

WORKSHOP ON RESPONDENT BURDEN

Resource Paper

Understanding the People We Survey

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ABSTRACT

Response burden is an issue common to all surveys, particularly those requiring details of travel behavior. This paper defines response burden multi-dimensionally to include perceived difficulty, dissonance or intrusion that individuals associate with a survey they are being asked to do. It covers issues relating to the appropriate moment and place, the perceived relevance of the survey and the perceived difficulty in terms of physical, intellectual and emotional aspects.

Using international examples, the paper gives numerous examples of ways in which respondent burden can occur and gives recommendations regarding ways in which these problems can be addressed. It concludes by challenging people who design and implement travel surveys to carry out participant observation studies, to always carry out some surveys themselves, and to continue to diversify methods.

INTRODUCTION

Three particular things have been formative in writing this resource paper—two things I have read recently, and an experience of my own.

The first was a book in which “fourteen Australian men talk about their lives, loves and feelings after two decades of feminism” (1). One of the men expressed his frustration with a type of feminism that claims that all women are victims of a conscious male patriarchal conspiracy, calling it, in forthright Australian style, “just hogwash,” I share this sentiment with equal vehemence; the generalization from which there are so many exceptions makes it impossible to make a general “rule.” Furthermore, when I came to represent respondents’ rights in this paper, I felt a need to begin with the same cry: We are not all the same—and we’re certainly not all the same as you designers of surveys.

The second piece of literature to influence this paper was a feature article in *Communication News* (2). This is a journal published by an Institute that works towards improving the quality of human communication through research and debate. The article spent some time describing the problems of communications as “wicked problems” first described by Horst Rittel in the 1960s (3). Travel survey design, and respondent burden in particular, certainly fall under the category of wicked problems that

- Can be described in different ways and have different solutions. There is no one way to formulate the problem.
- The solutions to wicked problems cannot be true or false; although they can be good or bad.
- There is always more than one plausible explanation for a wicked problem.

- There is no single right or true test for a solution to a wicked problem.
- Every wicked problem is unique.

First, this means that it is not possible to define *the* problem in reducing response burden. There could be as many different problem definitions as participants.

Second, it is not possible to come up with the one right solution to this wicked problem. The trick is not to try to find the right solution but to look for a possible way forward that is good for all respondents.

Third, the only one way to “test” whether the solution is a good one is to practice it. It is not possible to stand back and apply a test independent of its appropriateness.

Fourth, every wicked problem related to survey design and respondent burden is unique. What worked in one context will not necessarily work in other contexts. Trying to bring about good solutions means you have to continually monitor what is happening and be prepared to be flexible.

All this seems to suggest that we are dealing with a very sticky issue. Does this mean that the task of dealing with respondent burden is simply too overwhelming to tackle? Or is there a way forward?

Then I remembered my own experience in writing this resource paper. I had begun like the ideal respondent, replying early to the “questionnaire” asking whether I would write the paper. I didn’t feel threatened by the task—I felt that I knew a significant amount about the topic and that what I knew was relevant to the conference, so I did not think that responding would be difficult. I could choose my own vocabulary (no enforced technical terms); I did not feel as if I had any time constraints (I certainly had a lot of free time in my diary between August 1996 and March 1997—the deadline for submitting it); and the paper did not have to be very long—but with constant reminders and other pressures, I began to perceive the whole exercise as a significant burden. Nothing was difficult; I just needed to overcome the inertia of getting started. Once I made that step, I enjoyed it! Undoubtedly, this, together with my constant insistence on carrying out some interviews myself for the surveys I design, has shaped the format of the ideas for discussion presented in this paper.

WHO ARE RESPONDENTS?

When we set about gaining a high quality of survey data, we need to choose a sample of people to ask. The way in which that sample is chosen, and the implications of not obtaining responses from each of the people chosen, are covered in other resource papers.

What is important in all survey methods, and certainly in travel surveys, is that once a person is chosen to take part in a survey, substitution of that person by another can cause significant bias effects—and a corresponding reduction of data quality. The simplest example of the effects of this occurs in a personal interview travel survey. If no one is home at one household, and the neighbors’ (where someone is at home) house is selected, it has been shown that the ensuing data give a significant overestimation of travel (4).

This paper assumes, therefore, that we are dealing with respondents who are a representative sample of the population we are trying to study—not just those willing to spare the time and effort to respond, or those who respond—because of an incentive of some type.

This means that a respondent can be anyone.

We have a tendency to remember that respondents come from all walks of life. In travel surveys this is often important for various design reasons—tradespeople with “no fixed place of work” need different questions; people who “keep house full-time” skip the work questions; children need to get asked about school and do not need the questions for drivers. The things we tend to forget about respondents are that they are really just like you and me.

In principle, most are willing to help other people, but

- Some days they are in a good mood, some days they are not.
- Sometimes they are busier than others.
- Some have visible physical disabilities, some just have invisible worries

(equally as real!).

- Many of them have preferences in the way they interact with other people; some prefer *personal* interaction with strangers, some feel better if it is more distant—and this can vary by mood!

- Many of them have preferences in the way they understand concepts; some like them visual, others need to be able to talk about them.

- Most like to know why things are happening.

- Most people’s knowledge of what’s happening around them is sporadic—they know a lot about some things, and not as much about others. Our survey topic could be in either category.

In other words, response burden depends on the person responding—it means different things for different people at different times. And this is what makes the issue of respondent burden a “wicked” one. At first glance, it could seem as if to address response burden we have to have a different approach for each individual. But by looking closely at some elements of respondent burden, I believe it is possible to come up with some principles, albeit for each survey individually, which will result in high response and high-quality data.

WHAT IS BURDEN?

Response burden is unfortunately not a fixed unit. We can neither measure the amount of burden in units nor the threshold above or below it that will be “all right,” or “too much.” Response burden is the perceived “difficulty” (defined multi-dimensionally), dissonance or intrusion that individuals associate with a survey they are being asked to do. From what we have said so far, it is clear that even for the same person, this burden may be perceived differently at different times, and it is certain that it will vary for different people. Some people happily participate in incredibly long surveys, sometimes repeatedly, and find it little or no burden, whereas others are either bored or rude within one minute.

As survey designers trying to get high response and high-quality data, our task is to find the key elements that affect these perceptions and try to address them wherever possible.

Those aspects that affect perceived response burden can probably be summarized in the following points:

- Is it the perceived *appropriate moment*? Do I have time, am I not in the middle of an argument, sad, celebrating? Do I have time available?

- Do I perceive it as *important or relevant for me/the community/whoever is important to me*?
- Do I feel perceived *external pressure* (from present or absent people) not to respond, or to respond in a certain way?
- Do I perceive that I will have any *difficulty* in responding to the survey: *physical* (do I have a pen? Is my house tidy? Am I allowed to carry a diary with me all day?); *intellectual* (can I do it—will I be able to get to the end?); *emotional* (does it make me afraid of failing?)?
- Will it make me feel good to do it? Can I do it for altruistic reasons?

As a respondent, I have to perceive a certain threshold for each of these before I consider the burden to be low enough to participate, or to continue responding until the end of the survey.

In the next sections each of these aspects of response burden is examined more closely, various approaches for dealing with them are described, and the implications discussed.

THE APPROPRIATE MOMENT

The most likely key contributor to perceived respondent burden and indeed to response rate is whether response to the survey is being called for at an appropriate moment—from the perspective of the respondent.

The appropriate moment varies by type of activity that people usually do and when they do it:

- Shift workers often prefer times in the early morning (just after they get home from work) or late at night (before work) when survey methods other than self-completion are not usually appropriate. And even then, if they need help, it is rare that they can get it (usually by phone) at that time.
- Pensioners, other people who spend the entire day at home, find it inappropriate if an interviewer calls in the evening, when they are just settling down for a quiet night, when they have been at home all day and would have been happy to spend time then completing a survey.
- Parents at home rarely have free time other than between 10 and 3. Some would prefer a survey in that break, and others would like to squeeze it in with all the rush so that their few precious hours are free.
- A worker at home can be found there (by phone or personal interview) but often prefers not to be interrupted during the day.
- For some people, the place in which the interviewer expects to complete the interview (often at home) is not the most appropriate place.
- Everyone, in fact, has discretionary and obligatory activities (by their, not our definition), and nearly everyone prefers to fit the completion of a survey into the discretionary time.
- Superimposed on this are the moods/arguments/joys/sorrows we all experience—albeit only occasionally—but in the middle of which any disturbance like a survey will seem trivial, and a burden.

EFFECTS ON THE SURVEY DESIGN

The above implies that, in order to reduce respondent burden, perceived because an inappropriate moment is chosen (whatever the reason), the survey needs to target a suitable time in respondents' lives. The most likely phase of the survey design to be affected is the initial, and any subsequent, contact between the respondent and the survey interviewer/organization.

In terms of initial contact, it becomes necessary to choose an approach that gives the respondent a choice to reject/delay for the moment and still carry out the survey at a later time. This option is best provided by an approach by letter (which can be read later), and to a lesser extent in a face-to-face situation by a person who, when well-trained, can perceive an inappropriate time. Of the methods currently used, the telephone is least sensitive to "appropriateness" since it intrudes regardless of situation, and there are no visual/aural cues to difficulties surrounding the call.

Both personal interview initial contacts (phone and personal interview) can cause a burden by not dealing with non-obvious constraints (my house is not tidy, other people are with me at the moment).

If there is further contact, as there is in many survey designs, an important aspect of the design needed to cope with the need for an appropriate moment is the ability to have the survey interrupted and continued at a later stage. Many survey methods (and all of us, when we are interviewers) work best when the survey continues uninterrupted. But life is not that simple, and the burden to respondents, whether exhibited by a refusal midstream, or poor/rushed answers, when a survey cannot be interrupted (or is perceived in that way), often has less than optimal results.

Summary

The greater the influence of the respondent in choosing the time (and place) to complete the survey, the less will be the perceived burden.

Recommendation

The survey design needs to have an opportunity for repeated contact without the respondent (or the interviewer) feeling that they are failing.

Reflections

Letter or email is apparently the least intrusive method of approach, providing freedom to choose the time and place of completion. Either is, indeed, excellent for the type of people who have no difficulties in understanding the forms and do not need an external support. On the other hand, there is no cheerful, knowledgeable, reinforcing person present (as in a face-to-face interview). It is imperative that there are follow-up methods for good quality results—and these need to be designed in a way that does not become a burden.

Face-to-face contact in travel surveys generally provides the best way to assess the appropriateness of the immediate situation and allow choice, though it can rarely be done at unusual hours. On the other hand, sensitive interviewers become adept at interviewing

during the daytime in pensioner and young family areas or noting clues (sounds of dispute, large numbers of cars) that may indicate an inappropriate moment.

Initial contact by telephone undoubtedly provides the greatest respondent burden, intruding unsympathetically into any phase of life. This is reflected in the low response rates this method achieves (e.g., 5). Superimposed on this generalization is the fact that some people, particularly those who have hidden fears for personal safety, feel least burden if they are contacted and interviewed by phone.

PERCEIVED IMPORTANCE/RELEVANCE OF THE SURVEY THEME

Most people tend to do the things that they see as important or relevant more willingly than those that they do not see as important or relevant. This does not mean they will do it more speedily—as is witnessed by the preparation of this paper!

In general, we will see things we perceive to be of relevance to ourselves or our community as less of a burden than things that are neither relevant nor important.

In this case, there are many ways throughout the survey of addressing the issue.

At the Initial Phase

If the survey design begins with an approach by letter, the way in which the letter is addressed can be important. In Brisbane, Australia, a pilot study used the fairly typical address of “The Householder.” In in-depth follow-up interviews it was found that many people thought this pertained to the owner of the house, and some renters were distressed when they received reminders, since the study did not seem relevant to them. The main survey used the term “The Resident” and there was no longer a problem (6).

People are also more likely to feel that the survey is relevant to them, thereby not going through the “burden” of choice of relevance if the letter is from someone familiar to them. As early as 1977, Brog and Neuman reported that rural people prefer the letter to be signed by a local entity, while urban people prefer receiving a letter from someone *they* have heard of—usually a national identity (7). In work in the field of education, Altschuld et al. showed that familiarity with the sender (reputation, position, or even direct involvement) gave response rates nearly 20% higher than in cases where that person was not known (8).

The Survey Topic

Most people feel less burden, and are more willing to participate in a survey, if they perceive that the topic is important. In that sense, travel surveys have a great advantage over their siblings in which orange juice or toilet paper preferences are the topics, since getting to activities outside the home—travel—is an important part of most people’s days.

Other aspects that reduce perceived burden to the respondent, relating to the topic of the survey, are

- Do I think *something* can be done about the purported reason for the survey?
- Do I think *surveys will help*?
- Does the instrument design (person/literature) provide me with information on the way in which my answers will be used in the scheme of things, not just in analysis?

Survey Questions

In interviews that follow-up a pilot survey, people often raise the following issues that indicate stress during completion of the survey, and that led to some people aborting the completion of the survey mid-way (particularly in self-completion exercises):

- Do the questions relate to topic outlined? If not, does the interviewer know why they are being asked? If it is a self-completion or email questionnaire, is it easy for me to find out?
- Do the questions make sense to me? Do I constantly tick a box called “public transport or transit” when I think I travel by bus? Am I being asked why I use a car, when that’s not how I made my decision; I decided not to use a bicycle or public transport, and all that was left was car? Am I being given Option B (for all trips 25 - 100 km) and I have just told you that my only trip—ever—was exactly 32 km/s? Is it a survey about congestion and my husband gets all the questions about his daily journey to work and no one asks me about the careful decisions I make to juggle the kids’ trips to school and sport?

Post-Survey

There is one final aspect of relevance that may not be measurable as respondent burden in the surveys we do at the moment, but that may have an ongoing effect. This relates to the way in which the survey organization recognizes the purported importance of the survey theme. Examples are

- Do I ever get a thank-you card, or some information from the people doing the survey?
- Can I see that the data are being used in the community in any way?

Summary

Most people need to feel that the survey is important or relevant for them and/or their immediate community.

Recommendations

All survey methods need to have a clearly defined reason for doing the survey. Try writing it down in one or two short sentences. Or better still, talk to a new respondent, and tell them!

Throughout the survey, this relevance needs to be reiterated. This can be done very simply. For example, in a travel diary of type survey using face-to-face personal interview (e.g., New Zealand Travel Survey 1997-98) the ‘trip form’ begins by asking people’s activities as a filter question. For most people in the household, this is the first contact with the interviewer for whom they have completed a two-day travel diary. To maintain relevance, and reduce respondents’ burden of trying to perceive relevance themselves, the first question simply reads:

“Before asking you about your travel, could you tell me which of these activities applies to you at the moment...” etc.

Reflections

Bear in mind that often people will not bother to ask about the relevance of the question to the study, or of the relevance of your explanation about the need for the study to the content of the survey. They will either continue to worry it through their minds as the interview progresses, thereby giving less than full attention to the responses, or they may warn other potential respondents of the curious mismatch between explanation and reality in the survey, leading to more serious burden (leading to refusal) among subsequent people.

DIFFICULTY

Even if people see the content of the survey as important or relevant, they will not necessarily answer the questions if they perceive them as difficult in some way.

At the moment, the main choices for a survey medium (in terms of the respondent) are

- Hearing an interviewer ask questions with no visual cues;
- Hearing an interviewer ask questions with occasional visual cues (e.g., showcards);
- Reading a paper questionnaire, and writing or ticking answers;
- Reading a computer questionnaire, answering verbally, with the interviewer entering answers; and
- Reading a computer questionnaire, entering own answers.

My experience suggests that perceived and actual “difficulty” manifests itself in three ways.

Physical Difficulties

If someone is blind, has another type of visual impairment, or does not have their glasses at the time, anything requiring reading is difficult. If someone is illiterate (or thinks that the survey will require a reading level above the one they have achieved), anything to be read will create a burden. If you are one of the 70% of people who understands things better when they are presented visually, you will find difficulty concentrating when responses and concepts are not presented visually.

And almost all people who can read well find some layouts easier to assimilate (less of a burden) than others. A simple example of this is that the unevenness of lower case makes each letter more readily identifiable, and much easier to read than upper case.

Some people have a memory impairment (even if not serious) and simply cannot remember questions of recall without aid. If someone has a hearing impairment, the spoken question can cause problems. Phones cause problems even for those who lip-read. Strong accents can present a problem even if the language of the respondent is the same as that of the interviewer in a spoken interview. Difficulty with a foreign language is a common response burden. And even when people speak a second language fairly fluently, it is often stressful for them to commit themselves to writing in that language.

Other physical difficulties in completing the survey can be no (quiet) space in which to complete the survey, or the inability to find a suitable writing tool.

Intellectual Difficulties

In addition to the things categorized here as physical difficulties, there are the difficulties stemming from survey design—in comprehension, perceived length and perceived image of the survey questionnaire.

Examples of these are manifold:

- Many people find difficulty understanding the technical terms and turns-of-phrase that we use in designing surveys. While many of us try to minimize use of technical terms like “mode,” we continue to give people the option “rail” to tick when almost no one would use that word as a noun in daily conversation.
- Many people cannot use a computer themselves, and fear that the presence of a computer (even when being used by an interviewer) may present a threat to them.
- Individuals’ levels of tolerance are also varied—by individual, and within individual.
- Most people—of all levels of learning/experience—prefer short, uncluttered questions.

Similarly, while there are specific cases of people being able to comprehend 25 variations of a stated preference exercise at once, most people prefer to have a range of answer choices with a maximum of about 7 (9).

In general, it is less burdensome if response categories “make sense.” For example, an answer of “teleworking” as a potential response to the question “In which of these ways does your employer help you with the costs of your journey to work?” may make sense to us as travel behavior specialists, but is much less likely to do so for a respondent.

Most people find facts easier to answer than attitudes (unless you are in the presence of someone from whom you are trying to withhold these!)

Other aspects of a travel survey relating to the survey design, which are likely to increase respondent burden are

- Questions are perceived as repetitive.
- The thickness of a questionnaire (even when not all of it is relevant to the respondent) can increase stress because of its perceived time implications.
- The layout of the survey instrument (if it is seen by respondents) can make it more difficult to understand. Some people prefer horizontal layouts to vertical ones, while others find a color choice of red and green difficult to distinguish.

Emotional Difficulties

Finally there is a list of “emotional” reasons why people may feel burdened during an interview:

1. Questionnaires may remind them of exams: something stressful and something at which they did not necessarily excel. This is particularly the case for people who are less literate, or who are not used to completing forms.
2. Related to this is another kind of fear—that of giving the wrong answers. Respondents do not implicitly know that they will not be exposed to the right and wrong answers at the end of the exercise.

3. People may be afraid of computers and their “big brother” implications—either as the means of recording the data, or as the storage place for the data.

Summary

Different people have difficulty with different things! There are, however, optimal methods to overcome the physical difficulties, and the method chosen can be dictated by the proportions of people with that difficulty in the sample. The “intellectual” difficulties can generally be addressed by using the simplest possible language and format. And the emotional difficulties may often be addressed by ensuring that interviewer staff are properly aware of all the reasons for the survey, and relaying these in a straightforward manner to respondents—as well as being sensitive to respondent emotions and being able to react in an appropriate manner.

Recommendations

The large number of ways in which it is possible to make the design of the survey appear difficult to a respondent suggests that we need to become adept at diversifying the methods we use. We may need to consider offering people a choice of survey method. Could we get to the door/write in the letter/say on the phone. You could do the survey now with me asking the questions, I could come back later, you could fill it out yourself and I’ll come back later, you can send it, or you can phone someone and tell them the answers.

The questionnaire design, layout and wording need to be as simple as possible to ensure that the maximum number of people find it simple to complete.

Reflections

The use of the multiplicity of methods recommended here will have the associated difficulties of non-compatibility of methods. However it is likely that these may be easier to overcome than the implicit bias brought about by a large degree of respondent burden and subsequent low response.

PERCEIVED EXTERNAL ATTITUDES/OPINIONS OR NEED FOR EXTERNAL PRESENCE

An aspect of respondent burden that often passes unnoticed, is the influence of people who are external to the respondent. This can occur at two levels:

1. If the respondents are *in the presence of someone* who will make them feel uncomfortable, either causing them not to participate at all or to constrain what they say—the whole exercise will seem a burden.
2. The perceived attitudes/mores of other people who are *not present* (and for whom there is a need to be present) can contribute to respondent burden in numerous ways. One example of this was a group of Muslims in Melbourne, Australia, where women felt they could not answer any questions when a man was not at home.

In this group there could also be the respondent who has close friends/family/peers “do not believe in surveys,” do not think surveys help, see the surveys as a particular ploy

of the current government/authority, or are opposed to that authority. This, as well as their own beliefs, may make them feel uneasy about responding *in principle*.

And in some cases the need for the presence of somebody who is not available at the time may arise among older people who rely on another's memory, or among nondrivers or non-spatial people who rely on others to remember routes or identifying characteristics about destinations, or among people who are illiterate and need assistance from another family member.

Recommendations

Where possible it should be the goal of the survey method to interview most people alone, although for older people, or those with disabilities, it is usually best to arrange to have another person present. All conditions can be fulfilled if the respondent is able to choose the interview time or the time when the forms are completed.

NEED TO FEEL GOOD/ALTRUISM

This aspect of reducing respondent burden may seem strange to some, but should not be underestimated. It seems to me that it is becoming an increasingly important emotion in a society where external negatives are becoming apparent (e.g., unrest, pollution, congestion, stress, etc.). Many people even cite these reasons for contributing.

These can be capitalized on at all phases during the survey. The is particularly the case at the end of the survey—especially if other household members, or neighbors or people in the community are going to be asked to participate.

A CHALLENGE!

What has been presented in this paper is clearly a challenge to survey designers to ensure that respondent burden does not contribute unnecessarily to lowering the standards of the data that we collect. There seem to be several ways we can meet this challenge.

First, it is evident that all surveys need a *pilot study* to assess the ways in which the burden to respondents can be kept at a minimum. And this is unlikely to be one uni-dimensional pilot study in which one instrument and one method is tested, data are gathered and a quick assessment made as to whether it “worked” or not.

It is likely also to include follow-up probing interviews with some respondents to check some or all of the following:

- In what ways were certain questions understood?
- By whom were questions understood in a way that we had not expected?
- At what stages during completion of the survey did they feel most/least at ease?
- When/what aspects of the survey were least or most clearly understood?

In self-completion surveys it is an excellent idea to carry out some *participant observation* studies where the survey designer actually sits with a respondent (silently) while that person completes the form. The non-verbal cues given during such an observation not only give indications of the time taken to complete the form but also point at which questions the respondent hesitates, refers back to instructions, crosses something out, and so on.

Next, we as designers need to do *some surveys ourselves*, continually—not just allocate this task to other people. Some people do this all the time, but I know others don't! I still see the words “mode” and “destination” in countless surveys. And even if you have not done any interviewing yourself lately—think of yourselves at a dinner party or at a football game, or however you spend your spare time. Do you *ever* say to someone, “I hear you’ve been swimming a lot lately. Which destination have you been choosing?” Or on hearing that someone went on a holiday to Edinburgh, do you say, “Really? What mode did you use to get there?”

Finally, it seems that it is increasingly important that we *diversify our methods*, that we do not just think of our chosen methodology as a “self-completion method” or a “telephone interview.” I have always found that for large-scale household surveys, personal interview gives the highest response. It makes the interview quicker, people see a friendly face, and there is a better response (e.g., 10). This is how we are currently conducting a survey in New Zealand.

But in Sydney there is a new problem emerging—security blocks—meaning that you have to press a remote buzzer and the respondent no longer sees the friendly face. The advantage is gone. The response rate is instantly lower. The respondent is too burdened with the decision of whether to begin or not, that they don't begin at all. So a new method may have to be introduced whenever a household in this situation is discovered—self-completion, with an option for personal assistance, for these households only. Furthermore, it may well be broadened within that study. If there are four people in the household who find it quicker to use the option of personal interview, but the fifth is a shift worker and would rather spend longer doing the form in her own time—she gets a self-completion form!

The challenge, therefore, is to

- Think of respondents as being a diverse group, rather than an amorphous mass;
- Address the wicked problem with diverse responses;
- Remain flexible and alert to the presence of new problems; and
- Explore the impacts of your approaches using a variety of testing methods
- And even the most burdened respondent (or paper writer) will respond in the

end!

REFERENCES

1. Bowen, J. (1996). *Men Talk*, Angus and Robertson, Harper Collins, Sydney.
2. *Communication News* (1996). Wicked Problems in Communicating, Communication Research Institute of Australia 9(4), July/August.
3. Buchanan, R. (1995). Myth and Maturity: Toward a New Order in the Decade of Design, in V. Margolin and R. Buchanan (eds). *The Idea of Design*, Cambridge, Mass. MIT Press, 75-85.
4. Brog, W., and Ampt, E.S. (1983). State of the Art in the Collection of Travel Behavior Data: Workshop on Data Needs and Collection. *Transportation Research Board Special Report 201*, 48-62.
5. Stuart, G. (1995). Results of the Vancouver Travel Studies, Paper presented at the 8th Entretiens du Centre de Jacques Cartier, Lyon, December.

6. Richardson, A.J. and Ampt, E.S. (1993). South East Queensland Household Travel Survey Final Report 4: All Study Areas, report for Queensland Department of Transport, *Transport Research Centre Working Paper TWP93/6*, Melbourne.
7. Brog, W., and Neuman, K. (1977). The Interviewee as a Human Being. XLIV *ESOMAR Seminar on "Ways and New Ways of Data Collection,"* Jouy-en-Josas, France.
8. Altschuld, J.W., Thomas, P.M., McColskey, W., Smith, D.W., Wiesmann, W.W., and Lower, M.A. (1992). Mailed Evaluation Questionnaires: Replications of a 96 Percent Return Rate Procedure, *Evaluation and Program Planning*, 15, 239-246.
9. Miller, G.A. (1956). The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information. *Psychological Review*, 63, 2, 81-97.
10. Ampt, E.S. (1992). Quality and Cost-Effectiveness in Recording a 24-Hour Travel Diary, in *Papers of the Australasian Transport Research Forum*, 17, Part 1, Canberra, 9-20.

WORKSHOP SUMMARY

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INTRODUCTION

We know we have a serious problem with burden when some of us would not be willing to participate in our own surveys. Liz Ampt suggests that we each have an *individual* sense of what is burdensome; therefore, we must each give individual choices to reduce the burden we place on respondents. In her resource paper, Ampt outlines five aspects of burden: (1) appropriate moment, i.e., timing of the survey, (2) importance and relevance, (3) external pressure, (4) difficulties (physical, intellectual, emotional), and (5) altruism. In her conceptual diagram, she shows that altruism is related to relevance, and external pressures affect both the appropriate moment and the issue of relevance. In the workshop, we addressed the three primary issues: relevance, timing, and difficulties.

The workshop's basic recommendation was that, to reduce respondent burden, we should *ask only the questions we really need*. In many situations, the people who want the data don't understand how a heavy burden on respondents affects data quality; thus, they don't consider the problems in asking more and more questions, asking for multiple days' worth of information, or inquiring about in-home activities. We should spend more effort on pretests, including cognitive interviews, so that we can understand what questions and situations may be more burdensome and what methods can be developed to reduce burden.

IMPORTANCE AND RELEVANCE

If we cannot convey the importance of participation in our surveys, and the relevance of the surveys to transport planning, then any burden will be too much. We need to know how to generate and maintain respondent commitment. Because of the increasing volume of contacts by phone and by mail for marketing purposes, we need to distinguish surveys used for transport planning from marketing efforts. University sponsorship is thought to lend legitimacy to the survey. We must be careful about raising expectations in discussing how the results of the survey will be used (e.g., we shouldn't promise a new road or additional bus service by next year).

Recommendation

We should compile examples of advance letters and brochures, opening statements used in telephone surveys, and thank-you letters and survey results targeted for respondents. While sending out short summaries of the survey results does not improve the response rate for the subject survey, this approach will help in the long run by conveying the idea that the data are actually used by the survey sponsors, and that the data have a long term impact on the transport system respondents use in their daily lives. In the long run, this should improve the perception that transport surveys are relevant.

Recommendation

We should better train interviewers to answer questions about the purpose of the survey and specific questions.

TIMING AND CONVENIENCE

Our current surveys typically use one survey method for all possible respondents. However, since people have different demands on their time, we should provide respondents with greater control and flexibility to participate and complete these surveys. These changes may make our surveys more costly, and it may be difficult to measure the differences in travel based on the combination of multiple methods. However, since we are relying on the voluntary participation of respondents, we should reduce their burden as much as possible, that is, the burden of solving the complexity of multiple methods is on the analyst, not the respondent.

We should consistently report the amount of time we are demanding of respondents, such as the total time on the phone or in person, and the time spent to complete any written forms.

1. Which research methods (mail-back, telephone, in person) are preferred by whom? Can we predict the types of populations (characteristics of persons) so that we can plan for specific choices and design the surveys, as appropriate?
2. What are the differences in outcomes, e.g., trip reporting, using different methods?
3. Are there cumulative effects on surveyed populations? When does “burnout” or “fatigue” set in?

Recommendation

Survey research firms should take full advantage of the capabilities of CATI call-scheduling routines, so that specific callbacks will make it easier for respondents to participate in our surveys.

DIFFICULTIES

We keep making our surveys more and more complex, with more and more questions. Can we justify these changes, at the expense of increasing burden and declining response rates?

Many of these issues were addressed in the workshop on questionnaire design. Briefly, some of the issues that were discussed included:

- *Intellectual*: language and literacy requirements, clarity of directions, demands on memory/recall
- *Physical*: visual, hearing and memory impairments, logistics— don't have a pen, place to write
- *Emotional*: privacy, fear of computers, repetitiousness of the questions

Research

1. How do respondents react to computers in CAPI and CASI?
2. Trade-offs between personalization and loss of privacy.

3. Compilation of materials that show how the information collected is used—this can allay fear and concerns about privacy.
4. Comparative tests on survey layout and design, including tests on font size and box size.
5. Improvements to CATI software to reduce repetition.

Standards and Guidelines

Using Tony Richardson's discussion of ISO9000, we listed several concepts that could be pursued in setting standards and guidelines:

Management Responsibilities

- Set clear survey objectives
- Eliminate unnecessary data elements
- Understand the concept of burden (clients should be informed/educated)
- Allow appropriate (longer) survey periods to allow greater respondent flexibility

Design Control

- Promote legitimacy of the survey
- Conduct a pretest and allow time for feedback to final design
- Provide for greater respondent control and flexibility
- Minimize repetition (especially for household members traveling together)
- Use open-ended questions and verbatim responses (don't confine the respondent to "our" way of categorizing)
- Design with appropriate language and literacy needs in mind
- Develop the "Eibsee Quality Indicators," which should be reported for all surveys:
 - standard formula for response rate, using consistent definitions
 - number of minutes on the telephone
 - size, weight, number of pages of written materials, especially diaries
 - interviewer training methods
 - was a pretest conducted?
 - were back translations made to check different language forms?
 - Develop the Zugspitze Burden (or Complexity) Index, which would be similar to how the Grammatix software evaluates reading level. It would include evaluation of literacy, numeracy and other measures.

Process Control

- Allow respondents more flexibility and control
 - choice of method, when possible
 - choice of time
 - prioritize questions—permit some item nonresponse
- Develop a more professional cadre of interviewers

Inspection and Testing

- Pretest must be conducted and include both cognitive tests and field test
- Survey materials should be tested for literacy level
- Interviewer monitoring and evaluation and debriefing
- Continuous monitoring system in place

Control of Nonconforming Product

- Minimize recontacts
- Use item imputation instead of recontacts
- Allow multiple methods of recontact

Corrective and Preventive Actions

- Have a system for corrective action
- Provide interviewer retraining, reassignment, or release
- Conduct interviewer debriefing
- Conduct client debriefing

SUMMARY

The challenge for transportation researchers is to find ways to minimize the burden that we impose on our survey respondents, while still collecting the information we need to monitor and plan transportation systems. To achieve this goal, we must remember that survey respondents are unique individuals with diverse preferences and capabilities. We must recognize these differences and design our data collection methods for maximum respondent ease. Since every transportation survey and every population of respondents is different, there is not a single set of rules for minimizing respondent burden. As a consequence, ample pretesting, including participant observations and debriefing interviews, is the only universal guideline to minimize respondent burden.