

# THE EFFECTS OF MALE VS. FEMALE TELEPHONE INTERVIEWERS

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## I. Introduction

The effects of male and female interviewers on response rates and the nature of the responses have not received much attention in survey research. Some studies have shown, however, that responses can be influenced by whether the interviewer is male or female. For example, Benney and others (1956) showed in a mental health study that the percentage of respondents listing sex habits as a possible cause of mental disturbances was smaller for male interviewers. Trussell and Elinson (1959) found that interviewers of the same sex as the respondent elicited more reports of illness. Kindel (1961) discovered that wives reported exerting more influence on family decisions when reporting to female rather than male interviewers. Thumin (1962) claimed that the sex of the interviewer had a significant impact on responses dealing with insomnia. On the other hand, studies have also shown that the sex of the interviewer may not have an impact on the survey results. Colombotos and others (1969) found that there was essentially no difference in the reporting of psychiatric symptoms to male and female interviewers for a survey of households in a community. Dillman and others (1976) reported that the refusal rates for male and female telephone interviewers were virtually the same for a study conducted in Washington state.

In summary, past studies have shown that responses can be affected by whether the interviewers are male or female. Factors such as the subject matter, the specific questions asked and the compositions of the interviewers and respondents likely determine if the interviewer's sex will influence the results from a survey. This paper examines the effects of male and female telephone interviewers on nonresponse rates, interview length and the responses to a variety of questions asked farm operators and their spouses in the Farm Women's Survey. This survey was conducted by the National Opinion Research Center (NORC) through a cooperative agreement with the U.S. Department of Agriculture (USDA) during the summer of 1980 (Jones and Rosenfeld, 1981).

## II. Survey Design

The Statistical Reporting Service of USDA provided NORC with a national random sample of 4,060 farm operations, which NORC used to conduct the survey of farm women. This sample was constructed from a national economic survey conducted by the Statistical Reporting Service early in 1979 using a stratified area frame sample of land parcels. The sample was comprised of farm operations for the year 1978. Since the data collection for the Farm Women's Survey was carried out during the summer of 1980, NORC redefined the population as farm operations during 1978 that were still in business in 1980.

NORC selected a systematic subsample of 1,000 operations from the 4,060 operations and interviewed the eligible male operators as well as the farm women. Therefore, both the husband and wife were contacted

for the subsample if there was a married couple. Half of the 1,000 operations were randomly assigned to female interviewers and half to male interviewers so that the effects of the male and female telephone interviewers could be evaluated. The telephone interviewing was performed by 25 interviewers from NORC's central office on the campus of the University of Chicago.

NORC was not able to adhere strictly to the randomness of the assignments to the male and female interviewers since priority was given to completing the interviews rather than the methodological study. The sex of the interviewer who completed the interview for a respondent or who made the last attempt to complete the interview for a nonrespondent was recorded for 984 of the 1,000 operations. When attempting to interview the men, 497 interviews were done by male interviewers and 487 by female interviewers. The numbers were similar when interviewing the women with 472 completed by male interviewers and 512 by female interviewers.

Table 1 gives the final disposition of the 984 cases for the male and female interviewees. Interviews were completed with 569 men and 620 women. In 497 cases, both the husband and wife in the household were interviewed. The number of ineligible interviews was high for the men and the women. Ineligible cases included interviews where the household was no longer farming, where the person was deceased or where the person did not exist, e.g. no wife associated with the operation.

Table 1. Final Disposition of the 984 Cases for the Men and Women

Final Disposition	Sex of Interviewee	
	Male	Female
Completed	569	620
Ineligible	232	245
Refusal	117	98
Contacted but Interview not Arranged	60	16
Inaccessible (Never Contacted)	6	5

Total 984 984

## III. Inference Level

The 984 cases were used to compare the refusal rates for the male and female telephone interviewers. The interview length and the responses for a wide range of survey questions were analyzed using the completed household interviews (husband and wife) where the sex of the interviewer was the same for the husband and wife. Of the 497 completed household interviews, the sex of the interviewer was the same for both the husband and wife in 473 cases.

The distribution of each of the two data sets (the 984 cases and the 473 operations) was compared to the national stratified area frame sample of 4,060 cases to determine if a national inference level was appropriate for the methodological study. There were 244 land-use strata with farm operations in the national area frame sample. Each stratum belongs to one of the following five land-use series: intensively cultivated land, extensively cultivated land, agri-urban land, rangeland

and nonagricultural land. The analysis showed that the distribution for each of the two data sets was concentrated in the two cultivated land-use series and underrepresented the agri-urban, rangeland and nonagricultural land-use series. Also, the 984 cases were located in about 84 percent of the total strata in the national area frame while the 473 operations accounted for only about 63 percent of the total number of strata. Therefore, inferences for this study will pertain to the samples rather than to the nation since the samples were not representative of the nation.

#### IV. Refusal Rate

The refusal rates were compared between the male and female telephone interviewers to determine if the sex of the interviewer affected this rate. Two approaches were used to define the refusal rate. The first approach defined the refusal rate as the number of refusals divided by all attempted interviews, which would include ineligible and inaccessible interviews. The second approach excluded ineligible and inaccessible interviews from the calculation of refusal rate. The rates for each approach are displayed in Table 2.

The chi-square test for differences in probabilities (Conover, 1971) was used to compare statistically the refusal rates from the male and female interviewers. The significance levels from the tests are also given in Table 2 and showed that:

- The test results were virtually the same for the two approaches used to define refusal rate. This occurred because the percentage of interviews classified as ineligible or inaccessible was very similar for male and female interviewers.
- Male telephone interviewers had a higher refusal rate than female telephone interviewers.
- At the .100 significance level, the refusal rates were significantly different when the women were interviewed and almost significantly different when the men were interviewed.
- The refusal rate was significantly higher for male telephone interviewers when the samples from the men and women were combined.

Table 2. Refusal Rate by Sex of Interviewer for Each Approach

Approach	Respondent	N	Sex of Interviewer		Significance Level
			Male	Female	
Includes All Attempted Interviews	Men	984	13.5	10.3	.119
	Women	984	11.9	8.2	.055*
	Men and Women	1968	12.7	9.2	.013*
Excludes Inaccessible and Ineligible Interviews	Men	746	17.7	13.6	.120
	Women	734	15.6	11.2	.075*
	Men and Women	1480	16.7	12.4	.018*

\* Significant difference between male and female interviewers at the .100 significance level.

#### V. Interview Length

The length of each interview was recorded by the telephone interviewers for most of the 473 completed household interviews. The interviews with the husbands required less time than the wives because the male questionnaire was shorter. The time to complete each interview was compared between the male and female interviewers. The Wilcoxon Rank-Sum test (Conover, 1971) was used to perform the statistical comparisons rather than the parametric t-test because of the

skewed distribution of the time variable. The test results are displayed in Table 3.

The analysis showed that the length of the interview was significantly longer for male telephone interviewers regardless of whether the respondent was male or female. The average interview time with the wives was 30.1 minutes for male interviewers and 28.9 minutes for female interviewers. When interviewing the husbands, the average length of the interview was 23.9 and 22.4 minutes for the male and female interviewers, respectively.

Table 3. Significance Levels from the Wilcoxon Test for the Interview Length

Respondent	N	Significance Level
Husband	467	.061*
Wife	465	.031*
Husband and Wife	932	.011*

\* Significant difference between male and female interviewers at the .100 significance level.

#### VI. Response Comparisons

The responses provided by the husbands and wives for a variety of survey questions were compared for the male and female interviewers. Eighty-five questions were selected for analysis from the questionnaire for the wives. Sixty-three of these questions were also on the male questionnaire version. Therefore, 63 variables were tested for both the husbands and wives and 22 variables were studied only for the wives. A description of each variable is given in Nealon (1983). Each variable can be classified into one of the following nine categories:

- Background Information, e.g. years of education and number of children
- Involvement in Farm Committees, Organizations and Women's Groups
- Knowledge of Farm Programs
- Use of Farm Programs
- Satisfaction with Farm Programs
- Farm Characteristics, e.g. farm value and acres planted to crops
- Work Involvement
- Decisionmaking Process
- Financial Arrangements

Table 4 summarizes the results of the statistical tests which compared the responses given to male and female telephone interviewers. Presented in this table are the number of variables analyzed and the number of variables that had significant response differences between the male and female interviewers for each of the nine categories. For the first four categories shown in the table--background information, involvement in farm committees, organizations and women's groups, knowledge of farm programs, and use of farm programs--about 10 to 11 percent of the variables overall showed significant differences between the male and female interviewers. These percentages were

based on 35 variables for the wives and 29 for the husbands. If the variables were independent, one would expect a significant difference to be stated incorrectly for 10 percent of the variables since the significance level of each test was .100. This statement is not strictly valid for this study since the variables were not independent of one another. However, in general, the responses for these categories do not appear to be affected by the sex of the interviewer.

The remaining five categories--satisfaction with farm programs, farm characteristics, work involvement, decisionmaking process and financial arrangements--had significant response differences between the male and female interviewers for 44 percent of the 34 variables from the husbands and 30 percent of the 50 variables from the wives. These percentages were high enough to conclude that the responses were influenced by the sex of the telephone interviewer.

Whenever there was a significant difference for responses on work involvement, decisionmaking and financial arrangements, male telephone interviewers obtained higher involvement responses in almost all instances. To the contrary, female telephone interviewers elicited higher answers in most cases for farm characteristics and satisfaction with farm programs.

Table 4. Number of Variables Analyzed and the Number of Variables with Significant Response Differences Between Male and Female Interviewers for Each Category

Category	Husband		Wife	
	Total Variables	Significant Variables	Total Variables	Significant Variables
Background Information	4	0	5	0
Involvement in Farm Committees, Organizations and Women's Groups	8	0	11	2
Knowledge of Farm Programs	6	1	6	1
Use of Farm Programs	11	2	13	1
Satisfaction with Farm Programs	2	2	3	0
Farm Characteristics	7	1	9	3
Work Involvement	16	7	17	8
Decisionmaking Process	9	5	10	1
Financial Arrangements	0	0	11	3
Total	63	18	85	19

## VII. Conclusions

This study illustrates that the refusal rate, interview length and data from respondents can be affected by whether the telephone interviewer is male or female. The male interviewers had a higher refusal rate than the female interviewers. The refusal rates were significantly different for the male and female telephone interviewers when interviewing the women and close to significantly different when interviewing the men. The length of the interviews was also

influenced by the sex of the interviewer. The average time to complete an interview was significantly longer for male telephone interviewers.

Responses to questions on background information, involvement in farm committees, organizations and women's groups, and knowledge and use of farm programs--were not affected by the sex of the interviewer in most instances. On the other hand, responses concerning satisfaction with farm programs, farm characteristics, work involvement, the decisionmaking process and financial arrangements--generated significant response differences for more than one-third of the questions. Since the "true" values are not known for the multitude of variables analyzed, nothing can be stated about whether the male or female telephone interviewers obtained more accurate responses. This study only serves to illustrate that the responses can be affected by whether the telephone interviewers are male or female.

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