 | 38.5 |
| 2 | 25.7 | 66.0 | 26.7 | 66.7 | 29.0 | 64.1 | 27.1 | 65.6 |
| 3 | 17.0 | 83.0 | 13.6 | 80.2 | 15.3 | 79.3 | 15.3 | 80.8 |
| 4 | 9.4 | 92.4 | 9.7 | 89.9 | 7.6 | 87.0 | 8.9 | 89.8 |
| 5 | 2.9 | 95.3 | 3.0 | 92.9 | 4.3 | 91.2 | 3.4 | 93.1 |
| 6 | 1.6 | 96.9 | 3.0 | 95.9 | 4.0 | 95.2 | 2.9 | 96.0 |
| 7 | 2.0 | 98.9 | .9 | 96.8 | 2.0 | 97.2 | 1.6 | 97.6 |
| 8 | .5 | 99.4 | 2.4 | 99.2 | .9 | 98.1 | 1.3 | 98.9 |
| 9 | .5 | 99.8 | .7 | 99.8 | 1.1 | 99.2 | .7 | 99.6 |
| 10 | 0 | 99.8 | 0 | 99.8 | .5 | 99.7 | .1 | 99.8 |
| 11 | .2 | 100.0 | .2 | 100.0 | 0 | 99.7 | .1 | 99.9 |
| 12 | | | | | 0 | 99.7 | 0 | 99.9 |
| 13 | | | | | .2 | 100.0 | .1 | 100.0 |
| mean | 2.28 | | 2.39 | | 2.54 | | 2.40 | |
| n | 447 | | 465 | | 445 | | 1,357 | |
| For spouses of farm operators as the respondent: | | | | | | | | |
| 1 | 60.6 | 60.6 | 34.6 | 34.6 | 35.5 | 35.5 | 46.5 | 46.5 |
| 2 | 18.3 | 78.9 | 30.9 | 65.5 | 19.4 | 54.8 | 22.9 | 69.4 |
| 3 | 8.5 | 87.3 | 16.4 | 81.8 | 12.9 | 67.7 | 12.1 | 81.5 |
| 4 | 8.5 | 95.8 | 12.7 | 94.5 | 12.9 | 80.6 | 10.8 | 92.4 |
| 5 | 2.8 | 98.6 | 1.8 | 96.4 | 3.2 | 83.9 | 2.5 | 94.9 |
| 6 | 0 | 98.6 | 3.6 | 100.0 | 3.2 | 87.1 | 1.9 | 96.8 |
| 7 | 0 | 98.6 | | | 6.5 | 93.6 | 1.3 | 98.1 |
| 8 | 0 | 98.6 | | | 0 | 93.6 | 0 | 98.1 |
| 9 | 0 | 98.6 | | | 0 | 93.6 | 0 | 98.1 |
| 10 | 0 | 98.6 | | | 3.2 | 96.8 | .6 | 98.7 |
| 11 | 0 | 98.6 | | | 3.2 | 100.0 | .6 | 99.4 |
| 12 | 1.4 | 100.0 | | | | | .6 | 100.0 |
| mean | 1.87 | | 2.27 | | 3.13 | | 2.26 | |
| n | 71 | | 55 | | 31 | | 157 | |
| For other knowledgeable individuals as the respondent: | | | | | | | | |
| 1 | 47.4 | 47.4 | 37.5 | 37.5 | 24.4 | 24.4 | 32.5 | 32.5 |
| 2 | 10.5 | 57.9 | 37.5 | 75.0 | 24.4 | 48.9 | 23.7 | 56.3 |
| 3 | 10.5 | 68.4 | 6.3 | 81.3 | 8.9 | 57.8 | 8.8 | 65.0 |
| 4 | 0 | 68.4 | 6.3 | 87.5 | 15.6 | 73.3 | 10.0 | 75.0 |
| 5 | 15.8 | 84.2 | 12.5 | 100.0 | 15.6 | 88.9 | 15.0 | 90.0 |
| 6 | 5.3 | 89.5 | | | 6.7 | 95.5 | 5.0 | 95.0 |
| 7 | 10.5 | 100.0 | | | 4.4 | 100.0 | 5.0 | 100.0 |
| mean | 3.05 | | 2.19 | | 3.11 | | 2.86 | |
| n | 19 | | 16 | | 45 | | 80 | |

* Total completed responses in Table 8 are 1,594 since 16 completed responses did not have respondent information, 29 completed responses were coded with out of business as the respondent information, and 3 completed responses were coded with refusal as the respondent information.

Table 4. California A & P results by hour of attempt and outcome

| Hour | Result of the attempt | | | | | | | | | | Total for all calls* | |
|------|-----------------------|------|----------|------|-----------|------|---------|-----|-----------|------|----------------------|-------|
| | Busy | | Callback | | Completed | | Refused | | No answer | | # | % |
| | # | % | # | % | # | % | # | % | # | % | | |
| 3-4 | 78 | 10.2 | 185 | 24.3 | 157 | 20.6 | 7 | 0.9 | 288 | 37.8 | 762 | 100.0 |
| 4-5 | 75 | 9.1 | 186 | 22.5 | 211 | 25.5 | 12 | 1.4 | 300 | 36.2 | 828 | 100.0 |
| 5-6 | 40 | 5.7 | 142 | 20.1 | 232 | 32.9 | 11 | 1.6 | 239 | 33.9 | 706 | 100.0 |
| 6-7 | 63 | 8.8 | 87 | 12.2 | 282 | 39.6 | 14 | 2.0 | 228 | 32.0 | 713 | 100.0 |
| 7-8 | 85 | 10.7 | 105 | 13.2 | 292 | 36.7 | 14 | 1.8 | 249 | 31.3 | 795 | 100.0 |
| 8-9 | 58 | 9.5 | 77 | 12.6 | 235 | 38.4 | 11 | 1.8 | 199 | 32.5 | 612 | 100.0 |

* Includes problems due to the telephone or no telephone as well as completions, refusals, busy, callbacks, and no answers.

Table 7. Outcomes of calls following busy and no answer calls by times between calls.

| Time between calls | Variable | Outcome of initial call | | | | | | | |
|--------------------|----------|-------------------------|-----------|----------|-----------|-----------|-----------|----------|-----------|
| | | Busy | | | | No answer | | | |
| | | Busy | Call back | Complete | No answer | Busy | Call back | Complete | No answer |
| 0-14 mins | Count | 35 | 15 | 16 | 17 | 6 | 4 | 4 | 57 |
| | Percent* | 39.3 | 16.9 | 18.0 | 19.1 | 6.7 | 4.4 | 4.4 | 63.3 |
| 15-29 mins | Count | 16 | 13 | 36 | 9 | 7 | 4 | 11 | 118 |
| | Percent* | 20.8 | 16.9 | 46.8 | 11.7 | 4.8 | 2.7 | 7.5 | 80.3 |
| 30-44 mins | Count | 15 | 12 | 21 | 13 | 5 | 12 | 24 | 103 |
| | Percent* | 23.1 | 18.5 | 31.5 | 31.5 | 3.3 | 8.0 | 16.0 | 68.7 |
| 45-59 mins | Count | 5 | 8 | 17 | 17 | 4 | 8 | 21 | 117 |
| | Percent* | 9.3 | 14.8 | 31.5 | 31.5 | 2.6 | 5.2 | 13.6 | 76.0 |
| 1-2 hrs | Count | 10 | 13 | 26 | 11 | 12 | 31 | 56 | 207 |
| | Percent* | 16.1 | 21.0 | 41.9 | 17.7 | 3.7 | 9.6 | 17.3 | 64.1 |
| 2-3 hrs | Count | 2 | 4 | 15 | 11 | 11 | 16 | 34 | 52 |
| | Percent* | 5.6 | 11.1 | 41.7 | 30.6 | 9.4 | 13.7 | 29.1 | 44.4 |
| 3-4 hrs | Count | 1 | 2 | 5 | 4 | 2 | 8 | 18 | 25 |
| | Percent* | 8.3 | 16.7 | 41.7 | 33.3 | 3.6 | 14.3 | 32.1 | 44.6 |
| 4 hours or more | Count | 8 | 23 | 33 | 41 | 59 | 136 | 176 | 345 |
| | Percent* | 7.3 | 20.9 | 30.0 | 37.3 | 8.5 | 19.6 | 25.4 | 49.8 |
| Total | Count | 92 | 90 | 169 | 123 | 106 | 219 | 344 | 1,024 |
| | Percent* | 18.2 | 17.8 | 33.5 | 24.4 | 6.0 | 12.3 | 19.3 | 57.5 |

* Percentages do not add to 100 due to calls which had refusal, telephone noise, no telephone available, or other as the coded outcome. These outcomes did not occur frequently enough for analysis.

Table 2. November A & P outcome by attempt to contact

| Outcome | Number of the attempt made to contact respondent* | | | | | | | |
|-----------|---|-------|-------|-------|-----|-------|-----|-------|
| | 1 | | 2 | | 3 | | 4 | |
| | # | % | # | % | # | % | # | % |
| Complete | 644 | 33.5 | 432 | 35.8 | 237 | 31.7 | 151 | 31.4 |
| Refusal | 32 | 1.7 | 14 | 1.2 | 11 | 1.5 | 7 | 1.5 |
| Callback | 414 | 21.6 | 195 | 16.2 | 145 | 19.4 | 82 | 17.0 |
| No answer | 537 | 28.0 | 394 | 32.7 | 251 | 33.6 | 163 | 33.9 |
| Busy | 204 | 10.6 | 105 | 8.7 | 59 | 7.9 | 56 | 11.6 |
| Other@ | 89 | 4.7 | 66 | 5.5 | 44 | 5.9 | 22 | 4.6 |
| Total | 1,920 | 100.0 | 1,206 | 100.0 | 747 | 100.0 | 481 | 100.0 |

Number of the attempt made to contact respondent*

| | Number of the attempt made to contact respondent* | | | | | | | |
|-----------|---|-------|-----|-------|-----|-------|-----|-------|
| | 5 | | 6 | | 7 | | >7 | |
| | # | % | # | % | # | % | # | % |
| Complete | 64 | 20.8 | 49 | 21.9 | 28 | 18.4 | 37 | 11.3 |
| Refusal | 5 | 1.6 | 4 | 1.8 | 2 | 1.3 | 3 | 0.9 |
| Callback | 60 | 19.5 | 24 | 10.7 | 21 | 13.8 | 29 | 8.8 |
| No answer | 127 | 41.2 | 110 | 49.1 | 82 | 53.9 | 195 | 59.5 |
| Busy | 22 | 7.1 | 19 | 8.5 | 10 | 6.6 | 34 | 10.4 |
| Other@ | 30 | 9.8 | 18 | 8.0 | 9 | 6.0 | 30 | 9.1 |
| Total | 308 | 100.0 | 224 | 100.0 | 152 | 100.0 | 328 | 100.0 |

* Note that some cases are terminated at each call with outcomes other than complete or refusal. These form the 200 incomplete responses.

@ The category "other" includes outcomes coded as telephone noise or telephone problems including reaching bad numbers, operations for which no telephone number could be found, and miscoded outcomes. The latter category resulted from situations where the CATI file showed that a call had been made but no outcome was recorded by the enumerator corresponding to that call on the written record.

Table 5. Distribution of information obtained from respondents when their response was coded as a callback

| Information received | Number | Percent |
|------------------------------|--------|---------|
| Evening only (after 5) | 509 | 52.5 |
| P.m. or evening (after noon) | 218 | 22.5 |
| P.m. only (noon to 5) | 35 | 3.6 |
| Anytime day (before 5 p.m.) | 23 | 2.4 |
| A.m. only (before noon) | 60 | 6.2 |
| Other information * | 64 | 6.6 |
| No information | 61 | 6.3 |
| Total | 970 | 100.0 |

* Includes such information as not at home, in and out, hard to catch, does not understand English, answering service, call a different number, etc.

Table 6. Outcome of callbacks by time and degree of fuzz

| Timing of callback (fuzz) | | Outcome of callback attempt | | | | | | | | | | | |
|---------------------------|------|-----------------------------|------|------|------|----------|------|-----------|------|-------|------|-------|-------|
| | | Complete | | Busy | | Callback | | No answer | | Other | | Total | |
| | | # | % | # | % | # | % | # | % | # | % | # | % |
| On time | (45) | 376 | 52.5 | 74 | 10.3 | 142 | 19.8 | 84 | 11.7 | 40 | 5.6 | 716 | 73.8 |
| Wrong time | (45) | 18 | 23.7 | 8 | 10.5 | 18 | 23.7 | 14 | 18.4 | 18 | 23.7 | 76 | 7.8 |
| On time | (30) | 354 | 53.1 | 69 | 10.3 | 131 | 19.6 | 78 | 11.7 | 35 | 5.3 | 667 | 68.8 |
| Wrong time | (30) | 40 | 32.0 | 13 | 10.4 | 29 | 23.2 | 20 | 16.0 | 23 | 18.4 | 125 | 12.9 |
| On time | (15) | 268 | 51.9 | 56 | 10.9 | 101 | 19.6 | 68 | 13.2 | 23 | 4.5 | 516 | 53.2 |
| Wrong time | (15) | 126 | 45.6 | 26 | 9.4 | 59 | 21.4 | 30 | 10.9 | 35 | 12.7 | 276 | 28.5 |
| On time | (10) | 218 | 50.0 | 49 | 11.2 | 92 | 21.1 | 58 | 13.3 | 19 | 4.4 | 436 | 44.9 |
| Wrong time | (10) | 176 | 49.4 | 33 | 9.3 | 68 | 19.1 | 40 | 11.2 | 39 | 11.0 | 356 | 36.7 |
| Wrong day | | 16 | 29.1 | 2 | 3.6 | 15 | 27.3 | 12 | 21.8 | 10 | 18.2 | 55 | 5.7 |
| No data | | 17 | 27.0 | 5 | 7.9 | 23 | 36.5 | 8 | 15.9 | 8 | 12.7 | 61 | 6.3 |
| Total | | 427 | 44.0 | 89 | 9.2 | 198 | 20.4 | 118 | 12.2 | 76 | 7.8 | 908 | 93.6* |

* There were 62 callback outcomes (6.4 percent) which were terminated without any further attempt being made to contact the operations. These were typically when the appointment time given was outside the timeframe for the survey.