Uncovering Adolescent Perceptions:
Experiences Conducting Cognitive Interviews with Adolescents

Andrew L. Zukerberg, Jennifer Hess, U.S. Bureau of the Census(1)
Andrew Zukerberg, CSMR/SRD - Census Bureau, F.O.B. 4 Rm. 3133, Washington, DC 20233

Key Words: Cognitive Interviews, Adolescents, Survey of Program Dynamics, Self- Administered Questionnaires, Pretesting, Response Scales

BACKGROUND

Recently, welfare reform legislation was passed making major changes in the welfare system for the first time in 60 years. In order to capture the effects of these welfare reform initiatives, one of the panels of the Survey of Income and Program Participation (SIPP) is being extended to ten years. The extension was designed to provide information on spells of actual and potential program participation over a ten-year period; and to examine the causes of program participation and its long-term consequences on the well-being of recipients and their families.

Regarding this latter goal, a self-administered supplement was developed for adolescents aged 12 - 17. The supplement was designed to measure adolescents' perceptions of their life chances, their educational and economic opportunities, as well as their experiences with parent-child conflict and exposure to violence. This paper focuses on our general experiences conducting cognitive interviews with adolescents, as well as specific experiences with the parent - child conflict scale and the perceptions of the future questions.

The proposed series of questions raised concerns among reviewers of the questionnaire with regard to such issues as question sensitivity, task difficulty, and the age appropriateness of selected questions. To address some of these concerns, cognitive interviews using the self-administered questionnaire were conducted. In this paper we describe our experience conducting cognitive interviews with adolescents, and present results from the cognitive interviews, which included several experimental components. Finally, implications of the research will be discussed.

Adolescents may provide special challenges both in terms of their cognitive ability and the quality of data they provide. In their work conducting cognitive interviews with adolescents, Stussman et al. (1993) found that "most teenage respondents lacked the ability or the motivation to spontaneously articulate their thought processes" (p.383). This articulation of the thought process is necessary for cognitive interviewing to be successful. In other research, Amato and Ochiltree (1987) found that adolescents can become bored or distracted by short pauses. This presents a problem for cognitive interviewing which often relies on pauses to encourage respondents to think harder about a question.

RESEARCH DESIGN

Twenty adolescents of varying ages, races and socio-economic backgrounds were interviewed by three Census Bureau researchers. Interviews, lasting approximately one hour, took place between January and February 1996 in the Center for Survey Methods Research cognitive laboratory facility, adult education centers and private homes. Parental and individual consent were obtained for all interviews. Interviews were conducted using concurrent think-aloud techniques, structured probing and vignettes. Respondents were asked to read and think aloud as they completed the questionnaire. If necessary, interviewers would probe first with general probes, then with structured probes. Additionally, respondents were asked a series of debriefing questions after they completed the survey. All interviews were audio taped.

Eleven females and nine males were interviewed. Table 1 shows that nineteen of the adolescents were currently attending school. One was enrolled in a GED program. Table 2 shows that their ages were spread evenly between 12 and 17 years.

RESULTS

Participating in a cognitive interview, being asked to "think aloud", is a unique, sometimes awkward, experience for many people. Contrary to what we expected, adolescents were able to handle the cognitive interview task quite well. Many of the adolescent respondents were able to articulate their thoughts clearly and concurrently, while others required more intense probing after they answered questions. Respondents did not have the anticipated problems sitting still for the one hour interview or focusing on the task. During the debriefing, respondents were asked how difficult they found the think aloud process. Many of the adolescents reported that it was difficult for them, but became easier as they went along. Their performance indicates that they were able to handle the task.

Some of the respondents had a difficult time following skip patterns. As Table 3 shows, the younger respondents had a more difficult time than their seniors. The younger respondents missed a larger number of skip patterns than their older counterparts (2). Additionally, a larger number of young respondents missed at least one skip pattern. Some of the skip problems may be in part due to the layout of the form. Figure 1 shows that the skip instructions were a slightly different shade of gray than the rest of the

questionnaire, perhaps making it easier to miss them. Also, we tried placing boxes to the right of questions to encourage respondents to read across. The skip instructions were placed further right of the response box. A few respondents did not appear to read past the box. Another possible cause is the distraction created by interviewers' probing. Four of the eleven respondents who missed a skip pattern only missed one. Many of the respondents who missed skip patterns continued answering questions that clearly did not relate to them.

Respondents had some difficulty with the reference periods in this survey. The questions on exposure to violence used a reference period of the past 12 months. For these questions administered in February, respondents should have been using a reference period of February 1995 to January 1996. Not surprisingly, respondents based their answers on the school year, that is since September 1995, or in some cases since their recent winter break when answering the series of questions. Some of this may have been due to our questions. Several included school-related references. For example, question 3a, asked if anything was stolen "at home, in school, on the street or anywhere else." This question was followed by question 3d which asked if any of the incidents occurred on school grounds. These questions may have cued respondents to think more about a school-related reference period.

One of the substantive areas included in the questionnaire was parent - child conflict. Respondents were asked to report the amount of conflict they have with their parents in several areas including: spending money, their use of alcohol or drugs, completion of household chores, how well they do in school and how late they stay out at night. The cognitive interview uncovered two problems with our series of questions on parent - child conflict. First, the term "conflict" is ambiguous. The introduction states:

> "People in families often disagree or have arguments. Mark the box that best describes how often you and the parents or guardians you live with have conflicts about each item."

Most respondents paraphrased the question as asking how often they have disagreements. However, respondents defined conflict in a variety of ways including "having two different opinions about the same thing," "yelling," or "arguments." When they actually started answering the questions, it became apparent that many respondents were counting any "discussion" of these items as a "conflict." Some respondents indicated that they were counting simple reminders or nagging as a conflict. Thus, respondents may have been over reporting the amount of conflict in their household, in the sense that they had a broader interpretation of "conflict" than was intended by the survey designers. Secondly, the frame of reference was not clear to respondents. We were interested in the amount of overall conflict between parents and children as one of the indicators of children's well being and the associated increased or decreased stress on the family. When paraphrasing the question, we found that some respondents had a broader frame of reference than we intended. A number of respondents said the question was asking about disagreements in the family. They included all conflicts they had with any family member - brothers, sisters, parents when answering these questions. This may be the result of the wording in the introduction which mentions "people in families." Other respondents included family conflicts in which they were not involved, such as conflicts between parents. The introduction to this series of questions clearly did not adequately convey to respondents which conflicts were to be taken into account when they answered the questions.

The series of questions on parent - child conflict is intended to be treated as a scale with a summary score measuring frequency of conflict. We tested two different scales. The scale included in the adolescent questionnaire is a five-point categorical scale labeled: Never, Hardly ever, Sometimes, Often, and Very often. During the debriefing, we tested an alternate scale. For this scale the response options were: Never, Less than once a month, Several times a month, About once a week, Several times a week, and Almost every day. During earlier discussions of the questionnaire, reviewers of the scales thought the latter scale measured frequency better, but that the former scale potentially measured both frequency and an additional dimension of intensity. That is, adolescents may argue infrequently about a topic with their parents, but when they do argue about it, it's a big deal. We thought that respondents might provide different answers to these questions depending on which scale they used.

When debriefed about preference of scales, fourteen of the twenty respondents preferred the alternate scale. Adolescents preferred the specificity of time period in this scale to the subjective scale presented originally in the questionnaire. They felt the more specific time period made the cognitive task easier. No adolescents indicated that one scale was measuring intensity more than the other.

We analyzed the consistency of response between the two scales and found a high correlation between responses in the original scale and those in the alternate scale. Table 4 shows the correlation was highest for the question which asks "conflicts about how well you do in school" (r-square = .90) and lowest for conflicts about "household chores" (r-square .71). The high consistency may be the result of recall strategies used by respondents. A couple of respondents indicated that they were thinking in terms of specific time periods when answering the less specific scale.

Another substantive area of concern to reviewers was adolescents' perception of their future. The series of questions on adolescent perceptions of the future asked adolescents to speculate on the chance of certain events

happening to them by the time they are 20, 25 and 35 years old. These events include graduating high school, college, getting pregnant, having enough money to buy a home, and being unemployed. We were concerned about how well younger respondents would be able to handle this task. We found that most adolescents did not have a difficult time talking about what their life will be like when they are 20 years old, but some have a more difficult time projecting to ages 25 and 35. However, most respondents were able to do this. Respondent answers indicated that they were evaluating possibilities. Some respondents talked about their plan to finish school by a certain age. After this they expected to have a job which would pay well enough for them to buy a home. A couple of respondents interpreted the questions that asked about "having enough money to buy a home" and "having enough money to buy a car," differently than we intended. They were thinking more in terms of whether or not they wanted a car or home rather than if they would be able to afford one.

During the development of the adolescent self-administered questionnaire, there was a great deal of discussion regarding what scale to use to measure adolescents' perceptions of their life chances. Scales used on similar questions in other surveys with similar themes included "percent chance" (from 0 to 100 percent) and a nine-point scale ranging from 0 to 8 in which five of the numbered categories have verbal labels (No chance, Some chance, About 50-50, Pretty likely, and It will happen) to indicate expectations of specific life events. Prior to testing, we thought that the percent chance scale would be too complicated given that our target population for this survey is adolescents 12-17 years old. We included the nine-point scale in our questionnaire, with some concern regarding response heaping in the labeled categories. We tested the percent chance scale during the debriefing.

The nine point original scale was generally seen by respondents as easier to complete than the alternate percent chance scale. A pronounced response heaping did not occur in the nine point scale. A couple of respondents indicated in the debriefing that they liked the mixture of numbers and verbal labels in the original scale. Some respondents liked the explicit 'don't know' option given on the original scale.

Many respondents indicated that the percent chance scale required more thought on their part. Some preferred this scale because it allowed them to be more specific. Other respondents shunned this scale because it asked them to be more exact than they are capable of being about the future. The introduction to this series of questions states:

> "Please indiatthe percent chance from 0 to 100, where "0" means absolutely no chance, "50" means it could go either way and "100" means absolutely certain."

Interestingly, this introduction led a number of respondents to believe that 0%, 50%, and 100% were the only options for answering the percent chance scale.

We compared responses to the original 9 point scale with those to the percent chance scale. As table 5 shows, statistically significant correlations were high for the questions that were asking respondents to project to ages closer in time and were lower for some of the questions in which respondents were projecting further in time. The question which asks about living to be 75 years old had the lowest correlation and was not statistically significant.

We also proposed a six-point categorical scale ranging from "not at all likely" to "extremely likely" that we thought would be easier for younger adolescents to use. After comparing the original scale with the percent chance scale, respondents were asked to look at this likelihood scale; however, they were not asked to fill out the scale. Contrary to our expectations, younger respondents did not show a greater preference for the likelihood scale than for any of the other scales. Several respondents thought that this scale was similar to the nine-point scale. Those who preferred it said that ' not at all likely' and 'extremely likely' were not as absolute as 'no chance' or 'it will happen' and they felt more comfortable using less affirmative terms. Overall, a clear preference was not indicated for any one of the three scales.

DISCUSSION

Before conducting our research, we were concerned with adolescents' abilities to think aloud, handle skip patterns, and express preferences regarding various response scales. Our experience suggests that conducting cognitive interviews with adolescents may not be that different from similar research conducted using adult respondents. Adolescents are able to handle the demands of the cognitive interview and do provide valuable information to questionnaire designers.

Some of the adolescents had a difficult time with skip patterns in the questionnaire, particularly younger adolescents. However, in other research, we have found similar problems among adult respondents as well and would suggest that skip patterns be used judiciously in self-administered surveys of both adolescents and adults.

One of the original goals of the cognitive interviews was to identify scales that could be easily understood and answered by adolescents. The interviews were successful in helping us choose between two scales for measuring parent-child conflict. Adolescent respondents expressed a strong preference for response categories with specific time frames rather than vague quantifiers when reporting frequencies. The interviews were not able to identify a clear preference for the "perceptions of the future" questions. However, the adolescents were able to evaluate and contrast the three scale options. This evaluation provided us valuable information about the perception scales. For example, we would probably not field the percent chance scale based on the difficulty respondents

indicated with the scale during the interviews.

Based on our experience, we suggest using reference periods that follow the school calendar rather than January through December or some arbitrary year. If annual estimates are desired, respondents should be asked separately about the school-related part, so that they don't inadvertently restrict the reference period.

Although our experience with conducting cognitive interviews with adolescents was quite positive, differences between our experiences and those of other researchers may be due to different cognitive interviewing techniques. We suggest conducting more research to test various cognitive interviewing techniques in an experimental setting to see which techniques yield more useful information among adolescent respondents. Additionally, it would be interesting to test, in an experimental setting, whether the information and problems uncovered in cognitive interviews differ for adolescents and adults.

REFERENCES

Amato, G. and G. Ochiltree (1987). "Interviewing Children About Their Families: A Note on Data Quality." *Journal of Marriage and the Family*. Vol. 49. pp. 669-675.

Stussman, B.J., Willis, G.B. and Allen, K.F. (1993). "Collecting Information from Teenagers: Experiences From the Cognitive Lab." *Proceedings of the Section on Survey Research Methods*. Virginia: American Statistical Association. pp. 382-385.

NOTES

(1) The views expressed in this paper are attributed to the authors and do not necessarily represent those of the U.S. Census Bureau.

The authors wish to thank Jennifer Rothgeb for conducting interviews, Dawn Von Thurn for reviewing the paper and providing many useful comments and Cleo Jenkins and Lee Wine for providing feedback on the questionnaire design.

(2) A skip pattern violation occurred when a skip pattern was incorrectly followed. Thus, a respondent who entered a series of questions they were not eligible for and then violated a skip pattern within that series would have committed two skip pattern violations. Adopting a more conservative rule, which would only count one violation for entering the wrong series of questions, would slightly lower the average number of skip violations for the two groups, but the substantive conclusion that younger respondents had a more difficult time with skip patterns would remain.

TABLE 1: Grade in School

GRADE	NUMBER
6	1
7	2
8	3
9	5
10	3
11	3
12	2
GED	1
TOTAL	20

TABLE 2: Age of Respondents

AGE	NUMBER
12	3
13	3
14	3
15	4
16	3
17	4
TOTAL	20