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Survey Burden and its Impact on Attitudes Toward the Survey Sponsor

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The organization sponsoring a survey data collection may affect respondents' willingness to respond. USDA's National Agricultural Statistics Service (NASS) has begun asking agricultural establishments questions during ongoing surveys about respondents' knowledge and attitudes about NASS. These questions were asked of both respondents and non-respondents to the surveys, and clearly showed a correlation between respondents' knowledge and attitudes toward NASS and their willingness to cooperate when contacted by NASS.

Past burden (number, length, complexity, frequency of contacts, etc.) imposed by NASS was also measured and found to have little correlation with survey cooperation. It was hypothesized that increased contacts may provide opportunities for public relations and help foster more positive attitudes towards the survey sponsor. If increases in burden create more positive opinions of the survey sponsor, this may offset expected declines in cooperativeness as burden increases. However, little relationship was found between respondents' attitudes toward NASS and the past burden imposed on them.

KEY WORDS: Respondent burden, accumulated burden, agricultural survey

1 INTRODUCTION[1]

Survey methodologists have long speculated about what factors affect survey respondents' willingness to cooperate when contacted. Attributes of the interviewer, the respondent, the survey process or the external environment may all impact survey cooperation. (For an extensive review of these factors in household surveys, see Groves and Couper, 1998.) In interview surveys, the interviewer - respondent interaction is critical to gaining cooperation. Interviewers are often free to introduce an interview in whatever way they feel is suitable. The survey introduction may include any number of different appeals intended to increase cooperation. Groves, Cialdini, and Couper (1992) have argued that many fall into one of six principles of compliance: reciprocation, consistency, social validation, authority, scarcity and liking. One method interviewers report using to gain cooperation is to tailor the interaction (and consequently which compliance principles are used) according to the particular respondent.

Snijkers, Hox, and de Leeuw (1999) studied the tactics that high performing survey interviewers use to gain cooperation. Similar to Groves, et al. (1992) they found that tailoring the interaction was important. However, they also found that mentioning Statistics Netherlands as the survey sponsor was rated as a highly effective means of securing cooperation. Successful interviewers also felt that the agency should pay more attention to public relations and thus, "the image of the agency is seen as a tool to work with and attain a better response rate."

One of the critical components to a survey introduction is the identification of the sponsoring organization and explanation of the survey purpose. It has generally been assumed that government or university

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sponsorship of a survey increases cooperation. However, to date, there is little empirical evidence to show what the relationship between survey sponsorship and cooperation is. The Census Bureau found there was not a significant correlation between reported knowledge of the Census and likelihood of returning a Census mail form (Bates and Buckley, 1999). However, in an evaluation of response to the 1990 Census, respondents' attitudes toward the Census Bureau's handling of data confidentiality and privacy were somewhat correlated to both self reported Census returns (Fay, Bates and Moore, 1991) and actual Census returns (Singer, Mathiowetz and Couper, 1993). Harris-Kojetin and Tucker (1999) also found that in times of more positive public opinion regarding the government and government leaders, cooperation rates on the Current Population Survey, a major government survey, were higher.

While there may be little research to show positive effects of changing respondents' attitudes about a survey sponsor, Federal agencies do feel that public relations and publicity are important. Some agencies devote more to this than others, but the importance placed on this is evident in the Census Bureau's budget of $167 million in advertising designed to promote the 2000 Census.

Survey respondents representing establishments may be somewhat different from respondents representing themselves or their households. These differences may make attitudes toward the survey sponsor more important than in general household surveys. For example, establishment survey respondents, particularly large or unique ones, may be contacted much more frequently by an organization than household respondents. They may also use or be more directly affected by the survey results (see Interagency Group on Establishment Nonresponse, 1999 for an extensive discussion of issues relevant to nonresponse in establishment surveys).

Within the agricultural establishment population, research done in the late 1970's indicated that farmers' self reported participation in USDA surveys was related to how well they felt the survey purpose had been explained to them, whether they themselves used USDA reports, and their opinion of whether or not they thought government reports were generally worthwhile (Jones, Sheatsley and Stinchcombe, 1979). This is similar to findings in household surveys, where survey cooperation has been linked to respondents' general attitudes toward the usefulness of surveys (Frankel and Sharp, 1981).

Aside from speculation about the influence of survey sponsorship on survey response, a commonly held belief is that increased burden is negatively correlated with survey cooperation. Federal Statistical Agencies are currently striving to lessen the reporting burden placed on respondents. The U.S. Office of Management and Budget has set a government-wide goal of five percent yearly reduction in information collection burdens (Paperwork Reduction Act of 1995). Burden may be defined in a number of ways – length of the interview or questionnaire, number of contacts, difficulty in reporting the requested data, etc. The length of the survey questionnaire is often assumed to be positively correlated with survey non-response. However, a literature review by Bogen (1996) found that while this claim was supported in some studies, other studies showed exactly the opposite and still others showed no relationship. Frankel and Sharp (1981) also found the length of a single completed survey interview was related to expressed willingness

to participate in later interviews. Respondents who participated in a 25 minute interview were more likely to agree to participate in a future interview than respondents participating in a 75 minute interview. However, there was little difference in actual cooperation between those who had the long or short initial interview when later contacted for the second interview.

USDA's National Agricultural Statistics Service (NASS) publishes official statistics based on data collected from farmers, ranchers and other agribusiness operators in voluntary surveys. For example, the Quarterly Agricultural Survey collects data on inventory and production; the Farm Labor Survey collects information on hours worked and wages; the Agricultural Resource Management Study collects information on production practices, chemical and pesticide use, and farm economics. A particular agricultural establishment may be selected for any or all of these surveys, both within a single year and over multiple years.

In NASS surveys, there is little evidence that accumulated burden contributes to later non-response. Reasons given for refusing to participate in NASS surveys are more often "too busy/lack of time," or privacy concerns than frequency or number of survey requests (Jones, Sheatsley and Stinchcombe, 1979 O'Connor, 1991, 1992). Our own research has shown almost no correlation between traditional measures of burden (for a set of contacts made by NASS with farm and ranch operations over a two and one half year period) and response on a subsequent survey (McCarthy and Beckler, 2000).

However, increased burden in either increased number of contacts or time spent with the respondent in the interview setting, may also provide an opportunity for the survey sponsoring agency to promote the survey or agency. This may in turn change respondents' attitudes for the better with increased burden, instead of simply making respondents less likely to cooperate. If this is the case, we might expect declines in cooperation due to increased burden to be offset with more cooperative attitudes due to a more positive view of the survey agency and its mission. Perhaps the public relations work that may be part of our survey contacts can mitigate negative effects of potential increases in survey burden.

This paper looks first at the accumulated burden imposed on agricultural operations selected as respondents in our surveys and at the relationship between respondents' attitudes about NASS as the survey sponsor and their survey cooperation. Based on prior NASS research, we expect little relationship between burden and cooperation, but a strong correlation between respondents' attitudes and cooperation. In addition, this paper looks at the relationship between the burden imposed by NASS and the attitudes held by respondents (and non-respondents). Our hypothesis is that since burden does not appear to be negatively correlated with cooperation, as burden increases, respondents' attitudes become more positive to offset expected declines in cooperation.

2 METHODOLOGY

Interview disposition (not sampled, completed, refused, non-contact) was recorded for each South Dakota agricultural operation selected for the Quarterly Agricultural Surveys, the Agricultural Labor Surveys, the Hog Surveys, the Cattle and Sheep Surveys, the Monthly Cattle on Feed Surveys, the Agricultural Resource Management Studies (ARMS), and the Yield surveys conducted by NASS between January 1997 and December

1999. South Dakota was selected because they have historically had a relatively high rate of survey refusals. Details about these surveys appear are available from the authors, but they collect data on agricultural inventory, production and economics. There were 118 total possible surveys in this set.

Samples were stratified based on survey-related control data (usually size and type of operation) maintained on the list frame. Mode of contact varied, but involved primarily telephone (CATI), with limited face-to-face and mail for most surveys. The exception is the ARMS, which are all face-to-face interviews. The sensitivity and difficulty of the surveys also varied. Except for the ARMS, all data collected are generally readily available to farmers and ranchers. The ARMS collects extremely detailed income, expense and debt information, in addition to other potentially sensitive questions on pesticide and chemical use. The samples were not all independent with some surveys samples overlapping. However, respondents are not notified of potential additional later survey contacts.

Questions about respondents' knowledge and opinions of NASS were added to the South Dakota Quarterly Agricultural Survey (QAS) for hogs and crops, the January and July Cattle Survey, and the Sheep Survey, all of which collect data on agricultural production and inventory. We selected these surveys because they include a broad cross section of agricultural operations by commodity and size. Beginning with the June 1998 QAS Crops/Stocks Survey, we added a series of questions designed to measure operations' familiarity with NASS and what we do, and their opinion of our work. Questions were asked of all sampled operations, both those who did and did not provide survey data. Many operators who did not provide survey data answered these questions. For this analysis, we considered only those opinions given in the time period June 1999 to December 1999 (at the end of our period of study) since this would reflect attitudes of respondents with the most possible accumulated burden.

In order to benefit from the largest sample size possible, attitudinal data were utilized from multiple surveys, each with distinct but overlapping populations. All analyses used unweighted data and thus does not permit expanding our results to our entire population of farm operations. However, the data set used for the analyses is representative of a set of farm operations sampled for surveys NASS conducts. In this respect, our results reflect the interactions of attitudes, respondent burden and response on NASS' surveys.

3 RESULTS

3.1 Assessment of Accumulated NASS Survey Burden

Table 1 shows the number of agricultural operations who were contacted one or more times by NASS in South Dakota between January 1997 and December 1999. As shown in the table, of the 14,728 operations contacted, the highest percentage of operations (34.3%) were contacted only once during this time period. The maximum number of times an operation was contacted was 57 but 67% of the operations were contacted three times or less. Only 6.6% of the operations were contacted nine times or more.

Table 1: Counts of Number of Surveys Operations Were Contacted For

Surveys	Count	% of Total	Surveys	Count	% of Total	Surveys	Count	% of Total
1	5,056	34.3	11-12	201	1.4	31-32	8	0.1
2	2,559	17.4	13-14	105	0.7	33-34	6	0.0
3	2,233	15.2	15-16	57	0.4	35-36	2	0.0
4	1,467	10.0	17-18	32	0.2	37-38	10	0.1
5	1,003	6.8	19-20	26	0.2	39-40	9	0.1
6	673	4.6	21-22	13	0.1	41-42	28	0.2
7	438	3.0	23-24	9	0.1	43-44	14	0.1
8	328	2.2	25-26	6	0.0	45-46	8	0.1
9	258	1.8	27-28	10	0.1	47-57	13	0.1
10	151	1.0	29-30	5	0.0	Total	14,728	100

3.2 Confirmation of Prior Research

We began our analyses by replicating previous research which addressed accumulated burden and respondents' awareness of, and attitudes towards NASS. For the last survey in our selected time period (December 1999 QAS Crops/Stocks), respondents and refusals did not differ in NASS imposed accumulated burden over the period from January 1997 to December 1999 (measured in number of contacts, total amount of time or total number of surveys selected for). These findings confirm earlier work (McCarthy and Beckler, 2000). Also as shown in prior research (McCarthy, Ott, and Johnson, 2000), respondents' attitudes and knowledge of the survey sponsor (in this case, NASS) are correlated with their willingness to respond.

3.3 Relationship between Respondent Attitudes and Burden

We then examined the relationship between burden and attitudes toward the survey sponsor. Respondents were classified into three groups based on the number of times they had been contacted. Low burden respondents were defined as having been contacted one to three times in the three year period. Medium burden respondents had been contacted four to eight times, and high burden respondents were those contacted nine or more times.

Respondents were asked if they recalled ever being contacted by us. As you would expect, those respondents who had been contacted most often (nine or more times) had higher recall of having been previously contacted (Table 2). This held true for all respondents. Respondents who recalled being contacted, were asked about the type of contact they had in the past (Table 3). The two main types of contact were telephone and face-to-face contacts. Those who had highest burden had higher recall of face-to-face contact. This also held true for all respondents. This is not surprising, since face-to-face interviews are the least common mode of data collection and those with fewer contacts are less likely to have ever been contacted in person.

When asked about their opinions of the accuracy of NASS reports, there was no relationship between respondents' attitudes and the amount of burden imposed on them (Table 4). Again, this was true for all groups of respondents, regardless of their cooperation rate.

Table 2: Recall of Prior Contact With SDASS

NASS [1/] Burden	Yes		No		Don't Know		Total
	Count	Row %	Count	Row %	Count	Row %	
Low	410	67.43	84	13.82	114	18.75	608
Medium	494	72.33	52	7.61	137	20.06	683
High	279	83.53	15	4.49	40	11.98	334
Overall	1,183	72.80	151	9.29	291	17.91	1,625

1/ Measured by NASS contacts made between January 1997 and December 1999.

Table 3: Type of Contact with SDASS [2/]

NASS [1/] Burden	Telephone		Personal Visit		Producer Group Meeting		State Fair		Other		Total
	Count	Row%	Count	Row%	Count	Row%	Count	Row%	Count	Row %	
Low	379	82.75	67	14.63	4	0.87	3	0.66	5	1.09	458
Medium	446	78.38	105	18.45	7	1.23	6	1.05	5	0.88	569
High	182	52.30	157	45.11	0	0.00	5	1.44	4	1.15	348
Overall	1,007	73.24	329	23.93	11	0.80	14	1.02	14	1.02	1,375

1/ Measured by NASS contacts made between January 1997 and December 1999.
2/ Respondents were permitted to answer with more than one type of contact.

Table 4: Opinion of Accuracy of NASS Reports

NASS [1/] Burden	Almost Always Accurate		Mostly Accurate		Accurate as Often as Inaccurate		Mostly Inaccurate		Almost Always Inaccurate		Total
	Count	Row %	Count	Row%	Count	Row%	Count	Row%	Count	Row %	
Low	39	8.23	225	47.47	161	33.97	36	7.59	13	2.74	474
Medium	46	5.60	396	48.18	300	36.50	55	6.69	25	3.04	822
High	22	4.75	229	49.46	165	35.64	32	6.91	15	3.24	463
Overall	107	6.08	850	48.32	626	35.59	123	6.99	53	3.01	1,759

1/ Measured by NASS contacts made between January 1997 and December 1999.

Table 5: Opinion of Importance to Respond to NASS Survey Requests

NASS [1/] Burden	Very Important to Respond		Sometimes Important to Respond		Response Does Not Matter		Somewhat Important Not to Respond		Very Important Not to Respond		Total
	Count	Row%	Count	Row%	Count	Row%	Count	Row%	Count	Row %	
Low	192	14.92	478	37.23	380	29.60	69	5.37	165	12.85	1,284
Medium	121	12.91	322	34.36	288	30.74	59	6.30	147	15.69	937
High	81	18.12	189	42.28	107	23.94	22	4.92	48	10.74	447
Overall	394	14.77	989	37.07	775	29.05	150	5.62	360	13.49	2,668

1/ Measured by NASS contacts made between January 1997 and December 1999.

Table 6: Opinion of Whether NASS Reports Help or Hurt Farmers

NASS [1/] Burden	Helps Farmers		Hurts Farmers		Sometimes Helps, Sometimes Hurts		Has No Effect on Farmers		Don't Know		Total
	Count	Row %	Count	Row%	Count	Row%	Count	Row%	Count	Row %	
Low	83	13.70	113	18.65	183	30.20	33	5.45	194	32.01	606
Medium	77	11.42	116	17.21	230	34.12	40	5.93	211	31.31	674
High	43	12.91	51	15.32	139	41.74	19	5.71	81	24.32	333
Overall	203	12.59	280	17.36	552	34.22	92	5.70	486	30.13	1,613

1/ Measured by NASS contacts made between January 1997 and December 1999.

Respondents were also asked whether it was important that they respond when contacted, that it didn't matter, or that it was important that they did NOT respond when contacted. The only relationship between burden and this attitude was found in the highest burdened group. Those with the highest burden (again, nine plus contacts) felt it was somewhat or very important to respond more often than those with less burden. See Table 5.

Finally, respondents were also asked if they thought what NASS does helps farmers, hurts farmers, does both or don't know. There was no apparent relationship between answers to this question and burden (Table 6).

4 DISCUSSION AND CONCLUSION

In this paper we were able to confirm prior NASS research relating burden and attitudes toward the sponsor to survey response. Again, we found there was no apparent correlation between the prior burden imposed on respondents and their likelihood of responding on a subsequent survey. We also confirmed the hypothesis that respondents with more positive attitudes toward NASS were more likely to respond to survey requests.

We hypothesized that increased contacts might serve to change potential respondents' attitudes toward us, making them more favorable over time. This, in fact, might be the reason why we did not find the relationship between increased burden and decreased cooperation. While we did find that respondents are more likely to recall being contacted by us if they have been contacted more often, we did not find that many attitudes toward us as the survey sponsor changed as the number of times we contacted them increased. While we hypothesized this may have masked the effect of increased burden on cooperation, our results indicate this is not the case.

What this does suggest to us, is that we are not effectively using our contacts with respondents as opportunities for public relations and promotion. NASS does not typically design standard materials that can be delivered to respondents in pre-survey mailings or during interviews. However, since many respondents are contacted repeatedly over time, effective promotional materials might be a way to increase cooperation with them on later contacts. The respondents remember that we contact them, but they are not being persuaded to have different opinions of us. If respondents' attitudes are truly related to their willingness to participate in our surveys, we need to seize the opportunities available to us to change them for the better.

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