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ABSTRACT

During round 16 of the National Longitudinal Survey of Youth (NLSY), 900 NLSY sample members were randomly assigned to be interviewed about the period since their round 14 interview. Their responses were compared to those of approximately 8,000 NLSY sample members who were assigned to be interviewed about the 1-year period since their round 15 interview. The interviews covered the following: number of jobs reported by respondents; number of gaps between jobs; and reported receipt of unemployment benefits, Food Stamps, or Aid to Families with Dependent Children payments. The 2-year recall period had little discernible effect on means and proportions for the sample as a whole; however, a closer examination of the results revealed substantial errors in the reports covering the 2-year period. The discrepancies in reports concerning the material covered in both rounds 15 and 16 were especially marked among respondents with complicated job and receipt histories. On average, such respondents reported fewer jobs and lower receipt of benefits/payments in their round 16 interview than in their round 15 interview. (Contains 12 references. Appended are 19 tables detailing the following: standard errors; subgroup results; and logistic regression models.) (MN)

National Longitudinal Surveys

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Discussion Paper

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The National Longitudinal Surveys (NLS) program supports many studies designed to increase understanding of the labor market and methods of data collection. The *Discussion Papers* series incorporates some of the research coming out of the program. Many of the papers in this series have been delivered as final reports commissioned as part of an extramural grant program, under which grants are awarded through a competitive process. The series is intended to circulate the findings to interested readers within and outside the Bureau of Labor Statistics.

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Report on the NLSY Round 16 Recall Experiment

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Executive Summary

This report describes the results of an experiment conducted as part of Round 16 of the National Longitudinal Survey of Youth (NLSY). The NLSY was originally fielded in 1979; the sample consists of persons who were 14 to 21 years old at that time. Through the first 15 rounds of data collection, interviews were conducted every year and the questions generally covered the period since the last interview. The questions concern a range of topics, including labor force and educational experiences, health and disability, marital status, income, and program participation. With Round 17, the schedule of data collection changed. From that round on, interviews will be done every other year; this change will double the length of the period covered by many of the questions. The Round 16 experiment tested the effects of this change in the data collection schedule.

For Round 16, 900 NLSY sample members were randomly assigned to be interviewed about the period since their Round 14 interview, which was conducted about two years earlier. Their responses were compared to a group of approximately 8,000 cases who were assigned to be interviewed about the one-year period since their Round 15 interview. Both groups were restricted to NLSY sample members who had completed both the Round 14 and Round 15 interviews; both got the same questionnaires (except for the difference in the length of the period covered by the interview).

The analysis examined several labor force and recipiency variables--the number of jobs the respondents reported, the number of gaps between jobs, and whether they reported receiving unemployment, Food Stamps, or AFDC payments. The two-year recall period had little discernible effect on means and proportions for the sample as a whole. There was some decrease in the number of jobs respondents reported for the most recent year, but none of the other

analyses showed much overall impact of the two-year recall period.

However, a closer examination of the results found substantial errors in the reports covering the two-year period. The two-year period covered by the Round 16 interviews included the one-year period the respondent had already reported about in Round 15. The Round 16 reports sometimes failed to reproduce the information the respondent had provided in the earlier interview. The discrepancies in reports concerning this overlapping period were especially marked among respondents who had the complicated job and recipiency histories. On the average, such respondents reported fewer jobs and less recipiency in their Round 16 interview than they had in Round 15. The limited overall impact of the two-year recall period thus appears to reflect the stable circumstances of most of the respondents. It is easy for respondents to remember their jobs if they have not not changed jobs in many years; it is far more difficult for them to remember their jobs if they change jobs frequently. Among the subgroup of respondents with dynamic job or recipiency histories, the longer recall period had a marked impact on reporting.

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Introduction

Background. The National Longitudinal Survey of Youth (NLSY) is a nationally representative sample of young men and young women who were 14 to 22 years of age when they were first selected for the survey in 1979. The NLSY sample encompasses three subsamples: 1) a cross-sectional sample of youths designed to represent the civilian, noninstitutionalized segment of the population living in the United States and born between January 1, 1957 and December 31, 1964; 2) a supplemental sample of youths designed to represent the civilian Hispanic, black, and economically disadvantaged white segments of the population living in the United States and born during that same eight-year period; and 3) a second supplemental sample of youths designed to represent the segment of the population in the United States military as of January 1, 1979 and born between January 1, 1957 and December 31, 1961.

Interviews with members of the NLSY sample were conducted yearly from 1979 to 1994. Data were collected in person in each of these years, except in 1987, when budget constraints dictated a telephone interview. The military and supplemental subsamples were dropped after the1984 and 1990 interviews, respectively. By 1994, when Round 16 of the survey was conducted, the sample included 8891 respondents. The interviews cover a range of subjects, including labor force experiences and characteristics of the current (or most recent) job, education, vocational training and government training programs, health and disability, marital status, income, and program participation.

Since its beginning in 1979, the NLSY interview has used a basic reference period of approximately one year. Most questions ask the respondents to report about events--new jobs, income, educational episodes, births and deaths of family members, and so on--that have occurred since the previous interview, generally conducted about a year before. In addition, some questions

concern the most recent calendar year. For example, the items in the NLSY interview on welfare recipiency use the previous calendar year for their reference period. Starting in Round 17, however, data will be collected every other year; for many items in the interview, this will double the length of the reference period. To test the effect of lengthening the reference period from one to two years, the BLS sponsored an experiment on Round 16 of the NLSY.

Effects of the length of the reference period. A classic paper by Neter and Waksberg distinguished several processes through which the length of the reference period for a survey interview could affect the data obtained (Neter & Waksberg, 1964). According to Neter and Waksberg, one effect of a longer recall period is to increase the number of relevant events that respondents completely forget. One of the oldest findings of experimental psychology is that amount of information forgotten increases with the passage of time (see, for example, Ebbinghaus, 1885/1964; for recent reviews, see Bradburn, Rips, & Shevell, 1987; Rubin & Wenzel, 1996). A longer reference period is, as a result, likely to lead to higher rate of omissions due to forgetting.

A second effect of a longer reference period may partly offset the effects of forgetting; respondents may inadvertently include events that occured before the beginning of the reference period because they misremember when the event occurred. Such "telescoping," or dating, errors are likelier to occur as the reference period grows longer (Huttenlocher, Hedges, & Prohaska, 1988; Sudman & Bradburn, 1973). Telescoping errors can increase the number of events reported. "Bounded" interviews that remind the respondents of information they have already reported are thought to minimize the effects of telescoping. The NLSY uses bounding to reduce telecoping errors.

According to Neter and Waksberg, two other processes related to the length of the reference period can also affect reporting in surveys. The first is the level of reporting burden. As respondents are required to report more events, the sheer effort of responding to the questions increases and the

quality of the data may suffer. A longer reference period will increase the level of the reporting burden. The final process distinguished by Neter and Waksberg is conditioning, or the impact of repeated interviewing. Neter and Waksberg argue that, relative to the first interview, later ones yield less complete reporting. One of the advantages of a longer reference period is that interviews can be conducted less frequently, potentially reducing the impact of conditioning.

Aside from the length of the recall period, a number of other variables can alter the impact of each of these processes. For example, the amount of forgetting depends on such factors as:

- The salience or emotional impact of the event;
- The duration of the event;
- The number of relevant events and their similarity to one another;
- The regularity with which events of the type in question occur;
- The number and type of retrieval cues provided with the question.

Respondents tend to remember salient events (such as large consumer purchases) better than non-salient ones (such as small purchases), long-lasting events better than short-lived ones, unique events better than recurrent ones, and events that occur regularly better than those that occur at irregular intervals (for reviews, see Bradburn et al., 1987; Brewer, 1991; and Jobe, Tourangeau, & Smith, 1993).

Similarly, the level of telescoping errors depends not only on the length of the reference period (e.g., Baddeley, Lewis, & Nimmo-Smith, 1978) but also on several additional variables:

- Whether the interview is bounded or unbounded;
- The presence of landmark events (that is, events whose dates are well-known);

- The amount of other information that can be recalled about the event.

Bounding--the practice of reviewing information with the respondent that he or she has already reported in a previous interview--and landmark events tend to reduce the effects of telescoping (Neter & Waksberg, 1964; Loftus & Marburger, 1983). By contrast, when additional information about the event is readily recalled, it can encourage respondents to estimate that the event occured more recently than it actually did (Brown, Rips, & Shevell, 1985).

The NLSY Round 16 experiment. To determine the net effect of lengthening the reference period from one to two years, an experiment was carried out in 1994, during Round 16 of the NLSY. A portion of the sample--900 of the 8,806 sample members who were respondents in both Round 14 and Round 15--were interviewed about the preceding two years. For this subgroup, the Round 16 interview updated information obtained in Round 14, two years before. For the remainder of the sample, the interview followed the usual procedure, obtaining data for the year since the last interview.

We examined the results from the experiment to address three questions:

- Did the longer reference period affect reporting in the most recent year of the two-year reference period? Such effects might reflect the impact on survey reports of the level of reporting burden or of "internal" telescoping (reporting events that occurred early in the two-year reference period as having occurred more recently than they actually did).

- Did respondents in the two-year group accurately reproduce the information they had already provided in the Round 15 interview?

- Did the longer reference period have different effects for members of different subgroups within the sample (such as persons who change jobs frequently)?

We also explored whether the longer reference period affected response rates to the Round 16 interview.

Method

The NLSY Sample

The NLSY is conducted by the Center for Human Resource Research, Ohio State University, and funded by the U.S. Department of Labor, Bureau of Labor Statistics. In recent years, the youth cohort data have become diversified as government agencies besides the U.S. Department of Labor, such as the National Institute of Child Health and Human Development and the National Institute on Drug Abuse, have contributed topics for inclusion in the survey. Since 1990 interview, the overall NLSY sample size has been 9,964.

Design of the Recall Experiment

This experiment was designed to assess the impact of the transition to a two-year lag between interviews for the NLSY on the reports by the respondents. The sections below describe 1) the sample of respondents for the experiment; 2) data collection collection procedures; 3) the key variables and composites for this report; and 4) the analysis approaches used.

Respondents for the recall experiment. A random subsample of 900 respondents was selected from among the 8,891 persons who completed both the Round 14 and Round 15 interviews to participate in a two-year recall experiment. Of the original 900 respondents selected for the experimental group, 875 completed the Round 16 interview. However, it was later discovered that an error in the background information sheets for 22 of these respondents caused the incorrect date of last interview to be used. These respondents were dropped from the analysis, leaving a base of 878 selected for the experimental group and 853 who completed the interview. The remaining 7,991 cases who completed the Round 14 and 15 interviews formed the control

sample.

Procedure for data collection. A special set of interview instructions was prepared in which the interviewers informed the subsample of experimental group respondents of the reason for the experiment and explained the difference in the questions they would be asked. Although this called attention to the experimental variable, it also averted respondent questions about why the questions covered the same period already covered by the Round 15 interview. The respondent was informed about the forthcoming change in the timing of the interviews and was told that, to assess any possible effect of this change on the data collected, their 1994 interview would be conducted as though they had not been interviewed in 1993. Specifically, respondents were told:

> In order to reduce the cost of conducting the NLSY program and to reduce respondent burden, the NLSY will move to a semi-annual interview schedule at the conclusion of this year's survey. In other words, we will not contact you in 1995 for survey participation. We will contact you for survey in 1996 and every two years thereafter.
>
> Because we are moving to a semi-annual survey, we would like to assess what affects, if any, the new schedule will have on the quality of the data we collect. With this in mind, we have selected a portion of this year's cases to participate in a special data collection experiment, the Round 16 NLSY Recall Experiment. The point of the experiment is to conduct this year's survey as if we had not interviewed you last year, in order to assess the kind of data we can expect to collect when we move to the semi-annual schedule.
>
> Much of the information we will be asking you to confirm this year is identical to information asked last year, but the design of the Recall Experiment requires us to collect this information again. Please bear with us. Thank you for your cooperation with this experiment and your continued participation in the NLSY study.

At key points during the interview, instructions were repeated, reminding them that they were to answer regarding events which had occurred since their interview two years prior. The complete set of interviewer screens is shown in Figure 1.

Figure 1. Special Instruction Screens for Key Questions in the NLSY Recall Experiment.

Item	Instruction Screen
Q6-RECALL2	We would next like to discuss any employers you have worked for since %!lintdate%. Please remember to think about the time since %!lintdate%, your interview date two years ago, instead of your interview date in 1993.
Q9-RECALL2	In order to make future plans for schools, housing, hospitals, and medical care, information is needed about the number of children people have. We know that some of these questions may not apply to you, but we need to ask the same questions of all our respondents in order to be complete.
Q9-RECALL3	We have been asking detailed questions every other year about any children that you have had. We last asked you detailed questions relating to children during your interview on %!fertrefdate%....
Q9-RECALL4	We are first going to verify information on children you have had, if any PRIOR TO %!fertrefdate%. Then we are going to ask you some questions about children you have had, if any SINCE %!fertrefdate%....
Q9-RECALL5	So for the questions in this section, unless otherwise instructed, please think about the time since %!fertrefdate%. This will also help us better understand the effects of interviewing you every other year after this year's interview.
Q13-1C	(INT: READ ONLY IF RECALL FLAG IS "1": RECALL FLAG=%recall%) I would also like to remind you that SOME of the questions in this section will refer to the time since your interview on %!lintdate%, NOT your interview last year. Please think of the specific date or time period being referred to in each question. I will try to remind you when the time period is different.
Q13U-2AR	Our information shows that the last month you received unemployment compensation in 19%bintyear% was %unempr_month%. Is this correct? (IF NECESSARY, REMIND RESPONDENT:) Remember, we are using your interview on %!lintdate% here instead of your interview last year.

Analysis variables. The NLSY interview elicits a wide variety of information across a range of topics. The impact of the longer reference period for the interview is likely to vary depending on the salience of the information requested from the respondents. Moreover, certain items essentially

ask the respondent to update information provided earlier (for example, regarding employment); those respondents with no changes to report are less likely to be affected by the longer time frame called for in the new data collection schedule. We convened a committee to help us select the specific variables for the analysis; the group consisted of Michael Pergamit (the BLS Project Officer for the NLSY), Randall Olsen (the Principal Investigator), and two members of the NLSY Technical Review Committee--Nancy Mathiowetz and Kenneth Wolpin.

The group agreed that the analysis should focus on a set of key economic variables. These included 1) information on employment history (number of jobs, periods of unemployment), 2) on recipiency of welfare payments (AFDC, Food Stamps) and 3) on unemployment compensation. Respondents were also asked to report on their spouse's unemployment compensation, allowing us to compare the effects of the longer reference period on both self and proxy reports. Of course, the NLSY gathers data on other important topics--such as education, marital, and fertility histories--where analyses similar to those reported here could also be carried out.

The variables used in this analysis are based on respondents' retrospective reports about targeted time periods, recorded as "event histories." There are obviously any number of ways composites could be created from these variables. For our purposes, we counted the number of events occurring in comparable one-year time frames from the reports given in Round 15 and Round 16. For example, we counted the number of jobs reported in the interval bounded by the two interview dates. For the job history variables, these time frames were determined by the starting and ending dates (for jobs and unemployment spells) collected as part of the event histories. For the recipiency variables (AFDC, unemployment, and Food Stamps), the reference period was the retrospective report for a calendar year (either 1992 for the reports labelled "earlier year" or 1993 for reports labelled "most recent year" in the tables below).

Data analysis. All estimates and statistics in this report were calculated using the Round 16 Beta Release Data Set and the Round 16 respondent weight (R16WT). (In the course of revising the report, we recalculated a few of the estimates using the Public Use Data Set.) Standard errors associated with the estimates were computed using SUDAAN, a statistical program package which uses a Taylor-series algorithm for computing standard errors adjusted for the complex clustered sampling designs used in the NLSY. These design-corrected standard errors are reported in Appendix 1, and were used in all statistical analyses in this report.

The analyses reported below fall primarily into two groups. First, responses from the "two-year recall sample," whose interviews covered a two-year period, were compared to the responses of the "control group," whose interviews covered a single year. Second, analyses comparing the reports given by the two-year recall sample during the Round 15 interview were compared to the responses they gave during the Round 16 interview in reference to the same time period. These reports are referred to as the "old report" and "new report," respectively. Although the "new report" concerns the same time period as the "old report," it requires the respondent to retrieve information across a two-year retrospective period to generate the event history on which the new report is based. For both types of comparison, *t*-tests are used to test the significance of the differences. For both of these subsets of analysis, Bonferroni's adjustment was applied to the determination of critical values to control the familywise error rate in making multiple comparisons.

Results

The analysis explores three main issues:

1) Whether the two-year recall group and control group differed in reports concerning the most recent year (such differences would, presumably, reflect the effects of the greater reporting burden and increased likelihood of telescoping errors within the two-year recall group);

2) The degree that reports from the two-year recall group concerning the initial part of the reference period differ from the reports originally provided in Round 15 (such differences between the two would presumably reflect the impact of forgetting);

3) Whether the effects of the longer reference period varied by subgroup.

As a preliminary step, we also examined the issue of whether the longer reference period had any effects on either overall or subgroup response rates. We did not expect to find any effects, but we thought it important to determine whether nonresponse might have introduced any differences between the two groups that should be taken into account in the main analyses.

Response rates by group. The sample of cases eligible for the experiment consisted of 8,759 persons who were respondents in both Round 14 and 15; 878 of these cases were randomly assigned to the experimental group. Of these 878, 853 completed the interview, for an unweighted response rate of 97.2%. The Round 16 response rate for the control sample was 7697/7881, or 97.7%. We also calculated response rates for various demographic subgroups (see Table 1).

Table 1. Response Rates by Experimental Group

Variable/ Levels	Two-Year Recall Group			Control Group		
	Initial n	Respondents	Response Rates	Initial n	Respondents	Response Rates
Total	878	853	.972	7881	7697	.977
Sex						
Males	427	413	.967	3889	3789	.974
Females	451	440	.976	3992	3908	.979
Race/Ethnicity						
Hispanic	172	165	.959	1553	1482	.967
Black	266	260	.977	2366	2315	.978
Non-Bl/non-Hisp	440	428	.973	3982	3900	.979
Marital Status						
Never married	246	240	.976	2184	2133	.977
Married	477	464	.973	4316	4214	.976
Formerly married	155	149	.961	1381	1350	.978
Education						
Less than HS	381	370	.971	3439	3351	.974
HS grad/ungraded	253	245	.968	2221	2168	.976
College or more	244	238	.975	2221	2178	.981

We analyzed the response rate data via logistic regression models that examined the response rates as a function of experimental group and demographic subgroup. The two-year recall group did not differ from the control group in this analysis nor did this variable interact with any of the demographic variables in the models. (The results did indicate that Hispanics had the lowest response rates of the three race/ethnic groups. No other differences in response rates were statistically significant.)

In general, the response rates within both groups were quite high, and nonresponse did not appear to introduce any detectable differences in the composition of the two groups. Those eligible for the experiment were more likely to complete an interview than the members of the Round 16 sample as a whole (97% versus 91%). This is probably due to the fact that eligibility for the experiment was restricted to those who completed the two previous rounds of data collection.

Reports for the preceding year. We compared the responses of the two-year recall sample to those of the control group on the key variables described earlier. The results for the reports about the most recent year, shown in Table 2, show a significant difference only for the number of jobs reported. The two-year recall sample reported significantly fewer jobs regardless of whether respondents reporting no jobs were included or omitted from the comparison (t = 9.70 for all respondents; t = 12.80 for those reporting at least one job; $p < .01$ for both). This difference is consistent with the hypothesis that respondents may report omit some events as their reporting burden increases. The two groups did not differ, however, on any of the other variables we examined. All of these other variables concern relatively rare events, such as unemployment spells.

Table 2. Reports for the Most Recent Year by Experimental Group

Variable	Experimental Group			
	Control	Two-Year Recall	*t*	*p*
Number of Jobs (0 or more)	1.24 (7568)	1.01 (841)	9.70	<.01
Number of Jobs (1 or more)	1.42 (6465)	1.15 (716)	12.80	<.01
Number of Job Gaps	0.12 (4889)	0.14 (521)	0.85	n.s.
R on Unemployment	3.0% (7696)	4.0% (853)	1.22	n.s.
Spouse on Unemployment	2.1% (4213)	3.4% (464)	1.52	n.s.
R on AFDC	4.0% (7650)	4.6% (849)	0.78	n.s.
R on Food Stamps	6.8% (7609)	7.8% (843)	1.08	n.s.

It is possible that the members of the two-year group reported fewer jobs on average in the most recent year because they displaced some of their jobs backwards in time; that is, these jobs were not omitted entirely but merely reported as occurring during the prior year. If so, the reports of the two groups would not differ if we examined data for both years covered in the two-year interview.

Table 3 shows the reports for the experimental and control groups for the two-year period prior to the Round 16 interview. For the control group, the two-year reports combine the Round 15 and Round 16 data (each of which covers approximately one year). For the two-year recall group, the two-year reports are simply the Round 16 reports, which covered the whole period. The results indicate that once again the experimental group reported significantly fewer jobs for both job history variables (t=2.74 for zero or more jobs; t=3.37 for one or more jobs; $p < .01$ for both). This suggests that the difference in the number of jobs reported does not reflect the impact of dating errors. In addition, the results indicate that significantly fewer respondents in the two-year group than in the

control group reported receiving Food Stamps during the two-year period covered by Rounds 15 and 16 (t=2.10, p<.05). None of the other differences in Table 3 are significant.

Table 3. Reports for the Past Two Years by Experimental Group

Variable	Experimental Group			
	Control	Two-Year Recall	t	p
Number of Jobs (0 or more)	1.79 (7568)	1.64 (841)	2.74	<.01
Number of Jobs (1 or more)	1.99 (6649)	1.81 (742)	3.37	<.01
Number of Job Gaps	0.22 (4889)	0.19 (521)	0.89	n.s.
R on Unemployment	7.1% (7696)	5.5% (853)	1.62	n.s.
Spouse on Unemployment	4.9% (4213)	4.5% (464)	0.41	n.s.
R on AFDC	5.8% (7650)	5.0% (849)	0.98	n.s.
R on Food Stamps	10.6% (7609)	8.4% (843)	2.10	<.05

Note: For the control group, the two-year reports combine Round 15 and Round 16 reports; for the two-year group, the two-year reports are the reports from Round 16, when respondents were asked about a two-year period.

The results for the four recipiency variables suggest that the two-year recall group may have telescoped some episodes of recipiency forward in time. A higher proportion of the two-year group than of the control group reported receiving unemployment, Food Stamps, or AFDC during the most recent year of the recall period (see Table 2), but a lower proportion of two-year group group reported receiving benefits over the course of the entire two-year period (Table 3). The same pattern is apparent for reports about whether the respondent's spouse had received unemployment. It is possible that some members of the two-year recall group forgot some episodes of recipiency (producing the lower rate of reporting for the entire two-year period) and that others misdated their

episodes of recipiency, telescoping them forward into the more recent portion of the recall period (accounting for the higher rate of reporting in the most recent year). Although these findings are intriguing, they are suggestive at best. Only one of the differences (for receipt of Food Stamps during the last two years) is significant.

Agreement between Round 16 and Round 15 reports. The Round 16 interview required two-year recall respondents to report a second time about the period already covered in the Round 15 interview. Analyses were conducted to determine how accurately respondents reproduced the information they had provided in Round 15. On the average, the new reports of the number of jobs held (including zero) were significantly lower than the number reported in Round 15 ($t = 3.35, p < .01$). The new reports for those reporting at least one job were also significantly lower than the old reports ($t=3.08, p < .01$). Once again, some of the difference may reflect jobs that are not omitted entirely but are misdated as occurring during the most recent year of the two-year recall period. (Note, however, that the two-year recall respondents also reported fewer jobs than control respondents in the most recent year preceding the Round 16 interview; this suggests that jobs were not displaced forward into the most recent year.) As Table 4 also shows, significantly fewer respondents reported being on unemployment compensation in their new reports than in their earlier reports ($t = 2.33, p < .01$). There are no other significant differences in respondents' old and new reports concerning the period covered by the Round 15 interview.

Table 4. Old and New Reports by the Two-Year Recall Group for the Earlier Year

	Reports about the Earlier Year			
Variable	Old Report	New Report	*t*	*p*
Number of Jobs (0 or more)	1.17 (841)	1.03 (841)	3.35	<.01
Number of Jobs (1 or more)	1.33 (715)	1.21 (688)	3.08	<.01
Number of Job Gaps	0.10 (521)	0.05 (521)	1.63	n.s.
R on Unemployment	5.6% (853)	2.7% (853)	2.33	<.01
Spouse on Unemployment	2.7% (464)	2.6% (464)	0.08	n.s.
R on AFDC	4.4% (849)	4.0% (849)	0.41	n.s.
R on Food Stamps	7.2% (843)	6.5% (843)	0.57	n.s.

Although Table 4 shows some significant differences, a large percentage of respondents gave the same report in Round 16 as they had given in Round 15. Even with regard to the report of the number of jobs, 85.2% of respondents did not change their answer and with regard to the other variables, between 95.5% and 98.7% of respondents did not change their reports. Table 5 displays the results by variable.

Table 5. Differences between the Two-Year Recall Respondents' Old and New Reports

Variable	Original Report	New Report	Difference	% Same Answer	N
Number of Jobs	1.17	1.03	0.14	85.2%	841
Number of Job Gaps	0.10	0.05	0.05	93.2%	521
R on Unemployment	5.6%	2.7%	2.9%	95.5%	853
Spouse on Unemployment	2.7%	2.6%	0.1%	98.1%	464
R on AFDC	4.4%	4.0%	0.4%	96.9%	849
R on Food Stamps	7.2%	6.5%	0.7%	96.9%	843

There are a couple of reasons why these apparently high levels of agreement between the old and new reports may present a somewhat misleading picture of the results. First, we used a low standard for determining whether the old and new reports agreed. Respondents merely had to report the same *number* of jobs and job gaps, not reproduce any other details regarding the jobs or spells of joblessness. Thus, the "same" reports may actually refer to different jobs or job gaps. Similarly, we counted the reports about recipiency as the same if respondents indicated in both interviews that they (or had not) received a given benefit. It is, of course, possible that different incidents of Food Stamps or welfare recipiency are being reported in the two interviews. Second, the overall levels agreement may mask important differences by subgroup. For instance, the vast majority of respondents have never reported receiving Food Stamps and consistently denied receiving Food Stamps in both the Round 15 and Round 16 interviews. It is, therefore, important to examine the level of agreement between the old and new reports among those respondents who reported

participating in each of the programs. The next section examines these and other possible subgroup differences in the effect of the longer reference period.

Subgroup differences. We hypothesized that the length of the reference period would have the greatest effect on reporting about jobs and job gaps among those with the most complex job histories. These respondents have the most to report and are the highest risk of making an error of omission.

We tested this hypothesis in two ways. First, we examined the rates of agreement between the old and new reports after classifying respondents by the number of jobs and job gaps they had reported in Round 15. Table 6 shows the results of this analysis. Clearly, the likelihood of reproducing the exact number of jobs and job gaps declines as there are more to recall. Moreover, when there are differences in the two reports, the new report is likely to omit jobs or job gaps that were reported originally.

Table 6. Round 15 vs. Round 16 Report on Number of Jobs and Number of Gaps.

Number of Jobs

	Round 16 Report			
Round 15 Report	Same	Fewer	More	n
No Jobs	98.4%	---	1.6%	126
1 Job	94.7%	4.1%	1.1%	531
2 Jobs	48.9%	47.6%	3.5%	143
3+ Jobs	41.4%	56.1%	2.4%	41

Number of Gaps

	Round 16 Report			
Round 15 Report	Same	Fewer	More	n
No Gaps	98.4%	---	1.6%	508
1 Gap	28.0%	64.0%	8.0%	25
2+ Gaps	12.5%	87.5%	0.0%	8

In our second analysis, we grouped the respondents according to the number of jobs they had reported prior to the Round 15 interview. As the number of jobs ever held through Round 14 increases, the percentage of respondents reporting the same number of jobs in their old and new Round 15 reports decreases (Table 7). This finding suggests that the increased burden on memory caused by the switch to a two-year reference period will not have the same effects on all members of the sample. Rather, the complexity of the respondent's history will interact with the length of the recall period to affect the accuracy of reports.

Table 7. Differences in Reporting on Jobs and Job Gaps by Number of Jobs Through Round 14

Number of Jobs

Jobs through Round 14	**% Reporting Same Number of Jobs**	n
Less than 4	93.5%	200
5 - 10	88.5%	410
11 or more	71.3%	230

Number of Job Gaps

Jobs through Round 14	**% Reporting Same Number of Gaps**	n
Less than 4	97.5%	160
5 - 10	94.6%	277
11 or more	86.5%	104

Logistic regression models examining the proportion of respondents reporting the same number of jobs and job gaps in their old and new reports indicates significant effects for both the history through Round 14 and for the number of jobs originally reported in Round 15. (The latter effect is only marginally significant for the number of jobs.) Appendix 3 shows the full results from the logistic regression analysis.

We also examined the relation between the old and new recipiency reports to determine whether the high levels of overall agreement between the two interviews masked discrepancies among those reporting recipiency in either interview. These results (displayed in Table 8) substantially qualify the findings reported in Table 5. For example, 96.9% of the two-year respondents reported the same AFDC recipiency status in both interviews; however, among the 5.7% of the respondents who reported receiving AFDC in either interview, only 47% (2.7%/5.7%) reported consistently in the two interviews. The results are similar for the other three recipiency variables.

Table 8. Differences between Two-Year Recall Respondents' Old and New Reports

R on Unemployment?			
		New Report	
		No	Yes
Old Report	No	93.6%	0.8%
	Yes	3.6%	1.9%
Spouse on Unemployment?			
		New Report	
		No	Yes
Old Report	No	96.4%	0.9%
	Yes	1.0%	1.7%
R on AFDC?			
		New Report	
		No	Yes
Old Report	No	94.2%	1.3%
	Yes	1.7%	2.7%
R on Food Stamps?			
		New Report	
		No	Yes
Old Report	No	91.6%	1.1%
	Yes	1.9%	5.3%

Discussion

The results supported four main conclusions:

1) Lengthening the recall period to two years had little discernible effect on overall or subgroup response rates;

2) The two-year recall period did seem to reduce the level of reporting about jobs for the most recent year of the reference period, indicating an effect of the increased reporting burden imposed by the longer reference period;

3) Respondents in the two-year group often failed to reproduce the answers they had given in the Round 15 interview, indicating the impact of forgetting over the longer reference period;

4) The impact of the two-year recall period was most marked among those with the most to remember--such as those with complex job histories or a large number of jobs or job gaps during the period covered by the Round 15 interview.

The response rates among those eligible for the experiment were very high--over 97% in the both the two-year and control groups (see Table 1). The experiment excluded persons who had been nonrespondents in either Round 14 or Round 15, as well as other problematic cases. Thus, within the remaining group, consisting mostly of persons who had completed 15 previous rounds of data collection, there was little inclination not to complete the Round 16 interview. The length of the recall period had no effect on response rates within this highly cooperative group.

The two-year recall period seemed to reduce the number of jobs reported for the most recent year of the two-year reference period (Table 2), and this reduction appears to reflect omissions rather than dating errors (Table 3). Since these comparisons involve the same time period--the period of approximately one year between the Round 15 and Round 16 interview--the omissions would seem to be the product of the increased reporting burden rather than of increases in the difficulty involved in retrieving incidents over a longer time span. This line of reasoning suggests that the impact of the longer reference period might be offset if the interview were shortened (e.g., by dropping some

topics) or reporting burden were reduced in some other way.

Comparison of the reports of the two-year group with their earlier reports in Round 15 demonstrates lower levels of reporting in the second interview (Table 4). This falloff probably reflects the effect of the longer reference period on the amount of forgetting. Consistent with this view, the proportion of respondents reporting fewer jobs and fewer job gaps in the later interview is highest among those with the most difficult employment histories to remember (Tables 6 and 7). Similarly, reports about recipiency of AFDC, Food Stamps, or unemployment varied most among those who reported participating in these programs in either interview (Table 8). These results suggest that the impact of lengthening the reference period to two years will be most marked among those respondents with complex or dynamic histories--a key group for many analysts of the data. These findings are also consistent with recent theories about the impact of the passage of time on memory (e.g., Rubin & Wetzel, 1996). The key variable is not elapsed time per se but the accumulation of similar events, which makes it increasingly difficult to recall each individual event.

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Appendix 1:
Standard Errors

Appendix Table 1:
The Standard Errors and DEFFs for the Estimates in Table 2

Control Group Report on Most Recent Year

Variable	Mean	N	SE by SUDAAN	SE by SAS	DEFF
Number of Jobs (0 or more)	1.24	7568	0.0113	0.0095	1.415
Number of Jobs (1 or more)	1.42	6465	0.0109	0.0091	1.435
Number of Job Gaps	0.12	4889	0.0081	0.0067	1.462
R on Unemployment	0.03	7696	0.0023	0.0019	1.404
Spouse on Unemployment	0.021	4213	0.0024	0.0022	1.239
R on AFDC	0.040	7650	0.0026	0.0022	1.327
R on Food Stamps	0.068	7609	0.0037	0.0029	1.597

Experimental Group Report on Most Recent Year

Variable	Mean	N	SE by SUDAAN	SE by SAS	DEFF
Number of Jobs (0 or more)	1.01	841	0.0214	0.0199	1.156
Number of Jobs (1 or more)	1.15	716	0.0178	0.0175	1.035
Number of Job Gaps	0.14	521	0.0221	0.0191	1.339
R on Unemployment	0.04	853	0.0079	0.0067	1.379
Spouse on Unemployment	0.034	464	0.0082	0.0084	0.934
R on AFDC	0.046	849	0.0072	0.0072	1.002
R on Food Stamps	0.078	843	0.0085	0.0092	0.852

Source: National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix Table 2:
The Standard Errors and the DEFFs for the Estimates in Table 3.

Control Group Report on Past Two Years

Variable	Mean	N	SE by SUDAAN	SE by SAS	DEFF
Number of Jobs (0 or more)	1.79	7568	0.0204	0.0164	1.547
Number of Jobs (1 or more)	1.99	6649	0.0211	0.0167	1.596
Number of Job Gaps	0.22	4889	0.0113	0.0096	1.386
R on Unemployment	0.071	7696	0.0033	0.0029	1.268
Spouse on Unemployment	0.049	4213	0.0037	0.0033	1.222
R on AFDC	0.058	7650	0.0034	0.0027	1.619
R on Food Stamps	0.106	7609	0.0050	0.0035	1.980

Experimental Group Report on Past Two Years

Variable	Mean	N	SE by SUDAAN	SE by SAS	DEFF
Number of Jobs (0 or more)	1.64	841	0.0508	0.0409	1.543
Number of Jobs (1 or more)	1.81	746	0.0522	0.0409	1.629
Number of Job Gaps	0.19	521	0.0317	0.0264	1.442
R on Unemployment	0.055	853	0.0093	0.0078	1.430
Spouse on Unemployment	0.045	464	0.0090	0.0097	0.876
R on AFDC	0.050	849	0.0074	0.0075	0.977
R on Food Stamps	0.084	843	0.0092	0.0095	0.922

Source: National Longitudinal Survey of Youth, 1979 Cohort--Youth 1979 - 1993 Release 7.0.
National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix Table 3:
The Standard Errors and the DEFFs for the Estimates in Table 4.

Old Report on Earlier Year

Variable	Mean	N	SE by SUDAAN	SE by SAS	DEFF
Number of Jobs (0 or more)	1.17	841	0.0309	0.0250	1.528
Number of Jobs (1 or more)	1.33	715	0.0294	0.0230	1.634
Number of Job Gaps	0.10	521	0.0269	0.0182	2.185
R on Unemployment	0.056	853	0.0108	0.0078	1.887
Spouse on Unemployment	0.027	464	0.0086	0.0076	1.285
R on AFDC	0.044	849	0.0068	0.0070	0.933
R on Food Stamps	0.072	843	0.0089	0.0089	0.960

New Report on Earlier Year

Variable	Mean	N	SE by SUDAAN	SE by SAS	DEFF
Number of Jobs (0 or more)	1.03	841	0.0279	0.0224	1.551
Number of Jobs (1 or more)	1.21	688	0.0256	0.0200	1.638
Number of Job Gaps	0.05	521	0.0147	0.0120	1.501
R on Unemployment	0.027	853	0.0062	0.0056	1.233
Spouse on Unemployment	0.026	464	0.0082	0.0074	1.239
R on AFDC	0.040	849	0.0070	0.0068	1.085
R on Food Stamps	0.065	843	0.0086	0.0085	1.021

Source: National Longitudinal Survey of Youth, 1979 Cohort--Youth 1979 - 1993 Release 7.0.
National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix 2:

Subgroup Results

Appendix Table 4.
Old and New Reports on the Earlier Year, Male Respondents

Variable	Old Report			New Report			
	Estimate	SE	N	Estimate	SE	N	t
Number of Jobs (0 or more)	1.249	0.077	407	1.111	0.068	413	1.343
Number of Jobs (1 or more)	1.355	0.073	372	1.229	0.063	368	1.307
Number of Job Gaps	0.103	0.045	321	0.051	0.032	292	0.942
Mean Duration of Gaps	90.310	39.093	17	81.475	62.895	10	0.119

Source: National Longitudinal Survey of Youth, 1979 Cohort--Youth 1979 - 1993 Release 7.0.
National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix Table 5.
Gross and Net Discrepancies in Reporting on the Earlier Year, Male Respondents

Variable	Gross Discrepancy (off-diagonals)			Net Discrepancy (marginals)		
	Estimate	SE	N	Estimate	SE	N
Number of Jobs	0.148	0.025	407	0.120	0.026	407
Number of Gaps	0.063	0.022	261	0.026	0.022	261
Duration of Gaps	1.000	0.000	5	0.083	0.840	5

Source: National Longitudinal Survey of Youth, 1979 Cohort--Youth 1979 - 1993 Release 7.0.
National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix Table 6.
Old and New Reports on the Earlier Year, Female Respondents

Variable	Old Report			New Report			
	Estimate	SE	N	Estimate	SE	N	t
Number of Jobs (0 or more)	1.085	0.072	434	0.933	0.064	440	1.578
Number of Jobs (1 or more)	1.310	0.064	343	1.191	0.054	325	1.421
Number of Job Gaps	0.132	0.058	342	0.061	0.037	317	1.032
Mean Duration of Gaps	65.127	38.921	20	64.592	58.716	10	0.007

Source: National Longitudinal Survey of Youth, 1979 Cohort--Youth 1979 - 1993 Release 7.0.
National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix Table 7.
Gross and Net Discrepancies in Reporting on the Earlier Year, Female Respondents

Variable	Gross Discrepancy (off-diagonals)			Net Discrepancy (marginals)		
	Estimate	SE	N	Estimate	SE	N
Number of Jobs (0 or more)	0.147	0.025	434	0.119	0.025	434
Number of Job Gaps	0.080	0.023	280	0.048	0.024	280
Duration of Gaps	1.000	0.000	6	0.315	0.690	6

Source: National Longitudinal Survey of Youth, 1979 Cohort--Youth 1979 - 1993 Release 7.0.
National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix Table 8.
Old and New Reports on the Earlier Year in the Two-Year Group,
Respondents with Four or Fewer Jobs through Round 15

Variable	Old Report			New Report			
	Estimate	SE	N	Estimate	SE	N	t
Number of Jobs (0 or more)	0.806	0.076	200	0.749	0.070	202	0.552
Number of Jobs (1 or more)	1.066	0.045	141	1.019	0.025	136	0.913
Number of Job Gaps	0.039	0.037	178	0.007	0.013	171	0.816
Mean Duration of Gaps	29.828	---	6	11.000	---	1	---

Source: National Longitudinal Survey of Youth, 1979 Cohort--Youth 1979 - 1993 Release 7.0.
National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix Table 9.
Gross and Net Discrepancies in Reporting on the Earlier Year,
Respondents with Four or Fewer Jobs through Round 15

Variable	Gross Discrepancy (off-diagonals)			Net Discrepancy (marginals)		
	Estimate	SE	N	Estimate	SE	N
Number of Jobs (0 or more)	0.061	0.025	200	0.061	0.025	200
Number of Job Gaps	0.017	0.015	160	0.017	0.015	160
Duration of Gaps	---	---	0	---	---	0

Source: National Longitudinal Survey of Youth, 1979 Cohort--Youth 1979 - 1993 Release 7.0.
National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix Table 10.
Old and New Reports on the Earlier Year in the Two-Year Group,
Respondents with 5 to 10 Jobs through Round 15

Variable	Old Report			New Report			
	Estimate	SE	N	Estimate	SE	N	t
Number of Jobs (0 or more)	1.170	0.068	410	1.055	0.059	419	1.277
Number of Jobs (1 or more)	1.297	0.062	361	1.195	0.051	354	1.271
Number of Job Gaps	0.123	0.054	335	0.055	0.036	313	1.048
Mean Duration of Gaps	55.975	29.233	18	64.013	44.824	11	0.150

Source: National Longitudinal Survey of Youth, 1979 Cohort--Youth 1979 - 1993 Release 7.0.
National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix Table 11.
Gross and Net Discrepancies in Reporting on the Earlier Year,
Respondents with 5 to 10 Jobs through Round 15

	Gross Discrepancy (off-diagonals)			Net Discrepancy (marginals)		
Variable	Estimate	SE	N	Estimate	SE	N
Number of Jobs (0 or more)	0.120	0.023	410	0.101	0.024	410
Number of Job Gaps	0.071	0.022	277	0.055	0.023	277
Duration of Gaps	1.000	0.022	7	0.196	0.637	7

Source: National Longitudinal Survey of Youth, 1979 Cohort--Youth 1979 - 1993 Release 7.0.
National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix Table 12.
Old and New Reports on the Earlier Year in the Two-Year Group,
Respondents with 11 or More Jobs through Round 15

Variable	Old Report			New Report			
	Estimate	SE	N	Estimate	SE	N	t
Number of Jobs (0 or more)	1.441	0.120	230	1.178	0.114	233	1.589
Number of Jobs (1 or more)	1.568	0.113	212	1.369	0.108	202	1.273
Number of Job Gaps	0.187	0.098	150	0.118	0.073	125	0.565
Mean Duration of Gaps	125.286	58.677	13	88.213	---	8	---

Source: National Longitudinal Survey of Youth, 1979 Cohort--Youth 1979 - 1993 Release 7.0.
National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix Table 13.
Gross and Net Discrepancies in Reporting on the Earlier Year,
Respondents with 11 or More Jobs through Round 15

Variable	Gross Discrepancy (off-diagonals)			Net Discrepancy (marginals)		
	Estimate	SE	N	Estimate	SE	N
Number of Jobs (0 or more)	0.262	0.042	230	0.197	0.045	230
Number of Job Gaps	0.148	0.051	104	0.015	0.055	104
Duration of Gaps	1.000	---	4	0.270	---	4

Source: National Longitudinal Survey of Youth, 1979 Cohort--Youth 1979 - 1993 Release 7.0.
National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix Table 14.
Old and New Reports on the Earlier Year in the Two-Year Group,
Respondents Completing High School or Less

Variable	Old Report			New Report			
	Estimate	SE	N	Estimate	SE	N	t
Number of Jobs (0 or more)	1.177	0.067	600	0.997	0.060	610	2.001
Number of Jobs (1 or more)	1.372	0.062	497	1.229	0.055	477	1.725
Number of Job Gaps	0.112	0.046	460	0.076	0.034	433	0.629
Mean Duration of Gaps	91.948	38.154	22	75.978	46.949	15	0.264

Source: National Longitudinal Survey of Youth, 1979 Cohort--Youth 1979 - 1993 Release 7.0.
National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix Table 15.
Gross and Net Discrepancies in Reporting on the Earlier Year,
Respondents Completing High School or Less

Variable	Gross Discrepancy (off-diagonals)			Net Discrepancy (marginals)		
	Estimate	SE	N	Estimate	SE	N
Number of Jobs (0 or more)	0.170	0.022	600	0.144	0.023	600
Number of Job Gaps	0.058	0.017	380	0.013	0.018	380
Duration of Gaps	1.000	0.000	8	0.292	0.566	8

Source: National Longitudinal Survey of Youth, 1979 Cohort--Youth 1979 - 1993 Release 7.0.
National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix Table 16.
Old and New Reports on the Earlier Year in the Two-Year Group,
Respondents With More than High School Education

Variable	Old Report			New Report			
	Estimate	SE	N	Estimate	SE	N	t
Number of Jobs (0 or more)	1.149	0.087	236	1.069	0.074	238	0.700
Number of Jobs (1 or more)	1.267	0.077	214	1.181	0.063	213	0.864
Number of Job Gaps	0.127	0.064	199	0.023	0.024	172	1.522
Mean Duration of Gaps	59.658	40.824	14	56.207	---	5	---

Source: National Longitudinal Survey of Youth, 1979 Cohort--Youth 1979 - 1993 Release 7.0.
National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix Table 17.
Gross and Net Discrepancies in Reporting on the Earlier Year,
Respondents With More than High School Education

	Gross Discrepancy (off-diagonals)			Net Discrepancy (marginals)		
Variable	Estimate	SE	N	Estimate	SE	N
Number of Jobs (0 or more)	0.107	0.029	236	0.074	0.030	236
Number of Job Gaps	0.096	0.034	158	0.079	0.035	158
Duration of Gaps	1.000	---	3	-0.045	---	3

Source: National Longitudinal Survey of Youth, 1979 Cohort--Youth 1979 - 1993 Release 7.0.
National Longitudinal Survey of Youth, 1979 Cohort--1994 Youth Beta Release.

Appendix 3:
Logistic Regression Models

Appendix Table 18:
Model for Reporting Different Numbers of Jobs

Independent Variable/Effect	Coefficient (SE)	t-test	p value
Intercept	-9.33 (0.97)	-9.62	0.00
Number of Jobs in Round 15	3.16 (0.32)	9.94	0.00
5 to 10 Jobs through Round 14 (vs. Fewer than 4)	-0.67 (0.38)	-1.77	0.08
11 or More Jobs through Round 14 (vs. Fewer than 4)	-0.11 (0.39)	-0.28	0.78
Male (vs. Female)	-0.25 (0.32)	-0.80	0.43
Hispanic (vs. non-Black, non-Hispanic)	0.39 (0.35)	1.09	0.28
Black (vs. non-Black, non-Hispanic)	0.35 (0.30)	1.14	0.26
Less than High School (vs. College or more)	0.56 (0.34)	1.65	0.10
High School Graduate (vs. College or more)	0.45 (0.38)	1.17	0.25
Never Married (vs. Formerly Married)	-0.02 (0.44)	-0.06	0.95
Currently Married (vs. Formerly Married)	0.01 (0.39)	0.01	0.99

Appendix Table 19:
Model for Reporting Different Numbers of Job Gaps

Independent Variable/Effect	Coefficient (SE)	t-test	p value
Intercept	-7.38 (1.23)	-6.02	0.00
Number of Jobs in Round 15	1.53 (0.37)	4.16	0.00
5 to 10 Jobs through Round 14 (vs. Fewer than 4)	1.36 (0.70)	1.96	0.05
11 or More Jobs through Round 14 (vs. Fewer than 4)	1.65 (0.63)	2.62	0.01
Male (vs. Female)	-0.40 (0.48)	-0.84	0.41
Hispanic (vs. non-Black, non-Hispanic)	-0.46 (0.88)	-0.52	0.60
Black (vs. non-Black, non-Hispanic)	0.18 (0.50)	0.36	0.72
Less than High School (vs. College or more)	-0.77 (0.52)	-1.48	0.14
High School Graduate (vs. College or more)	-0.15 (0.48)	-0.30	0.76
Never Married (vs. Formerly Married)	0.36 (0.82)	0.44	0.66
Currently Married (vs. Formerly Married)	0.85 (0.79)	1.08	0.28

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