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2012 Post-Election Voting Survey of Active Duty Military Spouses

Statistical Methodology Report



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**2012 POST-ELECTION VOTING SURVEY OF
ACTIVE DUTY MILITARY SPOUSES:
STATISTICAL METHODOLOGY REPORT**

**Defense Manpower Data Center
Human Resources Strategic Assessment Program
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Acknowledgments

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Federal Voting Assistance Program (FVAP) staff and other FVAP stakeholders contributed to the development of this survey.

DMDC's Statistical Methods Branch, under the guidance of David McGrath, Branch Chief, is responsible for sampling and weighting methods used by HRSAP. Fawzi Al Nassir, SRA International, supervised the sampling and weighting processes and provided overall process control, he was supported by lead statistical analyst, Jeff Schneider, DMDC. Susan Reinhold and Carole Massey provided programming support for frame development and sampling tasks. Data Recognition Corporation (DRC) performed data collection and editing.

2012 POST-ELECTION VOTING SURVEY OF ACTIVE DUTY MILITARY SPOUSES: STATISTICAL METHODOLOGY REPORT

Executive Summary

The Uniformed and Overseas Citizens Absentee Voting Act of 1986 (UOCAVA), 42 USC 1973ff, permits members of the Uniformed Services and Merchant Marine, and their eligible family members and all citizens residing outside the United States who are absent from the United States and its territories to vote in the general election for federal offices. These groups include:

- Members of the Uniformed Services (including Army, Navy, Air Force, Marine Corps, Coast Guard),
- U.S. citizens employed by the Federal Government residing outside the U.S., and
- All other private U.S. citizens residing outside the U.S.

The Federal Voting Assistance Program (FVAP), under the guidance of USD(P&R), is charged with implementing the UOCAVA and evaluating the effectiveness of its programs. The FVAP Office asked DMDC to design, administer, and analyze post-election surveys on Uniformed Services voter participation, spouses of active duty members, voting assistance personnel, and local election officials. Without such surveys, the Department will not be able to assess and improve voter access. In addition, such surveys fulfill 1988 Executive Order 12642 that names the Secretary of Defense as the “Presidential designee” for administering the UOCAVA and requires surveys to evaluate the effectiveness of the program in presidential election years.

The objectives of the 2012 post-election surveys are: (1) to gauge participation in the electoral process by citizens covered by UOCAVA, (2) to assess the impact of the FVAP’s efforts to simplify and ease the process of voting absentee, (3) to evaluate other progress made to facilitate voting participation, and (4) to identify any remaining obstacles to voting by these citizens. Surveys were done of military members, spouses of active duty members, voting assistance personnel, and local election officials in the U.S.

This report focuses on the *2012 Post-Election Voting Survey of Active Duty Military Spouses (2012 PEV7)*, which was designed to capture the attitudes and behaviors of active duty military members spouses throughout the world. This report describes the sampling and weighting methodologies used in the *2012 PEV7*. Calculation of response rates and inclusion of a monetary incentive are described in the final two sections.

The population of interest for the *2012 PEV7* survey consisted of the spouses of eligible active duty members (1) who are members of the Army, Navy, Marine Corps, Air Force, and Coast Guard, (2) who have at least 6 months of service at the time the questionnaire is first

fielded, (3) who are U.S. citizens that are at least 18 years old, and (4) who are below flag rank at the time the invitation to participate is mailed.

The survey administration period lasted from November 7, 2012 to January 18, 2013. A sample of 9,995 active duty members with spouses was selected from the corresponding eligible populations of 719,604. Usable questionnaires were returned by 1,370 members.

The 2012 *PEV7* used a single-stage, stratified sample design. The allocation was nonproportional, with oversampling of small domains and population subgroups having low response rates. The total sample size was based on cost constraints and precision requirements for key reporting domains. The allocation was determined by an optimization algorithm that minimized the cost of the survey while meeting the precision requirements.

Analytic weights were created in four steps to account for unequal selection probabilities and varying response rates among population subgroups. First, sample records were classified for weighting according to eligibility status (known or unknown eligibility) then the sampling weights (i.e., the inverse of the selection probabilities) were calculated. Second, the sampling weights were adjusted to account for sample members whose eligibility could not be determined. Third, the eligibility-adjusted weights were again adjusted to account for eligible sample members who did not return complete questionnaires. Finally, the adjusted weights were post-stratified to match population totals and to reduce bias unaccounted for by the previous weighting steps.

Sampling strata with fewer than 25 complete eligible cases were collapsed to create strata for variance estimation by means of Taylor series linearization.

Location, completion, and response rates were calculated for the sample and for population subgroups after the field closed and data were received. These rates were computed according to the RR3 recommendations of the American Association of Public Opinion Researchers (AAPOR, 2011). The overall location, completion, and response rates of active duty spouses were 91%, 19%, and 17% respectively.

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2012 POST-ELECTION VOTING SURVEY OF ACTIVE DUTY MILITARY SPOUSES: STATISTICAL METHODOLOGY REPORT

Introduction

The Uniformed and Overseas Citizens Absentee Voting Act of 1986 (UOCAVA), 42 USC 1973ff, permits members of the Uniformed Services and Merchant Marine, and their eligible family members and all citizens residing outside the United States who are absent from the United States and its territories to vote in the general election for federal offices. These groups include:

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The objectives of the 2012 post-election surveys are: (1) to gauge participation in the electoral process by citizens covered by UOCAVA, (2) to assess the impact of the FVAP’s efforts to simplify and ease the process of voting absentee, (3) to evaluate other progress made to facilitate voting participation, and (4) to identify any remaining obstacles to voting by these citizens. Surveys were done of military member, spouses of active duty members, voting assistance personnel, and local election officials in the U.S.

This report focuses on the *2012 Post-Election Voting Survey of Active Duty Military Spouses (2012 PEV7)*, which was designed to capture the attitudes and behaviors of active duty military members spouses throughout the world. This report describes the sampling and weighting methodologies used in the *2012 PEV7*. Calculation of response rates and the inclusion of a monetary incentive are described in the two final sections. Results of the *2012 PEV7* survey are located in the *November 2013 Post-Election Voting Survey of Active Duty Military Spouses: Tabulations of responses* (Report No. 2013-013). Survey administration details can be found in *November 2013 Post-Election Voting Survey of Active Duty Military Spouses: Administration, datasets, and codebook* (Report No. 2013-015).

Sample Design and Selection

Target Population

The target population for the active duty spouse members of the *2012 PEV7* was determined by individual members meeting all of the following criteria:

1. An active duty member of the Army, Navy, Marine Corps, Air Force, and Coast Guard;
2. At least 6 months of service by the beginning of the survey fielding period;
3. Up to and including paygrade O6;
4. U.S. citizens;
5. At least 18 years old and married.

Fielding of the *2012 PEV7* survey began November 7, 2012 and ended on January 18, 2013.

Sampling Frame

The sampling frame was drawn from the *June 2012 Active Duty Master Edit File (ADMF)* and consists of 719,604 married active duty members. Auxiliary information used to develop the frame was obtained from the June 2012 Family Database, the June 2012 Basic Allowance for Housing Files and the May 2012 Contingency Tracking System (CTS) Deployment file. Additionally, to update a member's active duty status the July 2012 ADMF and the August 2012 Defense Enrollment Eligibility Reporting System (DEERS) Medical Point-in-Time Extracts (PITE) were used. Ineligible sample members were identified using the September 2012 ADMF and September 2012 DEERS PITE. Other individuals were identified as ineligible by self or proxy report due to divorce, separation, retirement, or incarceration, by the survey control system and during the survey fielding period.

Sample Design

The *2012 PEV7* sample used a single-stage stratified design. Five population characteristics defined the stratification dimensions for the married active duty members: Service, paygrade, race/ethnicity, age, and duty location. These are the first five variables displayed in Table 1 and are marked by an asterisk (*). These variables can serve as both stratification variables and key reporting domains. The active duty frame was partitioned into 130 strata, produced by cross-classification of the stratification variables. Levels were collapsed within dimensions; occasionally, dimensions were collapsed, in reverse order as listed. Service and paygrade boundaries were preserved.

Within each stratum, individuals were selected with equal probability and without replacement. Since the allocation of the sample was not proportional to the size of the strata, selection probabilities varied among strata (i.e., individuals were not selected with equal

probability overall). Nonproportional allocation was used to achieve adequate sample sizes for small subpopulations of analytic interest (i.e., the survey reporting domains). These domains included subpopulations defined by the stratification characteristics, as well as other key reporting domains. This survey has only one key reporting domain that is not a stratification variable (gender) shown in Table 1.

Sample Allocation

The 2012 PEV7 total sample size consisted of 9,995 active duty members that at least 18 years old and married. The sample was determined based on precision requirements for key reporting domains but was limited to 10,000 due to cost constraints.

Given estimated variable survey costs and anticipated eligibility and response rates, an optimization algorithm determined the minimum-cost allocation that simultaneously satisfied the domain precision requirements. Estimated eligibility and response rates for the 2012 PEV7 sample were based on the 2010 Active Duty Spouse Survey. The allocation was accomplished by means of the DMDC Sample Planning Tool (SPT), Version 2.1 (Dever & Mason, 2003). This application is based on the method originally developed by J. R. Chromy (1987) and described in Mason, Wheelless, George, Dever, Riemer, and Elig (1995). The SPT defines domain variance equations in terms of unknown stratum sample sizes and user-specified precision constraints. A cost function is defined in terms of the unknown stratum sample sizes and the per-unit cost of data collection, editing, and processing. The variance equations are solved simultaneously, subject to the constraints imposed, for the sample size that minimizes the cost function. Eligibility rates modify the estimated prevalence rates used in the variance equations, thus affecting the allocation; response rates inflate the allocation, thus affecting the final sample size.

Eleven domains were defined for the 2012 PEV7 allocation, precision constraints were imposed only on the domains of primary interest. Generally, the precision requirement was based on an estimated prevalence rate of 0.5 with a 95 percent confidence interval half-width no greater than 0.05. Constraints were manipulated to produce an allocation that achieved satisfactory precision for the domains of interest at an approximate sample size of 10,000.

Sample sizes by service component for the levels of the stratification dimensions for active duty married members are shown in Table 2. Unknowns are grouped with the largest category of the variable. For example, if the paygrade for enlisted member is unknown and the largest enlisted category in the paygrade variable is E4, then the unknown is added to E4.

Table 1.
Variables for Stratification and Key Reporting Domain

| Variable | Categories |
|-----------------------------|---|
| Active Duty Service Branch* | Army Navy Marine Corps Air Force Coast Guard |
| Paygrade Group* | E1-E4 / Unknown Enlisted E5-E9 W1-W5 O1-O3 / Unknown Officers O4-O6 |
| Race/Ethnic Category* | Non-minority / Unknown Minority |
| Age* | 18-29 years old 30 years old or more |
| Duty Location 2* | US & US Territories, Other, Unknown Overseas |
| Gender | Male Female |

Note. * denotes stratification variable.

Table 2.
Sample Size by Administrative Stratification Variables

| Stratification Variable | Total | Army | Navy | Marine Corps | Air Force | Coast Guard |
|---|-------|-------|-------|--------------|-----------|-------------|
| Total | 9,995 | 3,071 | 1,917 | 2,240 | 1,778 | 989 |
| Paygrade Group | | | | | | |
| E1-E4 | 3,274 | 1,166 | 527 | 904 | 468 | 209 |
| E5-E9 | 4,858 | 1,377 | 1,019 | 974 | 943 | 545 |
| W1-W5 | 317 | 132 | 40 | 76 | 0 | 69 |
| O1-O3 | 897 | 242 | 189 | 175 | 199 | 92 |
| O4-O6 | 649 | 154 | 142 | 111 | 168 | 74 |
| Race/Ethnicity | | | | | | |
| Non-minority | 6,422 | 1,902 | 1,035 | 1,476 | 1,322 | 687 |
| Minority | 3,573 | 1,169 | 882 | 764 | 456 | 302 |
| Age | | | | | | |
| 18-29 years old | 5,207 | 1,644 | 934 | 1,443 | 820 | 366 |
| 30 years old and older | 4,788 | 1,427 | 983 | 797 | 958 | 623 |
| Region Hierarchical Collapsed | | | | | | |
| U.S. & U.S. Territories, Other, Unknown | 7,593 | 2,037 | 1,554 | 1,947 | 1,068 | 987 |
| Overseas | 2,402 | 1,034 | 363 | 293 | 710 | 2 |

Weighting

Analytical weights for the 2012 PEV7 were created to account for unequal probabilities of selection and varying response rates among population subgroups. Sampling weights were computed as the inverse of the selection probabilities. After determining case dispositions, the base weights were adjusted for eligibility which was adjusted for completion to primarily account for nonresponse. The adjusted weights were poststratified to match population totals and to reduce bias unaccounted for by the previous weighting steps.

Case Dispositions

Case dispositions were assigned for weighting based on eligibility and completion of the survey. Execution of the weighting process and computation of response rates both depend on this classification.

Final case dispositions for weighting were determined using information from personnel records, field operations (the Survey Control System or SCS), and returned surveys. No single source of information is both complete and correct; inconsistencies among sources were resolved according to the order of precedence shown in Table 3.

Table 3.
Case Dispositions for Weighting

| Case Disposition (Samp_DC) | Information Source | Conditions |
|---|---|---|
| 1. Record ineligible | Personnel record | Sample ineligible—deceased or no address available in DEERS. |
| 2. Ineligible by self- or proxy-report | Survey Control System (SCS) | Deceased, ill, incarcerated, separated, divorced |
| 3. Ineligible by survey self-report | First survey question | Active duty member retired or separated from military; Spouse is not U.S. Citizen; Spouse is less than 18 years of age. |
| 4. Eligible, complete response | Item response rate | Item response is at least 50%. |
| 5. Eligible, incomplete response | Item response rate | Survey isn't blank but item response is less than 50%. |
| 6. Unknown eligibility, complete response | Personnel record, first survey question, item response rate | Incomplete personnel record and first survey item is missing and item response is at least 50%; |
| 7. Unknown eligibility, incomplete response | Personnel record, first survey question, and item response rate | Incomplete personnel record AND first survey question is missing AND return is not blank AND item response is less than 50%; |
| 8. Active refusal | SCS | Reason refused is any |
| | | Reason ineligible is "other" |
| | | Reason survey is blank is "refused-too long", "refused-inappropriate/intrusive", "refused-other", "ineligible-other", "unreachable at this address", "refused by current resident", "concerned about security/confidentiality." |
| | | |
| 9. Blank return | SCS | No reason given. |
| 10. PND | SCS | Postal non-deliverable or original non-locatable. |
| 10. Non-respondent | Remainder | Remainder |

This order is critical to resolving case dispositions. For example, suppose a sample person refused the survey with the reason that it was too long; in the absence of any other information the disposition would be “eligible nonrespondent.” If a proxy report also indicated that this person had been hospitalized and was unable to complete the survey, the disposition would be “ineligible.” Final case dispositions for the 2012 PEV7 are shown in Table 4. The total number of eligible complete responses by service and age is given in Table 5.

Table 4.
Sample Size by Case Disposition Categories

| Case Disposition Category and (Code Value) | Sample Size |
|--|--------------|
| Record ineligible | 401 |
| Ineligible by self- or proxy-report | 18 |
| Ineligible by survey self report | 142 |
| Eligible—complete response | 1,370 |
| Eligible—incomplete response | 30 |
| Active refusal—refused, deployed, other | 91 |
| Blank return | 75 |
| PND—postal non-deliverable | 1,084 |
| Non-respondents | 6,784 |
| Total | 9,995 |

Table 5.
Complete Eligible Respondents by Service and Age

| Service / Age | 18-29 | 30 or More | Total |
|---------------|------------|------------|--------------|
| Army | 121 | 203 | 324 |
| Navy | 97 | 187 | 284 |
| Marine Corps | 136 | 131 | 267 |
| Air Force | 105 | 185 | 290 |
| Coast Guard | 51 | 154 | 205 |
| Total | 510 | 860 | 1,370 |

Nonresponse Adjustments and Final Weights

After case dispositions were resolved, the sampling weights were adjusted for nonresponse. First, the sampling weights for cases of known eligibility (Samp_DC = 2, 3, 4, or 5) were adjusted to account for cases of unknown eligibility (Samp_DC = 8, 9, 10, or 11). Next, the eligibility-adjusted weights for eligible respondents (Samp_DC = 4) were adjusted to account for eligible sample members who had not returned a completed survey (Samp_DC = 5). Record ineligible (Samp_DC = 1; sample members determined to be ineligible by the DEERS PITE match before survey administration) were excluded from the nonresponse adjustments.

Weighting adjustment factors for eligibility and completion were computed as the inverse of model-predicted probabilities. First, a logistic regression model was used to predict the probability of eligibility for the survey (known eligibility versus unknown eligibility). A second logistic regression model was used to predict the probability of response among eligible sample members (complete response versus incomplete). Chi-squared Automatic Interaction Detector (CHAID) was used to determine the best predictors for each logistic model. Both logistic models were weighted by sampling weight.

Finally, the weights were poststratified to match population totals and to reduce bias unaccounted for by the previous weighting adjustments. Poststratification cells were defined by the cross-classification of service branch, age, region and gender. Within each poststratification cell, the nonresponse-adjusted weights for eligible respondents (Samp_DC = 4) and self-reported ineligibles (Samp_DC = 2, 3) were adjusted to match population counts. Final weights for Record ineligibles (Samp_DC = 1) were set to zero. Distributions of the sampling weights, intermediate weights, final weights, and adjustment factors by eligibility status are shown in Table 6. The sum of weights by eligibility status is presented in Table 7.

Table 6.
Distribution of Weights and Adjustment Factors by Eligibility Status

| Eligibility Status | Statistic | Sampling Weight | Eligibility Status Adjusted Weight | Complete Eligible Response Adjusted Weight | Final Weight With Non-response and Post-stratification Factors | Eligibility Status Factor | Complete Eligible Response Factor | Post-stratification Factor |
|---------------------------|------------------|------------------------|---|---|---|----------------------------------|--|-----------------------------------|
| Eligible Respondents | N | 1,370 | 1,370 | 1,370 | 1,370 | 1,370 | 1,370 | 1,370 |
| | MIN | 6 | 23.4 | 24.4 | 20.9 | 2.7 | 1.0 | 0.6 |
| | MAX | 262.6 | 1,524.7 | 1,554.2 | 3,434.7 | 18.0 | 1.0 | 6.2 |
| | MEAN | 79.6 | 438.7 | 448.1 | 469.2 | 6.1 | 1.0 | 1.0 |
| | STD | 59.5 | 307.2 | 312.7 | 368.2 | 2.9 | 0.0 | 0.3 |
| | CV | 1.3 | 1.4 | 1.4 | 1.3 | 2.1 | 122.6 | 3.3 |
| Self/Proxy Ineligibles | N | 160 | 160 | 160 | 160 | 160 | 0 | 160 |
| | MIN | 9.0 | 42.6 | 42.6 | 44.0 | 2.7 | . | 0.6 |
| | MAX | 262.6 | 1,391.1 | 1,391.1 | 1,380.3 | 18.0 | . | 1.5 |
| | MEAN | 74.7 | 467.4 | 467.4 | 479.9 | 6.7 | . | 1.0 |
| | STD | 54.8 | 338.3 | 338.3 | 352.0 | 2.9 | . | 0.2 |
| | CV | 1.4 | 1.4 | 1.4 | 1.4 | 2.3 | . | 6.0 |
| Non-Respondents | N | 8,064 | 8,064 | 8,064 | 8,064 | 8,064 | 30 | 0 |
| | MIN | 6 | 0 | 0 | 0 | 0 | 0 | . |
| | MAX | 262.6 | 1,524.7 | 0 | 0 | 18.0 | 0 | . |
| | MEAN | 70.6 | 1.8 | 0 | 0 | 0.0 | 0 | . |
| | STD | 49.5 | 36.2 | 0 | 0 | 0.5 | 0 | . |
| | CV | 1.4 | 0.0 | . | . | 0.1 | . | . |
| Record Ineligibles | N | 401 | 401 | 401 | 401 | 0 | 0 | 0 |
| | MIN | 6 | 6 | 6 | 0 | . | . | . |
| | MAX | 262.6 | 262.6 | 262.6 | 0 | . | . | . |
| | MEAN | 73.6 | 73.6 | 73.6 | 0 | . | . | . |
| | STD | 48.8 | 48.8 | 48.8 | 0 | . | . | . |
| | CV | 1.5 | 1.5 | 1.5 | . | . | . | . |

Table 7.
Sum of Weights by Eligibility Status

| Eligibility Category | Sum of Sampling Weights | Sum of Eligibility Status Adjusted Weights | Sum of Complete Eligible Response Adjusted Weights | Sum of Final Weights With Non-response and Poststratification Adjustments |
|--------------------------------|-------------------------|--|--|---|
| 1-Eligible Weighted | 109,103 | 601,000 | 613,837 | 642,816 |
| 2-Ineligible Weighted | 11,954 | 74,781 | 74,781 | 76,788 |
| 3-Non-Response Unweighted | 569,040 | 14,316 | 0 | 0 |
| 4-Record Ineligible Unweighted | 29,507 | 29,507 | 29,507 | 0 |
| Total | 719,604 | 719,604 | 718,125 | 719,604 |

Variance Estimation

Analysis of the 2012 PEV7 data requires a variance estimation procedure that accounts for the complex sample design. The final step of the weighting process was to define strata for variance estimation by Taylor series linearization. The 2012 PEV7 variance estimation strata correspond closely to the design strata; however, it was necessary to collapse some sampling strata containing fewer than 25 cases with nonzero final weights into similar strata. A total of thirty-three variance estimation strata were defined for the 2012 PEV7.

Civilian Voting Population Weighting

Civilian Voting Population (CVAP) weights for the 2012 PEV7 were created using the nonresponse adjusted weights and were poststratified to match the eligible voting population totals of the United States obtained from the U.S. Census Bureau (2010). Voting population totals were created for five age groups. Table 8 shows the totals in which the final 1,370 eligible completed surveys were post-stratified to.

Table 8.
CVAP Post-Stratification for Complete Eligible Respondents

| CVAP Post-Stratification Cell | Population Totals | Samp_DC = 4 | Post-Stratification Adjustment | Sum of Current Weight | Post-Strat Adjustment*Current Weight |
|-------------------------------|--------------------|--------------|--------------------------------|-----------------------|--------------------------------------|
| 18-24 Years Old | 2,256,647 | 203 | 20.35 | 110,880 | 2,256,647 |
| 25-29 Years Old | 6,209,427 | 323 | 39.52 | 157,102 | 6,209,427 |
| 30-34 Years Old | 9,549,246 | 311 | 65.72 | 145,292 | 9,549,246 |
| 35-44 Years Old | 21,951,030 | 381 | 149.69 | 146,640 | 21,951,030 |
| 45+ Years Old | 74,401,139 | 152 | 1,379.75 | 53,923 | 74,401,140 |
| Total | 114,367,489 | 1,370 | | 613,837 | 114,367,489 |

Location, Completion, and Response Rates

Location, completion, and response rates were calculated in accordance with guidelines established by the Council of American Survey Research Organizations (CASRO). The procedure is based on recommendations for Sample Type II response rates (CASRO, 1982). This definition corresponds to The American Association for Public Opinion Research (AAPOR) RR3 (AAPOR, 2011), which estimates the proportion of eligibles among cases of unknown eligibility.

The *location rate* (LR) is defined as

$$LR = \frac{\text{adjusted located sample}}{\text{adjusted eligible sample}} = \frac{N_L}{N_E}.$$

The *completion rate* (CR) is defined as

$$CR = \frac{\text{usable responses}}{\text{adjusted located sample}} = \frac{N_R}{N_L}.$$

The *response rate* (RR) is defined as

$$RR = \frac{\text{usable responses}}{\text{adjusted eligible sample}} = \frac{N_R}{N_E}.$$

where

- N_L = Adjusted located sample
- N_E = Adjusted eligible sample
- N_R = Usable responses.

To identify the cases that contribute to the components of LR, CR, and RR, the disposition codes were grouped as shown in Table 9. Record ineligible were excluded from calculation of the eligibility rate.

Table 9.
Disposition Codes for CASRO Response Rates

| Response Category | SAMP_DC Values |
|--------------------------|-----------------------|
| Eligible Sample | 4, 5, 8, 9, 10, 11 |
| Located Sample | 4, 5, 8, 9, 11 |
| Usable Response | 4 |
| Not Returned | 11 |
| Eligibility Determined | 2, 3, 4, 5, 8, 9 |
| Self-Reported Ineligible | 2, 3 |

Ineligibility Rate

The ineligibility rate (IR) is defined as:

$$IR = \text{Self Report Ineligible} / \text{Eligibility Determined}.$$

Estimated Ineligible Postal Non-Deliverable/Not Located Rate

The estimated ineligible postal non-deliverable or not located (IPNDR) is defined as:

$$IPNDR = (\text{Eligible Sample} - \text{Located Sample}) * IR.$$

Estimated Ineligible Nonresponse

The estimated ineligible nonresponse (EINR) is defined as:

$$EINR = (\text{Not Returned}) * IR.$$

Adjusted Location Rate

The adjusted location rate (ALR) is defined as:

$$ALR = (\text{Located Sample} - \text{EINR}) / (\text{Eligible Sample} - \text{IPNDR} - \text{EINR}).$$

Adjusted Completion Rate

The adjusted completion rate (ACR) is defined as:

$$ACR = (\text{Eligible Response}) / (\text{Located Sample} - \text{EINR}).$$

Adjusted Response Rate

The adjusted response rate (ARR) is defined as:

$$ARR = (\text{Eligible Response}) / (\text{Eligible Sample} - \text{IPNDR} - \text{EINR}).$$

Unweighted and weighted sample counts used to compute the overall response rates are shown in Table 10; weighted rates were computed using the sampling weights. The final response rate is the product of the location rate and the completion rate. Both weighted and unweighted location, completion, and response rates for the 2012 PEV7 survey are shown in Table 11. The final sample counts, usable response counts, weighted location, weighted completion, and weighted response rates are shown in Table 12.

Table 10.
Comparison of the Final Sample Relative to the Drawn Sample

| Case Disposition Categories | Sample Counts | | Weighted Estimates | |
|--|---------------|-------|--------------------|-------|
| | n | % | n | % |
| Drawn sample & Population | 9,995 | | 719,604 | |
| Ineligible on master files | -401 | 4.0% | -29,507 | 4.1% |
| Self-reported ineligible | -160 | 1.6% | -11,954 | 1.7% |
| Total: Ineligible | -561 | 5.6% | -41,461 | 5.8% |
| Eligible sample | 9,434 | 94.4% | 678,143 | 94.2% |
| Not located (estimated ineligible) | -100 | 1.0% | -5,714 | 0.8% |
| Not located (estimated eligible) | -984 | 9.8% | -59,263 | 8.2% |
| Total not located | -1,084 | 10.8% | -64,978 | 9.0% |
| Located sample | 8,350 | 83.5% | 613,165 | 85.2% |
| Requested removal from survey mailings | -91 | 0.9% | -7,023 | 1.0% |
| Returned blank | -75 | 0.8% | -5,553 | 0.8% |
| Skipped key questions | -30 | 0.3% | -2,288 | 0.3% |
| Did not return a survey (estimated ineligible) | -629 | 6.3% | -43,022 | 6.0% |
| Did not return a survey (estimated eligible) | -6,155 | 61.6% | -446,175 | 62.0% |
| Total: Nonresponse | -6,980 | 69.8% | -504,062 | 70.0% |
| Usable responses | 1,370 | 13.7% | 109,103 | 15.2% |

Note. Example of note that applies to the entire table. Note text is not italicized.

^aExample of note about a specific part of the table.

^bAdditional example of note about a specific part of the table.

Table 11.
Location, Completion, and Response Rates

| Type of Rate | Computation | Unweighted | Weighted |
|--------------|--|------------|----------|
| Location | Adjusted located sample/Adjusted eligible sample | 88.70% | 90.58% |
| Completion | Usable responses/Adjusted located sample | 17.74% | 19.14% |
| Response | Usable responses/Adjusted eligible sample | 15.74% | 17.33% |

Table 12.
Rates for Full Sample and Stratification Level

| Domain | Label | Sample | Usable Responses | Location Rate | Completion Rate | Response Rate |
|---------------|-----------------------|---------------|-------------------------|----------------------|------------------------|----------------------|
| Sample | Sample | 9,995 | 1,370 | 90.6% | 19.1% | 17.3% |
| Service | Army | 3,071 | 324 | 88.6% | 17.4% | 15.4% |
| | Navy | 1,917 | 284 | 91.3% | 20.6% | 18.8% |
| | Marine Corps | 2,240 | 267 | 89.3% | 16.5% | 14.7% |
| | Air Force | 1,778 | 290 | 93.9% | 21.4% | 20.1% |
| | Coast Guard | 989 | 205 | 94.4% | 25.2% | 23.8% |
| Paygroup | E1-E4 | 3,274 | 260 | 82.1% | 12.0% | 9.8% |
| | E5-E9 | 4,858 | 652 | 92.5% | 17.5% | 16.2% |
| | W1-W5 | 317 | 55 | 95.3% | 18.9% | 18.0% |
| | O1-O3 | 897 | 212 | 95.3% | 26.8% | 25.6% |
| | O4-O6 | 649 | 191 | 97.7% | 35.8% | 35.0% |
| Gender | Female | 9,362 | 1,302 | 91.0% | 19.3% | 17.6% |
| | Male | 633 | 68 | 85.6% | 16.6% | 14.2% |
| Region | US & US territories, | 7,593 | 1,092 | 91.3% | 19.5% | 17.8% |
| | Europe | 1,233 | 143 | 82.8% | 15.9% | 13.1% |
| | Asia & Pacific Island | 1,169 | 135 | 86.7% | 15.4% | 13.4% |
| Age | 18-29 Yo | 5,207 | 510 | 85.5% | 13.8% | 11.8% |
| | 30+ Yo | 4,788 | 860 | 94.6% | 22.9% | 21.7% |

Experiment: Monetary Incentives

The 2012 PEV7 survey attempted to increase response rates through a simple monetary incentive where 80% of all sampled spouses received \$1 as a token of appreciation for completing the survey. The sample was selected proportionally within each stratum. While monetary incentives have been studied and implemented in the general population, incentives have not been used in Department of Defense surveys because the DoD prohibits their use for active duty military. DMDC was able to secure approval to provide a monetary incentive experiment in the 2012 Federal Voting Assistance Program (FVAP) survey of active duty military spouses. DMDC had never conducted any monetary incentive experiments before and the intent of this incentive was to establish a baseline level of research for other subsequent spouse surveys. Results of the efficacy of the monetary incentive are shown in Table 13.

Table 13.
Rates for Incentives for Select Categories

| Domain | Condition | Sample | Usable Responses | Location Rate | Completion Rate | Response Rate |
|-----------------|-----------|--------|------------------|---------------|-----------------|---------------|
| Incentive | Incentive | 7,996 | 1,122 | 91% | 19% | 18% |
| | No | 1,999 | 248 | 91% | 18% | 16% |
| Female | Incentive | 7,488 | 1,068 | 91% | 20% | 18% |
| | No | 1,874 | 234 | 91% | 18% | 16% |
| Male | Incentive | 508 | 54 | 86% | 16% | 13% |
| | No | 125 | 14 | 85% | 21% | 18% |
| E1-E4 | Incentive | 2,619 | 211 | 83% | 12% | 10% |
| | No | 655 | 49 | 79% | 11% | 9% |
| E5-E9 | Incentive | 3,885 | 535 | 92% | 18% | 17% |
| | No | 973 | 117 | 94% | 16% | 15% |
| W1-W5 | Incentive | 255 | 45 | 96% | 18% | 18% |
| | No | 62 | 10 | 93% | 21% | 19% |
| O1-O3 | Incentive | 717 | 178 | 95% | 28% | 27% |
| | No | 180 | 34 | 96% | 21% | 20% |
| O4-O6 | Incentive | 520 | 153 | 98% | 35% | 34% |
| | No | 129 | 38 | 98% | 38% | 38% |
| 18-29 Years Old | Incentive | 4,167 | 419 | 86% | 14% | 12% |
| | No | 1040 | 91 | 84% | 13% | 11% |
| 30+ Years Old | Incentive | 3,829 | 703 | 94% | 23% | 22% |
| | No | 959 | 157 | 95% | 22% | 21% |

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