

Statistical Methods Used in the 2004 Post-Election Surveys for Each Population Group

This report was compiled by Westat in an attempt to review and document the 2004 FVAP Post Election Surveys. FVAP, DMDC, and Westat all contributed.

Uniformed Service Members

The characteristics of the uniformed service member population group for the 2004 survey, according to the information provided by the Federal Voting Assistance Program (FVAP), were:

FVAP target population. Active duty members and full-time active reservists who are U.S. citizens with more than 4 months of service. Spouses and adult children of military members are not a population of interest.

2004 sampling frame. Defense Manpower Data Center's (DMDC's) June 2004 Active Duty and Reserve Master Edit Files. See Appendix A for a list of the frame variables. The quality of these files is considered good.

2004 sample. DMDC drew the sample. The sampling frame was segmented to exclude military members with less than 4 months of service and military members who were not U.S. citizens. If a member's citizenship was not known, the member was excluded from the population.

The survey design was a 15,000 member random sample with 3,000 service members for each of five Services (Army, Navy, Air Force, Marine Corps, and Coast Guard). Within each Service the cells were evenly divided between Officers and Enlisted and CONUS and OCONUS, resulting in 20 cells containing 750 members. The design results in a census of Coast Guard officers working overseas and includes a small portion of Army enlisted members stationed in the United States. The OCONUS definition included members in Alaska and Hawaii. Officers included commission and warrants.

The file was sorted by random number before sample selection. However, the sample was 230 short of 15,000 after the first sample pull. The shortage occurred with Coast Guard Officers stationed overseas. Sixteen service members were added to each cell to increase the sample draw. The resulting cell sizes were 766 except for the Coast Guard, which had 472 in its cells. After the final sample pull, the total sample size was 15,025.

For survey administration, the 2004 Defense Enrollment Eligibility Reporting System (DEERS) file was used to get the home addresses. There was a DEERS address for 97.4% of the sample members. When a home address was not available on that file, sample members were matched to the June 2004 Unit Identification Code (UIC) address file for unit or work address. DMDC had a UIC (unit) address for 93.4% of the sample members.

Federal Civilian Employees Overseas

The characteristics of the Federal civilian employees overseas population in the 2004 survey were:

FVAP target population. Individuals who work for DoD and other Federal government agencies outside the fifty states and five territories. Spouses and adult children of Federal civilian employees overseas are not a population of interest.

2004 sampling frame. For the 2004 survey, the sampling frame included only DoD civilian employees overseas (we did not ascertain why the 2004 sampling frame did not include other Federal civilian employees overseas). The sampling frame was the June 2004 Defense Manpower Data Center Civilian Master File, which is a direct edit from the Office of Personnel Management's (OPM's) Civilian Central Personnel Data File (CDPF). DMDC receives this file monthly from OPM.

In our 2002 review of statistical methods for FVAP's post-election surveys, we reported that OPM used the status file of the CPDF to draw the 2000 sample. The list at that time included about 62,000 records. Employees who were in U.S. territories (American Samoa, Guam, Puerto Rico, and the Virgin Islands), unpaid employees, and employees under age 18 were removed. The remaining records were sorted by the full SSN. Every 18th record was selected in 2000 for a total sample selection of 3,100. Selected records were matched to an OPM employee name file. Nonmatching records were purged. Of the remaining records, the first 2,500 were selected for the sample.

2004 sample. DMDC (West coast) drew the sample of 3,000 DoD civilian employees overseas with PROC SURVEY SELECT METHOD. The two sets of addresses in the frame were the UIC (Unit Identification Code) address, which was a match of the UIC from the Civilian Master File and the UIC Address file, and the Residence Mailing Address from DEERS. Problems probably occurred because not every UIC has a corresponding UIC Address for matching. (The DMDC employee who drew the sample no longer works there. Her last program was dated 9-16-2004.) The layout of the variables is included in Appendix A.

Overseas Citizens

The characteristics of the overseas population group are:

FVAP target population. American citizens residing overseas, including students, but not tourists or those included in the Federal civilian employees overseas population.

2004 sampling frame - second stage. The list of U.S. citizens who voluntarily register at any embassy or consulate in the world. Registration is affected by factors such as the ease of registering and the relative desire for contact with the U.S. government. Any citizens who choose not to register with the embassy/consulate are not on the

sampling frame. For example, many U.S. citizens residing in Canada and the United Kingdom may not register. Ineligible sample members were likely on the list, such as registered children; citizens who have returned to the United States; and some citizens, such as dual nationals, who have not recently lived in the United States, identify with their residential country, and are not planning to vote in U.S. elections. In a Department of State comment under the signature of the Assistant Secretary for Consular Affairs that was included in the 2006 Government Accountability Report (GAO) report on absentee voting, the population of overseas U.S. citizens of voting age was estimated to be about 2 million in early 2006. In comparison, the total population of overseas citizens was estimated to be 3.7 million (GAO, 2006).

In our 2002 evaluation of the statistical methods used in the FVAP post-election surveys, we estimated that possibly 25% to 50% of lists contain ineligible citizens or citizens who do not plan to vote in U.S. elections, but the estimated percentage varies by embassy/consulate. Embassy/consulate files are also likely to be differentially out of date. However, more overseas citizens may be registering because of their increased awareness of the Department of State's Internet-Based Registration System (IBRS), which was implemented on July 15, 2004. Since 2004, embassies and consulates have increased their outreach activities (including television, radio, and other news media, email networks and the Internet, and town meetings in remote locations) to promote more awareness of their services for overseas citizens, including information about the IBRS (GAO, 2006).

2004 sample - first stage. The Department of State officer in charge of American Citizens Overseas drew a purposive sample of embassies/consulates. The embassies/consulates were grouped by geographic area and size (large, medium, small - in terms of number of registered citizens overseas). He excluded any embassies/consulates in areas where significant events were occurring, such as coups or earthquakes.

As indicated in Table 1, the 20 selected embassies were distributed among five geographic regions and were grouped according to three sizes (large, medium, and small with respect to number of registered voters).

Table 1.
Selected Embassies/Consulates by Region

Region	Number
Americas	4
Brazil - São Paulo - Consulate	
Dominican Republic - Santo Domingo	
Guatemala - Guatemala City	
Peru - Lima	
Europe	5
Czech Republic - Prague	
France - Paris	
Germany - Frankfurt - Consulate	

Macedonia - Skopje	
Poland - Warsaw	
Africa - Sub Sahara	3
Kenya - Nairobi	
Mali - Bamako	
Senegal - Dakar	
Near East, South Asia	4
Egypt - Cairo	
Israel - Jerusalem (Consulate)	
Oman - Muscat	
Sri Lanka - Colombo	
East Asia/Pacific	4
Burma - Rangoon	
China - Shenyang (Consulate)	
New Zealand - Auckland (Consulate)	
Taiwan (China) -Taipei American Institute in Taiwan	
Total	20

2004 sample - second stage. We are not absolutely certain what happened for second-stage sampling at the embassy/consulate level. The process for a paper survey was described as follows by a State Department official: The embassy/consulate sends the list of registered overseas citizens to the State Department daily for security purposes. The lists are compiled into a confidential State Department database. Systems personnel at the State Department use the database to retrieve the names of registered citizens in the selected embassies/consulates and their addresses; that information is then provided to State Department voting assistance officers at the selected embassies/consulates. However, in a followup call from the same State Department official, he said that with implementation of the IBRS in July 2004, the State Department adopted a policy of agreeing to use reported addresses of registered overseas citizens *only* for emergency purposes. The Department also extended that policy to citizens registering in person at embassies/ consulates. Thus, the official said the surveys could not be mailed to registered citizens in the areas of the selected embassies/consulates in 2008. He then said that in 2004 the post-election survey packets were not mailed out from embassies/consulates either. (He did comment that they were mailed in 2000.) However, the contractor for the 2004 survey provided us with statistics indicating that 36% of completed surveys for this population group were web surveys, suggesting that some paper surveys were distributed by some method in 2004. We have been unable to find out how many embassies did distribute the paper survey packets, what address source, if any, was used, and whether methods other than mailing were used to distribute the paper surveys.

According to documentation received from FVAP (see Appendix B), boxes of survey materials were mailed to the 20 selected embassies/consulates in 2004 along with the following guidelines for drawing the samples of overseas citizens:

- A. Locate the file - Identify the most recent list or file of all U.S. citizens registered at that post.
- B. Sort the file - Sort the file by any prescribed order—whatever is easiest for you—for example, alphabetically by last name, chronologically by date of registration, numerically by passport number, and so forth.
- C. Identify the sample size.
- D. Create the sampling fraction - Divide the number of registered U.S. citizens in your post list or file by the number required for the sample at your post to obtain your post’s “Sampling Fraction.”

Example: Your post has 60,000 registrants and a sample of 300 is required. Thus, the sampling fraction is $60,000/300 = 200$.

- E. Select survey participant names - Beginning with the 12th name in your registration list or file, select names at intervals that correspond to your post’s sampling fraction.

Example: Your sampling fraction is 200. Therefore, select every 200th name beginning with the number 12 (i.e., 12, 212, 412, 612, etc.) The number of sampled registrants should equal the number of prenotification letters sent in your shipment of survey materials.

- F. Select adults only - If a minor’s name (younger than 18 years old) is identified, select as a replacement the next adult name following the minor’s name, but do not alter your sampling fraction interval.

Example: The 412th name is a minor, and the replacement adult name is Number 415. The next name chosen will be 612, **not** 615.

Local Election Officials

The characteristics of the population of local election officials are:

FVAP target population. Election administrators working in local election offices in all jurisdictions, including the District of Columbia (DC) and U.S. territories, who are responsible for approving voter registration, assigning and sending ballots to the voter, and accepting voted ballots.

2004 sampling frame. The sampling frame was Election Data Services’ (EDS) list of voting jurisdictions in each state, the U.S. territories, and the District of Columbia. Jurisdictions are organized differently across states. In some states, an election jurisdiction is a county; in other states (e.g., the New England states, Michigan, Minnesota, and Wisconsin), they are townships, which are smaller geographical entities than counties. In some large metropolitan areas, a city is an election jurisdiction (e.g.,

Chicago, New York City, St. Louis). The sampling frame includes all jurisdictions, whether they are counties (3,132), townships, or cities – currently, the total number of jurisdictions is about 8,000. The sizes of the jurisdiction vary greatly: currently, about 1,700 jurisdictions have fewer than 1,000 registered voters; about 320 jurisdictions have more than 100,000; only 18 jurisdictions have more than 1 million registered voters.

We do not have information on how the sample of 1,013 jurisdictions was selected for the 2004 LEO survey, but FVAP provided the information shown in Table 2—these data are the LEO 2004 survey responses for questions about active and inactive registered voters in their jurisdictions. The number of jurisdictions did not add to 1,013, so we included an “other” or “missing” category.

Table 2.
2004 LEO Survey Responses Regarding No. of Active and Inactive Registered Voters in Jurisdictions

Total Number of Active and Inactive Registered Voters	No. of Jurisdictions in 2004 Sample
10 to 5,000	15
5,001 to 10,000	9
10,001 to 40,000	18
40,001 to 75,000	15
75,001 to 100,000	10
100,000 to 200,000	16
200,001 and more	16
Other (missing?)	14
Total	1,013

Staff size for election services can range from 1 person (possibly part-time) to more than 200 in large offices, such as the Los Angeles office. The Election Assistance Commission, a Federal agency, just documented that response rates to surveys are lower in smaller jurisdictions (telephone communication with the President of EDS).

Unit Voting Assistance Officers

The characteristics of the unit voting assistance officers population group are:

FVAP target population. Unit Voting Assistance Officers (UVAOs) in all branches of the Uniformed Service CONUS/OCUNUS.

2004 sampling frame. Unit identification code (UIC) file: OCONUS and CONUS.

2004 sample. DMDC (West Coast) drew a random sample of UICs OCONUS and CONUS to arrive at a UVAO list of 5,000 organizations with 25 or more people. The sample selected for each Service was in proportion to the percentage of organizations 25 and over compared with the overall total. Surveys were sent to the voting assistance

officers (VAOs) at the selected UICs. From documentation we received from FVAP, it appears that most survey packets were mailed to the unit to the attention of the UVAO.

Department of State Voting Assistance Officers

FVAP target population. All Department of State voting assistance officers (DoS VAOs).

2004 sampling frame. The list of all DoS VAOs by embassy/consulate. The VAO is usually located in the Office of American Citizen Services. The list is subject to change because of mobility among the VAOs.

2004 sample. A census of the VAOs (It may not have been a census: FVAP data books indicate that 234 VAOs received survey invitations in 2004; however, there may actually be 240 DoS UVAOs, or at least 240 positions).

Table 3 summarizes the relationships among populations, sampling frames, and samples for the six population groups in the 2004 surveys.