

## THE VANISHING RESPONDENT IN TELEPHONE SURVEYS

Peter Tuckel, Hunter College; Harry O'Neill, RoperASW

Peter Tuckel, Dept. of Sociology, Hunter College, 695 Park Ave., New York, NY 10021

**Key Words: Nonresponse, Telephone Surveys, Answering Machines, Caller ID**

This paper examines recent changes in the two major components of nonresponse: inaccessibility of potential respondents and unwillingness of potential respondents to participate in an interview. The paper first considers possible reasons for the increasing difficulty of establishing contact with potential respondents. These include: (1) the proliferation of telephone numbers dedicated exclusively to fax machines and/or computers, (2) widespread access to the Internet using a non-dedicated phone line, and (3) the ownership of call screening devices and the extent to which potential respondents use these devices to screen unwanted calls. The paper next considers changes during the last few years in the number of potential respondents who generally refuse to participate in telephone surveys and the demographic correlates of these refusers. The final section of the paper discusses strategies for reducing the further erosion in response rates and implications of the findings as they bear on the future of telephone survey research.

### DATA AND METHOD

The results of this study are based upon two nationwide surveys of face-to-face interviews conducted by RoperASW. Respondents in the first survey were interviewed in their homes between October 14-21, 1995 and in the second survey were interviewed in their homes between August 5-19, 2000. The surveys consisted of 1997 and 2004 respondents, respectively. In both cases the sampling methodology consisted of a multistage, stratified probability sample of interviewing locations.

The final stage of the sampling procedure employed quota sampling at the block level. We would have preferred to have the results of this study based upon probability sampling without quotas. One point, though, should be kept in mind. Whatever bias might enter into the analysis as a result of this limitation is certainly not greater (and, most likely, considerably less) than the bias which would have been attached to a telephone survey. One of the principal objectives of this research is to gauge the

extent to which individuals use the answering machine and Caller ID to screen their calls. Using a telephone survey to gather this type of information would have had a serious drawback. Information pertaining to the practice of call screening would have been restricted precisely to the extent that potential respondents would have eluded telephone surveyors through the use of either of these devices. To take an extreme example, consider those individuals who screen all their calls. In this instance, it is clear that the telephone survey would have been less than an ideal vehicle through which to collect data on these individuals.

### INACCESSIBILITY OF RESPONDENTS

#### Dedicated Fax and Computer Telephone Lines

Survey researchers have observed that over the past few years there has been a noticeable increase in the proportion of telephone numbers that consistently yield either a "no answer" and/or a "busy" dialing disposition. One major reason given for this phenomenon is the growth in the number of residential telephone lines dedicated exclusively for fax machines or computers. To measure the incidence of this type of telephone line, we asked respondents in the August, 2000 survey the following question: "Does anyone in your household have a telephone line that is used solely for a personal computer or a fax machine?" Overall, 14.7 percent of the respondents from homes equipped with telephones answered this question affirmatively. As would be expected, ownership of a dedicated fax/modem line was greater among higher socio-economic status individuals: 23.5 percent of those who earned a college degree or post-graduate degree and a whopping 40.1 percent of those with household incomes of \$75,000 or more. Another factor related to ownership of a dedicated fax/modem line was household composition. Households consisting of three adults or households with older children (13-17 years of age) were more likely to possess this type of telephone line (22.6% and 23.4%, respectively). Also, residents of the Pacific region were more likely to possess this type of telephone line (22.9%).

The growth in the number of dedicated fax/modem lines adds to the cost of administering

telephone surveys because repeated call attempts consistently produce either a “no answer” and/or a “busy” dialing disposition. Theoretically, though, the use of dedicated fax/modem lines should not restrict the accessibility of owners of these lines since they should be reachable on a different household line.

Parenthetically, the increase in the number of dedicated fax/computer phone lines also has a significant bearing on the calculation of contact and completion rates. Calculation of these rates requires an estimation of the eligibility status of residential telephone numbers. However, the status of dedicated fax/computer lines is usually indeterminate. To the degree that the numbers attached to these lines are still considered “eligible” (though they are never answered), they serve to artificially deflate the contact and completion rates. For an extended discussion of this point, see Pierkarski (1999).

Despite these problems, a greater challenge for survey researchers resides with individuals who do not have a dedicated fax/modem line but have Internet access. It is to this topic we turn next.

### **Internet Access But Not on a Dedicated Computer Line**

By definition, owners of dedicated computer lines come from multi-line households. But what about single-line households that have Internet access? Individuals from these households may be particularly difficult to reach because, in addition to the conventional reasons for using the telephone, they may be “tying up” the phone with computer-related activities.

According to the August, 2000 survey, roughly one-quarter of respondents (26.1%) come from households without a dedicated computer or fax line but which have Internet access. These individuals tend to be middle-aged, white non-Hispanic, married (especially with children), have a college or postgraduate education, and come from the upper income strata. They also tend to be suburban dwellers and have a particularly heavy presence in the New England region.

### **Ownership of Call Screening Devices**

The penetration level of telephone answering machines continued to increase over the past five years. Two thirds of American households (66.5%) now own these devices which represents a 7 percentage point gain since 1995. What is noteworthy, though, is the phenomenal growth in Caller ID subscribers during this same time period.

Subscribers to this service now number close to half of the population (45%) and their size has been augmented by more than a third of the population (34.8%).

Consistent with the results of previous studies (Oldendick and Link, 1994; Tuckel and O’Neill, 1995; Council For Marketing And Opinion Research, 1999), answering machine owners are disproportionately under 60 years of age, better educated, and from higher income families. Moreover, they tend to reside in large-size cities or their surrounding suburbs, and have a heavy concentration in the Mid-Atlantic and Pacific regions.

Subscribers to Caller ID service also are more likely to be under 60 years of age. They are also (but to an even greater degree) more likely to have children living at home. Compared to answering machine owners, though, a higher-than-average proportion are African American, never married or separated/divorced, have just some college, reside in medium-size cities, and inhabit the East South Central and West South Central regions.

A segment of the population which is particularly important to scrutinize are Caller ID subscribers who do not own an answering machine. These individuals have the capacity to screen their calls while not even affording survey researchers the opportunity to leave a message about the survey. Within the last five years, this segment has grown in size from just 2.5 percent to 11.2 percent of all respondents from households with telephones. Overrepresented in this segment are white Hispanics (16.3%), full time homemakers (16.1%), inhabitants of medium-size cities (20.6%), and residents of the East South Central region (23.6%) or the Mountain region (24.6%).

### **Uses of Call Screening Devices**

Respondents in both the October, 1995 and August, 2000 surveys were asked a battery of questions to learn about their patterns of utilization of call screening devices. One question posed to Caller ID users was the importance of three possible reasons for why they subscribed to this service. These reasons were: (1) “to have a record or log of recent calls made to your home,” (2) “to identify the phone numbers of annoying callers,” or (3) “to screen calls when you are at home.” The results show that the main reason why individuals in both years say they subscribe to Caller ID is to be able to identify the phone numbers of bothersome callers. Noteworthy here, though, is that the importance ascribed to screening calls has risen more than the other two factors over time. (The change of 4.6

percent, though, was only statistically significant at the .10 level for a one-tailed test.)

Of paramount importance to survey researchers is to know the frequency with which potential respondents use the answering machine or Caller ID to screen their calls. The data reveal that the frequency of screening *via the answering machine* does not appear to have undergone any appreciable increase over the past five years. In fact, among those who say they screen “always” or “most of the time” (i.e., the “frequent screeners”), the percentages have actually shifted slightly downwards. A much different story unfolds, though, when examining frequency of screening *via Caller ID*. Here we find that among those who have Caller ID but do not own an answering machine, the percent that screen frequently has climbed 15 percentage points during the last five years. Furthermore, among their counterparts who do own an answering machine, the percent that screen frequently has risen more than 8 percentage points during this time frame. *In absolute terms, roughly two-thirds of Caller ID subscribers (whether or not they have an answering machine) now report screening either “always” or “most of the time.”* Coupled with the finding presented earlier that nearly one-half of the total population has Caller ID, this last-mentioned finding translates into a substantial proportion of potential respondents engaged in the practice of call screening on a frequent basis.

The practice of call screening, of course, does not mean that potential respondents will necessarily filter out calls initiated by survey research organizations. It may very well be the case that, in general, the public is positively disposed towards calls sponsored by survey research organizations. Whatever the sentiments of the public are regarding survey participation, though, the names of most survey organizations (particularly those in the private sector) and the field services which often do the actual calling on their behalf are generally not recognized by members of the public. Not only are the names usually unfamiliar to the public but the numbers associated with these names often appear as “out of area” on Caller ID display units. Thus, it is important to determine the likelihood of potential respondents answering the phone when an unrecognized number shows up on their Caller ID display unit.

The data show that the likelihood of answering the phone among Caller ID users when an unrecognized number appears has declined noticeably over the past 5 years. The percent who offered responses of “almost certain to answer” or “very likely to answer” has dropped by over 20 percentage points during this time interval. Caller ID users are now much more

inclined to say they are only “somewhat likely to answer” or “very unlikely to answer.”

## Characteristics of Frequent Screeners

To construct a profile of frequent screeners we divided the number of individuals who reported they screen “always” or “most of the time” by the *total number of sampled members* in a given group -- whether or not they own an answering machine or are Caller ID users. In essence, this measure takes into consideration the fact that the distribution of answering machine owners or Caller ID subscribers is uneven in the total population. The data show that one-third of the sampled members (33.2%) fall into the category of frequent screeners. The propensity for screening is greatest among the following social-demographic groups: younger-aged respondents, minority members, never marrieds, homemakers, households with children, and the most affluent group of respondents. In addition, contextual factors play a role with frequent screening being most prevalent in large-size cities and their surrounding suburbs, medium-size cities, and inhabitants of the Mid-Atlantic, East South Central, and West South Central regions.

## SURVEY NON-COOPERATION

### Attitudes Toward Survey Participation

The data presented heretofore indicate that the barriers for establishing contact with potential respondents have become more impermeable over the past five years. If and when contact is established, the next barrier, of course, is to secure the cooperation of potential respondents. To measure attitudes towards survey participation, we included a question in both surveys about willingness to be interviewed in a telephone survey. Respondents were read a series of statements and asked which one came closest to characterizing how they felt when asked to participate in a telephone survey. The statements ranged along a five point continuum going from “I like to participate in telephone surveys because they give me the opportunity to offer my opinion,” at one end to “I really don’t like telephone surveys, so I usually refuse to participate” at the opposite end.

It is clear from the data that Americans evince little enthusiasm for participating in telephone surveys. Only a small fraction (7.3%) are positively disposed, about a quarter (23.5%) are either ambivalent or say their participation is conditional upon the survey’s topic, and close to two-fifths

(38.9%) are negatively disposed. Perhaps running counter to expectations, the data also indicate there has been only a slight shift towards a more negative attitude in the last half decade. The number who are either positively disposed or ambivalent declines by just 5.3 percentage points and the bulk of these now fall into the “depends on what the survey is about” category.

## Refusals

A key concern of survey researchers is to identify those demographic groups which are most likely to have negative attitudes towards survey participation. The results of this study show the following groups to be disproportionately made up of reluctant participants: those 60 years of age and over (42.6%), Hispanics (43.8%), the most affluent (47.6%), individuals who do not provide information about household income (47.8%), one-adult households (43.5%), residents of large cities (43.4%) and their surrounding suburbs (45.5%), and those in the New England (50.5%), East South Central (45.9%), Mountain (44.2%), and Pacific (48.9%) regions. Coinciding with expectations, a higher proportion of those with unlisted versus listed telephone numbers tend to be hostile towards participation.

With respect to age, household composition, and urbanicity, these findings tend to be congruent with the survey research literature. This literature has generally found older individuals (DeMaio, 1980; Goyder, 1987), people living in one-adult households (Groves and Couper, 1998), and residents of densely populated areas (DeMaio, 1980; Groves and Couper, 1998) to be less inclined to participate in surveys. The finding that individuals from the highest income households tend to be less amenable to survey participation may be somewhat surprising. Yet other studies (Brehm, 1993; Groves and Couper, 1998) show this finding is not necessarily an aberration. Moreover, there are grounds for understanding why over time affluent individuals may have become more resistant to survey requests. In general, higher income individuals have been targeted more by telemarketers than others in the population. Perhaps in response to the numerous sales calls they have received, they have become less receptive to granting interviews over the phone.

With regards to users of call screening devices, a higher proportion of answering machine owners than non-owners are negatively oriented towards telephone survey participation. Surprisingly, though, there is little difference in either the proportions of Caller ID subscribers versus non-subscribers or those with the Call Blocking feature versus those without this feature who harbour unfavorable attitudes.

One of the most important findings to emerge in the data is that *only a slight difference exists between the proportions of frequent screeners versus infrequent screeners who say they generally refuse to be interviewed*. What this suggests is that there is no inherent link between orientation towards survey participation and screening behavior.

## DISCUSSION

The findings which have emerged in this study can only be viewed as troubling to telephone survey researchers. The evidence which has been adduced here points clearly to major obstacles that now impede the ability of survey researchers to establish contact with potential respondents and to secure their cooperation. We have found that a sizable bloc of Americans have a dedicated fax/modem line (14.7%) and that an additional quarter (26.1%) have Internet access at home although not on a dedicated line. We have also observed that two-thirds of Americans own a telephone answering machine and close to half subscribe to Caller ID. What is perhaps most alarming is that of those who have either of these call-screening devices (77.7% of the adult population), two-fifths (42.9%) say they screen their calls either “always” or “most of the time.” Moreover, the percentage of these “frequent screeners” is noticeably higher among those who use Caller ID as opposed to the answering machine as a screening mechanism. Finally, we have noted that the vast majority of Americans report being either ambivalent or hostile towards telephone survey participation. Negative attitudes towards survey participation, though, have not risen significantly in the last five years.

These findings, which are based upon self-reported attitudes and behavior, moreover are consistent with response rate trend data. These trend data indicate that refusal rates are not continuing to rise as steeply as beforehand (and may even be declining) but that noncontact rates are trending upwards. (see, for example, Steeh et al. 2001; Piekarski 1999). The data also show that the problem of nonresponse is particularly acute for surveys conducted in the private sector (Council For Marketing and Opinion Research 2001).

All in all, it appears that we are now entering into a transition phase in which the telephone survey is losing its status as the most popular mode of survey data gathering. Just as the telephone survey itself eclipsed face-to-face interviewing in people’s homes, it seems likely that the telephone survey will become just another one of the panoply of data-gathering mechanisms or that the Internet survey will gradually

replace the telephone survey as the dominant methodology.

In the meantime, there are a number of initiatives that can be taken to help prevent the further erosion in response rates in telephone surveys. Two strategies which have been found to be effective in combating rising refusal rates are improving the quality of interviewing and making several attempts to convert initial refusals (Steeh et al., 2001). Since the problem of nonresponse, though, now seems to be rooted more in the inaccessibility of potential respondents, greater focus needs to be placed on this component of nonresponse.

One strategy for helping to overcome the problem of “noncontactability” is to make numerous callback attempts. Piekarski and Cralley (2000), for example, report that “significant improvement in response rates can be achieved by utilizing a more rigorous calling methodology that includes more than 4 call attempts and multiple attempts at refusal conversion” (p. 4). In their study, at least ten callback attempts were made before reaching a final disposition. Additionally, up to five attempts were made in an effort to convert initial refusals.

A second strategy is to offer a prepaid incentive with an accompanying letter (see Singer et al., 2000). Prepaid incentives presumably could be used to offset both the refusal and noncontact components of nonresponse. As Steeh et al. (2001) observe, receipt of an incentive might not only induce a potential respondent to consent to be interviewed but also to make himself/herself more accessible to surveyors. The problem with this strategy is that, at present, it can only be used in surveys in which sampled members’ addresses are known in advance.

Another strategy that could be implemented (brought to the authors’ attention by William Cook, the Advertising Research Foundation) would be to develop the “brand awareness” of a survey research organization’s name so that when it appeared on a respondent’s Caller ID display unit, it would be recognized and possibly legitimized. Enhancing public awareness of an organization’s name might help to reduce the noncontact rate. Recall that two of the findings that emerged in this study were: (1) there was no relationship between frequency of call screening and attitudes towards survey participation and (2) respondents were reluctant (and increasingly so) to answer the phone when an unrecognized number/name appeared on their Caller ID display unit. Accordingly, if survey research organizations (acting either individually or collectively as members of a consortium) could increase their visibility, this could help counter the problem of contacting respondents.

In addition to these measures, there is an external development that could help neutralize the problem of “noncontactability.” Individuals in a number of states (13 at present) can register their names with state authorities on a “do not call” list that prohibits telemarketers (but not survey researchers) from contacting them (see Fried, 2000; Stowe, 2000). Telemarketers that call people on the list are subject to stiff fines. Thus far, hundreds of thousands of individuals have availed themselves of the opportunity to register their names. As more states enact legislation authorizing a “do not call list” and the number of registrants continues to multiply, it is possible that over the long run potential respondents’ concerns about invasion of privacy by telemarketers will be attenuated and, in the process, respondents may be more receptive to survey requests.

Whatever benefits may be derived from this development and the implementation of the strategies cited above, it is important to keep in mind the general environment in which telephone surveys are being conducted today. That environment is not a hospitable one and poses enormous challenges to telephone surveyors. Unless these challenges can be met, the continued viability of the telephone survey as a data-gathering mechanism is questionable.

## REFERENCES

Brehm, John. *The Phantom Respondents: Opinion Surveys and Political Representation*. Ann Arbor: University of Michigan Press, 1993.

Council For Marketing and Opinion Research (CMOR). *Respondent Cooperation And Industry Image Survey*. December, 1999.

----.CMOR Tracking System - Cooperation, Refusal and Response Rates. ([http://www.mranet.org/resources/coop\\_rates/coop\\_rates\\_avg.cfm](http://www.mranet.org/resources/coop_rates/coop_rates_avg.cfm)), January 7, 2001.

DeMaio, Theresa J. “Refusals: “Who, Where and Why.” *Public Opinion Quarterly* 44, 2 (1980): 223-233.

Fried, Joseph P. “Telemarketers Get an Earful Of Rejection.” *The New York Times*, November 13, 2000: pp. B1+.

Goyder, John. *The Silent Minority: Nonrespondents on Sample Surveys*. Boulder: Westview Press, 1987.

Groves, Robert M. and Mick P. Couper. *Nonresponse in Household Interview Surveys*. New York: John Wiley & Sons, 1998.

Oldendick, Robert W. and Michael W. Link. "The Answering Machine Generation." *Public Opinion Quarterly* 58, 2 (1994): 264-73.

Piekarski, Linda. "Telephony And Telephone Sampling." Paper presented at the annual conference of the American Association for Public Opinion Research, May, St. Petersburg, FL., 1999.

Piekarski, Linda and Marla Cralley. "Arbitron/Survey Sampling Telephone Study: One Residence -- Many Numbers; Can I Reach You? On How Many Lines?" Paper presented at the annual conference of the American Association for Public Opinion Research, May, Portland, ORE., 2000.

Singer, Eleanor, John Van Hoewyk, and Mary P. Maher. "Experiments With Incentives in Telephone Surveys." *Public Opinion Quarterly* 64, 2 (2000): 171-188.

Steeh, Charlotte, Nicole Kirgis, Brian Cannon, and Jeff DeWitt. "Are They Really as Bad as They Seem? Nonresponse Rates at the End of the Twentieth Century." *Journal of Official Statistics* 17, 2 (2001): 227-247.

Stowe, Stacey. "A List That Says 'Don't Call.'" *The New York Times*, December 31, 2000: p. CT 7.

Tuckel, Peter S. and Harry W. O'Neill. "A Profile of Answering Machine Owners and Screeners: Results from a Nationwide Survey of Face-to-Face Interviews." Paper presented at the annual conference of the American Association for Public Opinion Research, May, Ft. Lauderdale, FL., 1995.