

# **Exploring the Use of Peer Locating Procedures on a Longitudinal Study**

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## **Introduction**

As survey response rates continue to decline, there is a greater need to develop innovative approaches to tracing procedures to facilitate contacting sample members. RTI International recently completed a second follow-up survey for the Education Longitudinal Study of 2002 (ELS:2002), conducted for the National Center for Education Statistics, U.S. Department of Education. The study follows high school students over time to determine how their high school experiences influence their life as they progress on to college and into the work force.

Sample members were about 20 years old as of the second follow-up, a time when they were very mobile and difficult to contact. A few months into the data collection period we implemented a peer locating strategy for sample members that had not yet completed the survey. This strategy consisted of contacting sample members who had already completed the interview asking them to provide contact information for their peers who had not completed the interview. We implemented this strategy as an effort to assist in tracing and locating those difficult-to-reach sample members.

In this paper we explore peer locating as a viable tool for contacting respondents, specifically in ELS:2002. We analyze the data obtained through the peer locating effort to identify the types of information obtained. Additionally, we study the characteristics of sample members that were difficult to contact as well as those who provided information. Lastly, we draw conclusions on the value of the data obtained and the effectiveness of this procedure.

## **1.0 Literature Review**

While a considerable body of research on tracing sample members of a longitudinal survey has been developed over the past few decades, the recent literature on this topic is quite sparse. Furthermore, as Couper and Ofstedal (2006) note, the recent literature has tended to focus on tracing and sample maintenance techniques as operational issues, rather than an important component of longitudinal survey methods. As a few authors have noted, tracing activities are

frequently relegated to being simply one element in the overall strategy to minimize panel attrition (Lepkowski and Couper, 2002; Laurie, Smith, and Scott, 1999).

Nonetheless, recent research has provided useful reviews of the key panel design considerations that can be used to maximize the yield of tracing activities (Couper and Ofstedal, 2006; Laurie, et al, 1999), including:

- the inclusion of sub-population in the sample that are generally more difficult to locate, such as low-income or highly mobile populations,
- the kind, extent, and timing of contact information collected from sample members,
- the use of information from prior interviews to track sample members,
- the length of time between survey waves and the use of contact activities – such as mailing to sample members – between survey waves,
- the use of incentives to encourage sample members to periodically confirm or update their contact information,
- the use of databases (both public and proprietary) to search for updated contact information for sample members,
- the use of common publicly-available internet search engines – such as Google – to find updated contact information for sample members,
- the use of field interviewers to trace respondents within and across specific communities, and
- maintenance of a historical database with all current and previous contact information for each sample member.

Most of these considerations have now essentially become standard issues in developing tracing plans for longitudinal surveys, as is the case for ELS:2002. The limited recent research available suggests that developing activities to address these issues effectively is critical to successful tracing outcomes (Couper and Ofstedal, 2006). Of course, most longitudinal studies have clear limits on how much specific survey features can actually be manipulated by researchers to facilitate tracing activities. For example, factors such as the target population and the length of time between interviews often cannot be altered to improve tracing outcomes.

One of the key issues that has been identified by recent research is the expanding use of the internet to locate sample members (Couper and Ofstedal, 2006; Hampson, Dubanoski, Hamada, Marsella, Matusukawa, and Suarez, 2001). Although centralized databases via the internet or other modes have been used for some time as part of tracing activities, the internet

provides new opportunities for researchers to find panel members. In addition to comprehensive search engines like Google, websites such as MySpace.com provide opportunities to locate sample members through materials posted on such websites that provide information about them. Given their nature, such websites may not be as likely as searchable databases to provide the kind of complete, updated contact information needed for survey participation. On the other hand, these websites can provide clues to where sample members are currently living that can then allow researchers to narrow their search for sample members and/or cross-reference this limited information with other sources. Use of such online sources also offers another important advantage to survey researchers, relatively low cost. The ELS:2002 tracing effort has occasionally relied on some of these online options when more traditional tracing procedures and search engines have failed.

Despite the increasing online resources available to data collectors to trace sample members over time, tracking highly-mobile sample members and other special populations increases the challenge to successfully locating a high proportion of sample members (Couper and Ofstedal, 2006). Tracking the current ELS:2002 sample has been challenging due to the significant number of panel members who have recently been highly mobile, did not participate in the previous survey wave, dropped out of high school, or, for some cases, a combination of these factors. For this reason, the ELS:2002 tracing activities have included gathering information from sample members' classmates in various ways to locate some of the most challenging cases. At least one study has shown that direct contacts with former classmates can be an effective strategy for tracing sample members, even for panels that have not been interviewed for decades (Hampson, et al, 2001). Of course, the efficacy of such strategies depends in part on the strength of community ties among panel members (Couper and Ofstedal, 2006). If sample members have relatively weak ties to peers and organizations in their community, the effectiveness of tracking strategies involving peers is likely to be limited. Conversely, those with stronger attachment to the community are more likely to be located via information from peers. For example, despite their overall success in tracing panel members after 40 years, Hampson, et al (2001) found higher locating rates among sample members from smaller, tightly-knit communities than those from larger, urban communities with higher mobility rates. These considerations were weighed in devising peer locating procedures during the most recent wave of ELS:2002.

## **2.0 ELS:2002 Data Collection**

The Education Longitudinal Study of 2002 (ELS:2002) is funded by the National Center for Education Statistics (NCES), within the U.S. Department of Education. ELS:2002 is national longitudinal study that builds upon and extends a series of NCES longitudinal school studies. ELS:2002 is designed to measure academic achievement and factors related to achievement in the last two years of high school and to provide trend data about critical transitions experienced by young adults as they progress through high school and into postsecondary institutions or the work force.

The cohort for the ELS:2002 comprised 16,300 eligible sample members (at the start of the second follow-up) who were 10<sup>th</sup> grade high school students in the Spring of 2002. The base year (Spring 2002) and first follow-up (Spring 2004) data collections were primarily conducted in school in group sessions with out-of-school data collection to supplement. The second follow-up was conducted in Spring, 2006 when the majority of the sample members had graduated from high school. Data collection was conducted primarily through telephone interviews and self-administered Web interviews and supplemented by computer-assisted personal interviews. At that time, the majority of the young adults in the sample had transitioned from high school to postsecondary schooling, the military, or the workforce.

To locate sample members for the second follow-up, we conducted a variety of tracing activities, including batch tracing for updating addresses and telephone numbers; direct contact with young adults and their parents via mail, telephone, and the study website; and intensive locating efforts by tracing specialists and field interviewing staff. We performed batch tracing, using NCOA and Telematch batch services, of both sample members and their parents one year prior, approximately five months prior, and again immediately prior to data collection. In the fall of 2005, we sent a mailing to sample members and their parents via letter and email) that provided an opportunity to thank sample members for their continued participation in ELS:2002, inform them about the next steps in the research, and request that they review and update their contact information. Sample members and parents could update contact information by returning an address update form, updating the information on the ELS:2002 website, sending an email to RTI, or by contacting RTI via a toll-free telephone number.

Three to four weeks prior to data collection, we conducted pre-data collection intensive tracing for sample members with missing or inaccurate information. Intensive tracing involves

RTI's tracing specialists searching directory assistance, calling all telephone numbers and contact persons' telephone numbers associated with a case, using criss-cross directories and various commercial and proprietary databases as needed. Once data collection began in January 2006, we conducted intensive tracing on a continuous basis for the most difficult to reach sample members. For sample members who were not located, we assigned field staff to trace these cases in-person when feasible, starting at the last known address for the sample member.

### **3.0 Peer Locating**

Because of the mobility of the ELS:2002 sample, using progressive and creative tracing methods was essential to achieving the desired response rate. Roughly four months into data collection, RTI requested and received approval from their internal Institutional Review Board to request locating information from sample members who already completed the ELS:2002 second follow-up interview for their peers from the same high school who were also in the ELS:2002 sample. Contact with these respondents would be made via email and telephone and they would be asked the following questions:

“We're trying to locate [name(s)] who went to your high school. Do you know how we can get in touch with [name(s)]?”

Approval was also obtained for further email and telephone reminder contacts to respondents that had yet to provide peer locating information.

The peer locating information was submitted on a webpage which was created off of the existing ELS:2002 homepage. Only the sample members we requested information could access the peer locating webpage. Consistent with the multi-mode approach used for ELS:2002 data collection, respondents could self-report peer information and telephone interviewers could also access the same secure online peer locating webpage to enter information collected during follow-up calls. *Exhibit 3.1* provides an example of the layout of this webpage.

### Exhibit 3.1.

**Instructions:**

Please enter as much information as you can for this person. Any information you can provide would be helpful, even if it's incomplete, such as what city or state the person may be living in now, what school he or she attends, or where he or she works.

Click on the "Submit" button when you have completed the page.

You can also provide updated contact information for this person by calling toll-free 1-866-800-xxxx and leaving this information with an ELS:2002 interviewer or in a voicemail message. Thank you for your assistance!

First name: JANE  
Last name: DOE  
Address 1:   
Address 2:   
City: RALEIGH  
State: North Carolina  
Zip:   
Home phone:   
Work phone:   
Cell phone:   
E-mail address:   
School Attending:   
Work Place:   
Additional comments or other information:

About two-thirds into the data collection period, ELS:2002 respondents who had already completed the interview were sent an email that provided a login ID and password to access the peer locating website. Upon login, a list of names of ELS:2002 “yet-to-be-interviewed” sample members who attended the same high school appeared where the respondent could then provide locating information. Text box fields allowed for the collection of the following information: state of residence, home street address, home zip code, home/work/cell telephone number, email address, school attending, and work place. Additionally, there was an “other” box where respondents could provide miscellaneous information that may be helpful in locating the sample member. Respondents could provide as little or as much information as they felt comfortable.

Approximately one month following the email announcement, telephone interviewers began outbound calls to collect peer locating information. Only respondents who completed the

interview within the first few months of data collection but had yet to login to the peer locating webpage were contacted via telephone. We decreased the sample size for the telephone calls so as to not alienate sample members who had recently completed the interview. The prompting call was considered “complete” when an interviewer was able to speak with the respondent, regardless of whether they were able to obtain any new information.

All telephone and in-person/field cases document contacting history for interviewing staff to review prior to making further contact. Information collected in the peer locating website was retained within these telephone and in-person/field case histories, as well as within tracing reports, so any useful information could be used by interviewing and tracing staff. Additionally, a process was created for project supervisors to review peer locating information to decide if contacting procedures should be revised based on the information provided for each particular case. Examples of steps taken based on the peer locating information were to add new telephone numbers to the case roster, move the case back to the tracing unit, or in some cases, to stop work on the case if the sample member was out-of-scope.

When the peer locating effort began, 3,600 sample members had not completed an interview. We initially tried to contact via email 11,600 respondents who had already completed the interview. Telephone calls were placed to 5,800 respondents who completed the interview within the first few months of data collection and who had not accessed the peer locating web page up to that point.

## **4.0 Results**

### **4.1 Overview**

Respondents who completed the interview were asked to provide contact information for their classmates who had not completed the interview up to that point. Therefore, we received multiple pieces of contact information for the same sample member, and some of the information was repetitive.

The information collected in the peer locating webpage was reviewed by the project supervisors on a regular basis. The information provided was categorized as not useful, potentially useful, or very useful. “Not useful” comments/information consisted of information that did not make sense, or comments such as “I don’t know where she lives.” “Potentially useful” comments/information included names of cities, states, and schools the sample member

might be attending. This was generally information that the tracing unit could potentially use to locate the sample member. “Very useful” comments/information was information provided that could lead to a direct contact with the sample member, for example, phone numbers, email addresses, and street addresses.

In this section, we review the results obtained through the peer locating effort. We first present the overall results of the information that was received. We then explore the characteristics of the sample members for whom we were looking. Lastly we explore the characteristics of sample members who provided contact information for their peers.

## 4.2 Peer Locating Results

We didn’t expect a high response rate to our emails or phone calls. We also expected that many sample members would not know where their peers were. We requested peer locating information from 11,600 respondents who had already completed the second follow-up interview. Of these respondents, 1,000 (9.0%) provided locating information for one or more peers. We received a total of 1,600 comments for 1,000 different cases. *Table 4.2.1* shows the frequencies of the types of contact information provided.

**Table 4.2.1. Frequencies of type of contact information**

Type of Information	Frequency
Total pieces of address information	1,200
Street address	50
City	520
State	520
Zip	140
Email	150
Telephone number	160
Home phone	80
Work phone	10
Cell phone	90
School/university information	410

*Table 4.2.2* indicates the usefulness of the comments/information provided at the comment level and at the case level. At the comment level, 21% were very useful, 72% were potentially useful, and 7% were not useful. At the case level, 27% of them were very useful, 68% were potentially useful, and 6% were not useful.

**Table 4.2.2. Usefulness at comment and case level**

	<b>Very Useful</b>	<b>Potentially Useful</b>	<b>Not Useful</b>
<b>Comments</b>	21%	72%	7%
<b>Cases</b>	27%	68%	6%

*Table 4.2.3* displays the usefulness of the comments provided by mode. For the web, 30% of the comments provided were very useful, 65% were potentially useful, and 5% were not useful. For comparison, 10% of the comments provided by the phone were very useful, 81% were potentially useful, and 9% were not useful.

**Table 4.2.3. Usefulness of Comments by Mode**

	<b>Very Useful</b>	<b>Potentially Useful</b>	<b>Not Useful</b>
<b>Web</b>	30%	65%	5%
<b>Phone</b>	10%	81%	9%

### **4.3 Characteristics of peer locating subjects**

When the peer locating effort began, information was requested for 3,600 sample members who had not yet been found through standard locating procedures (peer locating subjects). The respondents who were contacted provided information for 28% of the peers who were identified as unlocated. Almost half (48%) of the sample members for whom information was received completed an interview. Unfortunately, our data do not allow us to determine the percent of cases that were successfully completed as a direct result of the peer locating information received. The peer locating strategy was unplanned at the start of data collection so systems were not in place to track the relationship between information received from peers and the method/source of successful location the sample member. Nonetheless, the results indicate that *up to* 13% of the peer locating subjects completed an interview as a result of the information received.

The data illustrate the characteristics of the individuals who were the subjects of the peer locating effort. Of those subjects, 55% of them were male, in contrast to the entire second follow-up sample which included 50% males. The Hispanic and black or African American racial groups were also overrepresented. Twenty percent of the peer locating subjects were Hispanic and 17% were black or African American in contrast to entire second follow-up

sampled which comprised 15% Hispanic sample members and 13% black or African American sample members.

About one-third (34%) of the peer locating subjects had attended a high school in an urban community in their first year of the study. Almost half (48%) attended suburban schools and the remaining 18% attended schools serving a rural community. This break-out is also seen in the entire second follow-up sample. Eighty-four percent had attended a public high school in the base year of the study (or in the first follow-up if they were drawn into the sample at that time), 9% attended a Catholic high school, and 8% attended a non-Catholic private high school. In the entire second follow-up sample seventy-eight percent attended a public high school, 12% attended a Catholic high school, and 9% attended a non-Catholic private high school.

A sample member's response status in the previous round of a longitudinal data collection is related to the likelihood of locating that sample member in the current round. The data presented in *Table 4.3.1* indicate that the group of peer locating subjects comprised 18% first follow-up nonrespondents compared to 8% in the entire second follow-up sample. About 82% of the peer locating subjects who did complete an interview in the previous round continued attending the same school as they had in the first year of the study, as compared to 92% of the entire sample.

**Table 4.3.1. Enrollment status of peer locating subjects**

First follow-up (F1) status	All sample members	All peer locating subjects in second follow-up	Peer locating subjects who completed second follow-up interview
F1 Nonrespondent	8%	18%	16%
F1 Respondents	92%	82%	84%
Student	76%	77%	86%
Transfer	8%	11%	8%
Dropout	4%	7%	4%
Early Graduate	3%	5%	2%
Home school	0%	1%	0%

#### 4.4 Provider characteristics

As we began the peer locating process, we expected a larger percentage of students who attended smaller schools to provide peer locating information than those who attended large high schools, hypothesizing that these students were more likely to know a greater number of their peers than those who attended larger high schools. We also expected more students enrolled in postsecondary institutions to provide peer locating information than those who were not. We hypothesized that these students would have ready access to computers and the Internet and may also have more interest in aiding education research.

We observed characteristics of the information providers in comparison to the group of respondents from whom we requested information. Fifty-nine percent of the information providers were female while 52.5% of the group we requested information from were female. Nearly three-fourths (73.4%) of the information providers were enrolled in postsecondary institutions compared to 63.5% of the group from whom we requested information.

Nearly all (98.4%) of the information providers completed the ELS:2002 first follow-up (i.e., the previous round) interview compared to 95.2% of the group from whom we requested information. Twenty-nine percent of the information providers attended private base year schools compared to 21.3% of the group from whom we requested information. Twenty-three percent of the information providers attended base year schools in rural areas compared to 18.2% for the group from whom we requested information. As far as school size, 29.1% of the information providers attended base year schools with 500 or less students compared to 17.9% for the group from whom we requested information.

*Table 4.4.1* shows the percentage of information providers by race.

**Table 4.4.1. Information providers by race/ethnicity**

<b>Race</b>	<b>Information Providers</b>	<b>Respondents Requested From</b>	<b>% Who Provided Information</b>
<b>Asian or Pacific Islander</b>	90 (8.7%)	1200 (10.4%)	7.2%
<b>Black or African American</b>	80 (7.7%)	1500 (13.0%)	5.4%
<b>Hispanic</b>	100 (9.6%)	1600 (13.9%)	6.5%
<b>Other (incl. multiracial, Amer Indian, Alaska Native)</b>	40 (3.8%)	600 (5.2%)	7.2%
<b>White</b>	730 (70.2%)	6600 (57.4%)	11.0%
<b>Total</b>	1040	11500	

We received the most responses to our request for peer locating information from respondents who completed the second follow-up interview during the first half of the data collection period. The percentage of information providers drops off noticeably for respondents who completed the interview after March. *Table 4.4.2* illustrates the percentage of information providers by month of interview completion.

**Table 4.4.2. Provider by month completed interview**

<b>Month Interview Completed</b>	<b>Information Providers</b>	<b>Respondents Requested From</b>	<b>% Who Provided Information</b>
<b>January</b>	250	1600	15.6%
<b>February</b>	500	4000	12.5%
<b>March</b>	240	2300	10.5%
<b>April or later</b>	40	3600	3.8%

## **5.0 Discussion**

Many of the observations reported above were in line with our expectations. However, the quality of the information obtained exceeded what we expected. Over 93% of the comments provided information that could be used for additional tracing. Additionally, those who provided information via the web were more likely to provide very useful information (such as phone numbers and email addresses) than those who provided it by telephone. This may be because the respondents who took the initiative to log on to the webpage and provide peer locating information have invested themselves and are more interested in the study than the respondents who telephone interviewers had to contact in order to obtain the information. In addition to providing more useful information, the web was relatively inexpensive as compared to the telephone method of collection. We were not surprised, however, that many of the information providers were from smaller base year schools, nor that nearly three-fourths of the were enrolled in postsecondary institutions. We were a little surprised at the lack of response from information providers who completed the interview later in the data collection. Their lack of response may be due to the burden they felt of participating, or they may not have been as invested in the study as much as the early responders.

We employed peer locating procedures after data collection began as an effort to locate sample members who had not completed the interview. We found that peer locating can be a

useful procedure for this type of sample. In retrospect, it may have proven more fruitful if these procedures were implemented at the beginning of the study and as part of the actual interview (instead of going back to the respondent months after they completed the interview). Because of the timing, we are unable to perform analysis on whether or not the peer locating information collected directly influenced response rates. We suggest this be tested in future studies so that conclusions can be made regarding the information collected, how useful it is in locating difficult to reach respondents, and how it affects response rates. As technology progresses, other contact methods may also prove fruitful in obtaining this information. On future studies, other interesting characteristics to measure of the two sample groups (the peer locating subjects and the information providers) might be socio-economic status (SES), racial heterogeneity, and school size. We also suggest in future studies a review of the information obtained, specifically comparing phone numbers, address information, emails, and school/university information received in the peer locating effort with those same pieces of information collected in the interview to see whether or not they match. While this won't be able to determine how peer locating directly affects response rates, it will be able to the quality of the data obtained through the peer locating effort.

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