**Supporting Statement B For:**

**DoD Comprehensive Review Working Group (CRWG)**

**on the Impact of Repealing the**

**“Don’t Ask, Don’t Tell” Policy**

**Spouse Mail Survey**

3 August 2010  
Revised

SPOUSE SURVEY

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B. COLLECTION OF INFORMATION EMPLOYING STATISTICAL METHODS

# B.1 Respondent Universe and Sampling Methods

Different approaches will be used to select respondents for different data collections. This section provides a description of the respondent universes and sampling methods for the mail survey data collection.

**B.1.1 Mail Survey**

Two populations of spouses will be surveyed: spouses of active duty members and spouses of Reserve and National Guard members. The target population of active duty spouses will be spouses of active duty members of the Army, Navy, Marine, Air Force and Coast Guard, up to and including pay grade O06 (captain in the Navy and Coast Guard, or colonel in the other services) with at least 6 months service as of June 15, 2010. The target population of Reserve and National Guard member spouses will be spouses of members of the Army National Guard, the Army Reserve, the Naval Reserve, the Marine Corps Reserve, the Coast Guard Reserve, the Air Force Reserve, or the Air National Guard, up to and including pay grade O06 with at least 6 months service as of June 15, 2010.

Spouses of members of the Reserve or National Guard who have been activated under authority of Title 10 or Title 32 will be included in the population of Reserve and National Guard spouses, not the population of active duty spouses. Both spouse populations will exclude spouses in dual-military marriages--that is, a marriage in which each spouse is an active duty member, Reserve, or National Guard member.

The population size for the active duty spouses is approximately 660,000 and that for spouse of Reserve and National Guard members is approximately 390,000. Data from the Defense Enrollment Eligibility Reporting System (DEERS) will be used to construct a sampling frame of the married service members corresponding to each target population. A stratified sample will be selected from each sampling frame, and then DEERS will be used a second time to obtain contact information for the spouses of the sampled service members. The expected overall response rate for the survey is 35 percent.

# B.2 Procedures for the Collection of Information

This section describes procedures that will be performed before, during, and after data collection. The discussion includes stratification, sample selection, protocols for data collection, and estimation.

**B.2.1 Statistical Methodology for Stratification and Sample Selection**

DEERS data will be used to create a sampling frame of the married service members corresponding to each target population. DEERS contains a large number of data variables that can be used to stratify the constructed sampling frames. To determine which variables should be used to create strata, members of the DOD’s Comprehensive Review Working Group (CRWG) were consulted to determine the estimation domains of interest specified in Table B-1. DEERS data were then used to identify low-prevalence domains, and the response rates from other DOD surveys of military spouses were used to identify low-response domains. This resulted in selection of the following variables to be used to stratify the frame of married active duty members, so that low-prevalence and low-response domains can be oversampled:

* Service (5 levels: Army, Navy, Air Force, Marine Corps, and Coast Guard)
* Pay grade (5 levels to be crossed with other variables; warrant officers put in separate stratum )
* Geographic location of service member (2 levels)
* Gender of service member (2 levels)

Similarly, the following variables were selected to stratify the frame of married Reserve and National Guard members:

* Reserve component (7 levels)
* Pay grade (5 levels to be crossed with other variables; warrant officers put in separate stratum )
* Gender of service member (2 levels)
* Reserve program (3 levels to be crossed with other variables; Individual Mobilization Augmentees (IMA’s) put in separate stratum )

Table B-1. Estimation domains for spouse surveys

|  |  |  |  |
| --- | --- | --- | --- |
| **Domain variable** | **Levels of domain variable** | **Active duty spouses** | **Reserve component spouses** |
| **Member demographics**  Service  Pay grade  Service by pay grade  Deployment status  Location  Program | Army, Navy, Marine Corps, Air Force, Coast Guard for active duty; ARNG, USAR, USNR, USMCR, ANG, USAFR, USCGR for National Guard and reserves  E1-E4, E5-E9, W1-W5, O1-03, O4-O6  Same as above, except warrant officers not disaggregated by service  Not deployed past 36 months, Deployed past 36 months, Not Deployed past 12 months, Deployed past 12 months  U.S., Overseas (Europe, Asia and Pacific), On base, Off base  Reserve unit, Reserve unit technician, Full-time support personnel, IMA | X  X  X  X  X | X  X  X  X  X |
| **Spouse demographics**  Gender  Race/Ethnicity  Age  Family status | Male, Female  Non-Hispanic white, Non-Hispanic Black, Hispanic  25 years old or younger, 26-30, 31-35, 36-40, 40+  With child(ren), Without child(ren) | X  X  X  X | X  X  X  X |

For the survey of active duty spouses there will be 73 strata and for the survey of reserve component spouses there will be 120 strata. Stratum allocations will be determined by using the Sample Design Tool developed by Research Triangle Institute (Kavee and Mason, 1997) for the Defense Manpower Data Center, based on the multivariate allocation algorithm described by Chromy (1987). A simple random sample of married service members will be selected from each stratum, yielding corresponding fielded spouse samples of approximately 70,000 active duty spouses and approximately 80,000 spouses of Reserve and National Guard members. Table B-2 displays the values of the stratification variables, population sizes, fielded sample sizes, and expected number of completes for each stratum in the survey of active-duty spouses. Table B-3 displays similar information for the survey of Reserve spouses.

Table B-2: Strata for Active Duty Spouse Survey

| Stratum | Values of stratification variables | Population size | Expected completes | Fielded sample size |
| --- | --- | --- | --- | --- |
| 1 | Army\_E1-E4\_US\_Male | 71,805 | 883 | 4,947 |
| 2 | Army\_E1-E4\_US\_Female | 8,697 | 85 | 835 |
| 3 | Army\_E1-E4\_Oversea\_Male | 9,116 | 113 | 634 |
| 4 | Army\_E1-E4\_Oversea\_Female | 999 | 10 | 98 |
| 5 | Army\_E5-E6\_US\_Male | 80,900 | 1,109 | 5,026 |
| 6 | Army\_E5-E6\_US\_Female | 4,465 | 54 | 344 |
| 7 | Army\_E5-E6\_Oversea\_Male | 10,702 | 150 | 691 |
| 8 | Army\_E5-E6\_Oversea\_Female | 555 | 7 | 46 |
| 9 | Army\_E7-E9\_US\_Male | 36,482 | 646 | 2,115 |
| 10 | Army\_E7-E9\_US\_Female | 1,613 | 26 | 97 |
| 11 | Army\_E7-E9\_Oversea\_Male | 4,329 | 78 | 259 |
| 12 | Army\_E7-E9\_Oversea\_Female | 224 | 4 | 14 |
| 13 | Army\_O1-O3\_US\_Male | 17,401 | 593 | 1,547 |
| 14 | Army\_O1-O3\_US\_Female | 2,153 | 69 | 209 |
| 15 | Army\_O1-O3\_Oversea\_Male | 1,883 | 65 | 168 |
| 16 | Army\_O1-O3\_Oversea\_Female | 240 | 8 | 23 |
| 17 | Army\_O4-O6\_US\_Male | 20,342 | 612 | 1,401 |
| 18 | Army\_O4-O6\_US\_Female | 1,488 | 47 | 104 |
| 19 | Army\_O4-O6\_Oversea\_All | 2,726 | 83 | 190 |
| 20 | Navy\_E1-E4\_US\_Male | 27,777 | 657 | 3,857 |
| 21 | Navy\_E1-E4\_US\_Female | 3,735 | 66 | 742 |
| 22 | Navy\_E1-E4\_Oversea\_All | 1,182 | 28 | 169 |
| 23 | Navy\_E5-E6\_US\_Male | 56,332 | 807 | 3,567 |
| 24 | Navy\_E5-E6\_US\_Female | 3,532 | 45 | 293 |
| 25 | Navy\_E5-E6\_Oversea\_Male | 4,929 | 70 | 323 |
| 26 | Navy\_E5-E6\_Oversea\_Female | 292 | 4 | 25 |
| 27 | Navy\_E7-E9\_US\_Male | 21,305 | 659 | 2,080 |
| 28 | Navy\_E7-E9\_US\_Female | 664 | 20 | 78 |
| 29 | Navy\_E7-E9\_Oversea\_All | 2,072 | 66 | 202 |
| 30 | Navy\_O1-O3\_US\_Male | 12,666 | 619 | 1,604 |
| 31 | Navy\_O1-O3\_US\_Female | 1,139 | 53 | 161 |
| 32 | Navy\_O1-O3\_Oversea\_All | 1,074 | 52 | 139 |
| 33 | Navy\_O4-O6\_US\_Male | 13,974 | 618 | 1,517 |
| 34 | Navy\_O4-O6\_US\_Female | 1,136 | 50 | 128 |
| 35 | Navy\_O4-O6\_Oversea\_All | 1,426 | 64 | 158 |
| 36 | Marine Corps\_E1-E4\_US\_Male | 29,565 | 695 | 3,591 |
| 37 | Marine Corps\_E1-E4\_US\_Female | 789 | 15 | 141 |
| 38 | Marine Corps\_E1-E4\_Oversea\_All | 1,449 | 34 | 187 |
| 39 | Marine Corps\_E5-E6\_US\_Male | 26,924 | 673 | 3,076 |
| 40 | Marine Corps\_E5-E6\_US\_Female | 505 | 12 | 80 |
| 41 | Marine Corps\_E5-E6\_Oversea\_All | 2,170 | 55 | 260 |
| 42 | Marine Corps\_E7-E9\_US\_All | 10,206 | 636 | 2,116 |
| 43 | Marine Corps\_E7-E9\_Oversea\_All | 1,298 | 81 | 274 |
| 44 | Marine Corps\_O1-O3\_US\_All | 5,697 | 623 | 1,930 |
| 45 | Marine Corps\_O1-O3\_Oversea\_All | 483 | 53 | 166 |
| 46 | Marine Corps\_O4-O6\_US\_All | 4,846 | 599 | 1,697 |
| 47 | Marine Corps\_O4-O6\_Oversea\_All | 560 | 70 | 199 |
| 48 | Air Force\_E1-E4\_US\_Male | 22,845 | 566 | 2,425 |
| 49 | Air Force\_E1-E4\_US\_Female | 3,271 | 69 | 431 |
| 50 | Air Force\_E1-E4\_Oversea\_Male | 4,056 | 103 | 442 |
| 51 | Air Force\_E1-E4\_Oversea\_Female | 372 | 8 | 50 |
| 52 | Air Force\_E5-E6\_US\_Male | 44,057 | 538 | 2,027 |
| 53 | Air Force\_E5-E6\_US\_Female | 4,129 | 53 | 230 |
| 54 | Air Force\_E5-E6\_Oversea\_Male | 10,673 | 139 | 526 |
| 55 | Air Force\_E5-E6\_Oversea\_Female | 791 | 11 | 46 |
| 56 | Air Force\_E7-E9\_US\_Male | 17,768 | 564 | 1,782 |
| 57 | Air Force\_E7-E9\_US\_Female | 1,272 | 42 | 129 |
| 58 | Air Force\_E7-E9\_Oversea\_All | 4,315 | 139 | 437 |
| 59 | Air Force\_O1-O3\_US\_Male | 14,275 | 580 | 1,447 |
| 60 | Air Force\_O1-O3\_US\_Female | 1,741 | 71 | 185 |
| 61 | Air Force\_O1-O3\_Oversea\_Male | 1,700 | 70 | 175 |
| 62 | Air Force\_O1-O3\_Oversea\_Female | 204 | 9 | 24 |
| 63 | Air Force\_O4-O6\_US\_Male | 17,443 | 592 | 1,508 |
| 64 | Air Force\_O4-O6\_US\_Female | 1,600 | 58 | 134 |
| 65 | Air Force\_O4-O6\_Oversea\_Male | 2,346 | 80 | 205 |
| 66 | Air Force\_O4-O6\_Oversea\_Female | 234 | 9 | 21 |
| 67 | Coast Guard\_E1-E4\_US\_Male | 3,850 | 159 | 694 |
| 68 | Coast Guard\_E1-E4\_US\_Female | 371 | 12 | 95 |
| 69 | Coast Guard\_E5-E6\_All\_All | 9,114 | 400 | 1,434 |
| 70 | Coast Guard\_E7-E9\_All\_All | 3,442 | 156 | 500 |
| 71 | Coast Guard\_O1-O3\_All\_All | 1,889 | 473 | 1,260 |
| 72 | Coast Guard\_O4-O6\_All\_All | 2,161 | 551 | 1,420 |
| 73 | Warrant Officers | 15,820 | 1,387 | 4,851 |

Table B-3: Strata for Reserve Spouse Survey

| Stratum | Values of stratification variables | Population size | Expected completes | Fielded sample size |
| --- | --- | --- | --- | --- |
| 1 | ANG\_\_E1-E4\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 35,425 | 781 | 4,568 |
| 2 | ANG\_\_E1-E4\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 217 | 5 | 35 |
| 3 | ANG\_\_E1-E4\_Male\_Only\_\_\_MilTech\_Only | 1,140 | 26 | 151 |
| 4 | ANG\_\_E1-E4\_Female\_Only\_TPU\_Only\_\_\_\_ | 3,953 | 77 | 589 |
| 5 | ANG\_\_E1-E4\_Female\_Only\_AGR-Mil\_Only | 272 | 6 | 40 |
| 6 | ANG\_\_E5-E6\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 42,450 | 1,107 | 4,626 |
| 7 | ANG\_\_E5-E6\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 6,068 | 149 | 753 |
| 8 | ANG\_\_E5-E6\_Male\_Only\_\_\_MilTech\_Only | 5,178 | 137 | 564 |
| 9 | ANG\_\_E5-E6\_Female\_Only\_TPU\_Only\_\_\_\_ | 2,291 | 56 | 274 |
| 10 | ANG\_\_E5-E6\_Female\_Only\_AGR\_Only\_\_\_\_ | 653 | 16 | 87 |
| 11 | ANG\_\_E5-E6\_Female\_Only\_MilTech\_Only | 451 | 11 | 54 |
| 12 | ANG\_\_E7-E9\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 12,213 | 377 | 1,131 |
| 13 | ANG\_\_E7-E9\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 7,098 | 212 | 745 |
| 14 | ANG\_\_E7-E9\_Male\_Only\_\_\_MilTech\_Only | 3,303 | 103 | 305 |
| 15 | ANG\_\_E7-E9\_Female\_Only\_TPU\_Only\_\_\_\_ | 384 | 12 | 37 |
| 16 | ANG\_\_E7-E9\_Female\_Only\_AGR\_Only\_\_\_\_ | 533 | 15 | 59 |
| 17 | ANG\_\_E7-E9\_Female\_Only\_MilTech\_Only | 241 | 8 | 22 |
| 18 | ANG\_\_O1-O3\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 8,670 | 375 | 1,196 |
| 19 | ANG\_\_O1-O3\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 999 | 41 | 159 |
| 20 | ANG\_\_O1-O3\_Male\_Only\_\_\_MilTech\_Only | 573 | 25 | 79 |
| 21 | ANG\_\_O1-O3\_Female\_Only\_NonIMA\_ | 862 | 35 | 128 |
| 22 | ANG\_\_O4-O6\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 5,307 | 282 | 739 |
| 23 | ANG\_\_O4-O6\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 2,410 | 122 | 380 |
| 24 | ANG\_\_O4-O6\_Male\_Only\_\_\_MilTech\_Only | 953 | 51 | 132 |
| 25 | ANG\_\_O4-O6\_Female\_Only\_NonIMA\_ | 492 | 25 | 75 |
| 26 | AR\_\_\_E1-E4\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 13,910 | 381 | 2,434 |
| 27 | AR\_\_\_E1-E4\_Male\_Only\_\_\_AGR-Mil\_Only | 360 | 10 | 71 |
| 28 | AR\_\_\_E1-E4\_Female\_Only\_NonIMA\_ | 4,148 | 108 | 771 |
| 29 | AR\_\_\_E5-E6\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 19,268 | 493 | 2,233 |
| 30 | AR\_\_\_E5-E6\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 2,282 | 55 | 325 |
| 31 | AR\_\_\_E5-E6\_Male\_Only\_\_\_MilTech\_Only | 1,473 | 38 | 171 |
| 32 | AR\_\_\_E5-E6\_Female\_Only\_TPU\_Only\_\_\_\_ | 2,717 | 66 | 338 |
| 33 | AR\_\_\_E5-E6\_Female\_Only\_AGR\_Only\_\_\_\_ | 365 | 8 | 57 |
| 34 | AR\_\_\_E5-E6\_Female\_Only\_MilTech\_Only | 411 | 11 | 55 |
| 35 | AR\_\_\_E7-E9\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 8,757 | 292 | 959 |
| 36 | AR\_\_\_E7-E9\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 3,942 | 129 | 524 |
| 37 | AR\_\_\_E7-E9\_Male\_Only\_\_\_MilTech\_Only | 1,268 | 43 | 143 |
| 38 | AR\_\_\_E7-E9\_Female\_Only\_TPU\_Only\_\_\_\_ | 933 | 31 | 105 |
| 39 | AR\_\_\_E7-E9\_Female\_Only\_AGR\_Only\_\_\_\_ | 593 | 19 | 86 |
| 40 | AR\_\_\_E7-E9\_Female\_Only\_MilTech\_Only | 278 | 9 | 32 |
| 41 | AR\_\_\_O1-O3\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 5,572 | 329 | 1,122 |
| 42 | AR\_\_\_O1-O3\_Male\_Only\_\_\_AGR-Mil\_Only | 698 | 39 | 163 |
| 43 | AR\_\_\_O1-O3\_Female\_Only\_NonIMA\_ | 1,660 | 92 | 360 |
| 44 | AR\_\_\_O4-O6\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 7,579 | 285 | 787 |
| 45 | AR\_\_\_O4-O6\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 1,728 | 63 | 213 |
| 46 | AR\_\_\_O4-O6\_Male\_Only\_\_\_MilTech\_Only | 262 | 10 | 28 |
| 47 | AR\_\_\_O4-O6\_Female\_Only\_TPU\_Only\_\_\_\_ | 1,218 | 44 | 134 |
| 48 | AR\_\_\_O4-O6\_Female\_Only\_AGR-Mil\_Only | 211 | 8 | 29 |
| 49 | NR\_\_\_E1-E4\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 3,314 | 291 | 2,014 |
| 50 | NR\_\_\_E1-E4\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 653 | 42 | 653 |
| 51 | NR\_\_\_E1-E4\_Female\_Only\_TPU-AGR\_Only | 922 | 77 | 607 |
| 52 | NR\_\_\_E5-E6\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 12,021 | 354 | 1,616 |
| 53 | NR\_\_\_E5-E6\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 2,518 | 46 | 693 |
| 54 | NR\_\_\_E5-E6\_Female\_Only\_TPU\_Only\_\_\_\_ | 1,578 | 45 | 218 |
| 55 | NR\_\_\_E5-E6\_Female\_Only\_AGR\_Only\_\_\_\_ | 430 | 12 | 85 |
| 56 | NR\_\_\_E7-E9\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 2,560 | 314 | 963 |
| 57 | NR\_\_\_E7-E9\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 906 | 80 | 610 |
| 58 | NR\_\_\_E7-E9\_Female\_Only\_TPU-AGR\_Only | 369 | 44 | 151 |
| 59 | NR\_\_\_O1-O3\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 2,064 | 302 | 1,089 |
| 60 | NR\_\_\_O1-O3\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 190 | 25 | 137 |
| 61 | NR\_\_\_O1-O3\_Female\_Only\_TPU-AGR\_Only | 292 | 41 | 162 |
| 62 | NR\_\_\_O4-O6\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 5,280 | 326 | 906 |
| 63 | NR\_\_\_O4-O6\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 853 | 42 | 231 |
| 64 | NR\_\_\_O4-O6\_Female\_Only\_TPU-AGR\_Only | 698 | 42 | 126 |
| 65 | MCR\_\_E1-E4\_Male\_Only\_\_\_TPU-AGR\_Only | 4,199 | 357 | 4,199 |
| 66 | MCR\_\_E1-E4\_Female\_Only\_TPU-AGR\_Only | 237 | 16 | 237 |
| 67 | MCR\_\_E5-E6\_AllGen\_TPU-AGR\_Only | 2,963 | 317 | 2,963 |
| 68 | MCR\_\_E7-E9\_AllGen\_TPU-AGR\_Only | 1,129 | 288 | 1,129 |
| 69 | MCR\_\_O1-O3\_AllGen\_TPU-AGR\_Only | 275 | 75 | 275 |
| 70 | MCR\_\_O4-O6\_AllGen\_TPU-AGR\_Only | 903 | 424 | 903 |
| 71 | AFNG\_E1-E4\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 3,835 | 409 | 2,264 |
| 72 | AFNG\_E1-E4\_Male\_Only\_\_\_AGR-Mil\_Only | 337 | 37 | 201 |
| 73 | AFNG\_E1-E4\_Female\_Only\_NonIMA\_ | 835 | 85 | 526 |
| 74 | AFNG\_E5-E6\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 13,373 | 361 | 1,411 |
| 75 | AFNG\_E5-E6\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 2,546 | 65 | 310 |
| 76 | AFNG\_E5-E6\_Male\_Only\_\_\_MilTech\_Only | 5,053 | 139 | 526 |
| 77 | AFNG\_E5-E6\_Female\_Only\_TPU\_Only\_\_\_\_ | 1,508 | 40 | 169 |
| 78 | AFNG\_E5-E6\_Female\_Only\_AGR\_Only\_\_\_\_ | 319 | 8 | 40 |
| 79 | AFNG\_E5-E6\_Female\_Only\_MilTech\_Only | 332 | 9 | 38 |
| 80 | AFNG\_E7-E9\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 5,216 | 192 | 557 |
| 81 | AFNG\_E7-E9\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 3,341 | 118 | 400 |
| 82 | AFNG\_E7-E9\_Male\_Only\_\_\_MilTech\_Only | 6,043 | 225 | 635 |
| 83 | AFNG\_E7-E9\_Female\_Only\_TPU\_Only\_\_\_\_ | 480 | 18 | 56 |
| 84 | AFNG\_E7-E9\_Female\_Only\_AGR\_Only\_\_\_\_ | 654 | 22 | 85 |
| 85 | AFNG\_E7-E9\_Female\_Only\_MilTech\_Only | 385 | 14 | 43 |
| 86 | AFNG\_O1-O3\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 1,938 | 325 | 1,087 |
| 87 | AFNG\_O1-O3\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 292 | 46 | 184 |
| 88 | AFNG\_O1-O3\_Male\_Only\_\_\_MilTech\_Only | 392 | 67 | 220 |
| 89 | AFNG\_O1-O3\_Female\_Only\_NonIMA\_ | 377 | 60 | 224 |
| 90 | AFNG\_O4-O6\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 3,295 | 278 | 762 |
| 91 | AFNG\_O4-O6\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 1,502 | 120 | 389 |
| 92 | AFNG\_O4-O6\_Male\_Only\_\_\_MilTech\_Only | 1,344 | 114 | 312 |
| 93 | AFNG\_O4-O6\_Female\_Only\_NonIMA\_ | 507 | 41 | 124 |
| 94 | AFR\_\_E1-E4\_Male\_Only\_\_\_NonIMA\_ | 2,650 | 335 | 2,198 |
| 95 | AFR\_\_E1-E4\_Female\_Only\_NonIMA\_ | 840 | 100 | 733 |
| 96 | AFR\_\_E5-E6\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 8,050 | 297 | 1,362 |
| 97 | AFR\_\_E5-E6\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 358 | 13 | 76 |
| 98 | AFR\_\_E5-E6\_Male\_Only\_\_\_MilTech\_Only | 1,938 | 73 | 324 |
| 99 | AFR\_\_E5-E6\_Female\_Only\_TPU\_Only\_\_\_\_ | 1,185 | 42 | 209 |
| 100 | AFR\_\_E5-E6\_Female\_Only\_AGR-Mil\_Only | 192 | 7 | 34 |
| 101 | AFR\_\_E7-E9\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 4,372 | 235 | 756 |
| 102 | AFR\_\_E7-E9\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 513 | 28 | 107 |
| 103 | AFR\_\_E7-E9\_Male\_Only\_\_\_MilTech\_Only | 2,171 | 117 | 376 |
| 104 | AFR\_\_E7-E9\_Female\_Only\_TPU\_Only\_\_\_\_ | 586 | 31 | 108 |
| 105 | AFR\_\_E7-E9\_Female\_Only\_AGR-Mil\_Only | 342 | 18 | 65 |
| 106 | AFR\_\_O1-O3\_Male\_Only\_\_\_NonIMA\_ | 1,234 | 264 | 900 |
| 107 | AFR\_\_O1-O3\_Female\_Only\_NonIMA\_ | 243 | 50 | 185 |
| 108 | AFR\_\_O4-O6\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 2,823 | 142 | 389 |
| 109 | AFR\_\_O4-O6\_Male\_Only\_\_\_AGR\_Only\_\_\_\_ | 562 | 28 | 90 |
| 110 | AFR\_\_O4-O6\_Male\_Only\_\_\_MilTech\_Only | 783 | 39 | 111 |
| 111 | AFR\_\_O4-O6\_Female\_Only\_NonIMA\_ | 539 | 26 | 78 |
| 112 | CGR\_\_E1-E4\_AllGen\_TPU\_Only\_\_\_\_ | 765 | 61 | 391 |
| 113 | CGR\_\_E5-E6\_Male\_Only\_\_\_TPU\_Only\_\_\_\_ | 1,419 | 134 | 616 |
| 114 | CGR\_\_E5-E6\_Female\_Only\_TPU\_Only\_\_\_\_ | 220 | 20 | 103 |
| 115 | CGR\_\_E7-E9\_AllGen\_TPU\_Only\_\_\_\_ | 759 | 86 | 282 |
| 116 | CGR\_\_O1-O3\_AllGen\_TPU\_Only\_\_\_\_ | 464 | 213 | 464 |
| 117 | CGR\_\_O4-O6\_AllGen\_TPU\_Only\_\_\_\_ | 410 | 216 | 410 |
| 118 | Only W1-W5 excluding IMAs | 7,720 | 732 | 2,275 |
| 119 | Only IMAs excluding W1-W5 | 8,944 | 2,585 | 8,944 |
| 120 | Only IMAs AND W1-W5\_\_\_\_\_\_ | 141 | 4 | 16 |

The size of the selected samples will be such that the expected maximum margin of errors (i.e., half widths of 95% confidence intervals) for proportions estimated for the domains specified in Table B‑1 are less than or equal to 5%. Stratum-specific response rates observed in 2008 surveys of military spouses will be used to determine the stratum allocations. The overall response rate for the 2008 Active Duty Spouses Survey was 28% and that for the 2008 Reserve Component Spouse Survey was 30%. Due to the subject matter, the response rates for the proposed surveys are expected to be higher than those for the 2008 surveys. The burden estimates in A-1 are based on overall response rates of 35% for each of the proposed spouse surveys.

**B.2.2 Problems Requiring Special Sampling Procedures**

Some of the domains of interest have very low prevalence. For example, the proportion of married reservists who are Individual Mobilization Augmentees (IMA’s) is less than 3% of all married reservists. Warrant officers are also a low-prevalence domain of interest. To satisfy the precision goal of constraining the margins of error for domains to be less than or equal to 5%, IMA’s and warrant officers will be assigned to their own strata and then oversampled.

**B.2.3 Periodic Data Collection to Reduce Burden**

This request is for a one-time data collection.

**B.2.4 Data Collection Procedures Mail Survey**

The data collection protocol for the Spouse survey is summarized below. This study will use a number of methods to maximize the rate of response and data quality. First, the survey will make multiple contacts with the Active Duty and Reserve Component spouse, following a Total Design Method recommended by Dillman, et al. (2008). This protocol has been designed to achieve the desired response rate of 35% through the five separate mailing activities described below.

**Pre-notification Letter**. An 8.5 x 11 inch pre-notification letter will be mailed to all sampled Spouses (using first-class postage) that announces the study, describes the information to be collected, and when the data collection will begin. A toll-free telephone number (and/or an email address) will be provided so respondents can make inquiries about the study. We will use letterhead and signatures that respondents will recognize and feel are important. Logos, emblems, other relevant artwork, and the use of up to two colors will be incorporated to increase awareness and distinguish our correspondence from other mail. Each letter will be personalized and inserted into a windowed number 10 business envelope.

**Mail-based, self-administered questionnaire packet**. This survey packet, mailed to all sample members (about one week after the pre-notification letter was mailed) using first-class postage, will include a 16-page survey booklet, an integrated cover letter, and a postage-paid business reply envelope. The sample member’s name and address information printed on the survey booklet will show through a window on the outer/carrier envelope. Surveys and their outer envelopes, should take advantage of the same logos, emblems, artwork and colors used for the pre-notification letter. An identification number (e.g. barcode) will be printed on the survey booklet for tracking respondents allowing for follow-up activities to non-respondents.

**First Thank You/Reminder postcard**. A standard (4x6 inch) sized postcard will be mailed to all sample members approximately 14 days after mailing the survey packet. Content of the postcard will not only thank those who have already participated in the survey, but remind those who have not yet responded to do so. Postcards will be mailed using first-class postage.

**Second self-administered questionnaire packet**. Identical in format and in content (with the exception of the language used in the cover letter) to the first questionnaire packet, we will mail a second questionnaire to all survey non-respondents about 1 month following the initial survey mailing. We suggest using stronger language in the cover letter that accompanies this second questionnaire to encourage participation. We anticipate mailing this packet to approximately 85% of the sample. Some completed surveys will be in-transit at the time of this mailing, so some sample members will receive a second survey despite having completed and returned their first survey. This circumstance is unavoidable given the intended data collection schedule.

**Final Thank You/Reminder postcard**. A second thank you/reminder postcard will be mailed only to non-respondents about two weeks after the second survey packet is mailed. This postcard, much like the cover letter used for the second survey packet cover letter, will use stronger language than previous correspondence to encourage participation aimed at increasing overall response rates. Again, the card will thank those who have already participated in the survey, but remind those who have not yet responded to do so immediately. Postcards will be mailed using first-class postage.

**Survey Receipt and Processing**

Sample management and receipt control systems are vital components of effective management and monitoring of the data collection process for this survey. Maintaining current and accurate sample management information prevents costly missteps and minimizes errors. A complete record of all data transactions and updates to ensure that the data are accurate and available during all phases of the survey administration will be maintained.

Returned mail surveys will be logged into the receipt control system on a continuous basis and then be prepared for data capture via TeleForm. Our receipt control and sample management systems provide real-time progress reports and are generated through a web-based interface.

After receipting returned surveys, the booklets are scanned and processed with TeleForm, they will be exported to a SQL Server database. Returned surveys will be stored securely in locked file cabinets within the enclave workspace. Electronic form images from each scanned individual paper survey page will be stored in Alchemy, an image database and retrieval system. This central digital archive will be used throughout data collection to retrieve and view images of the paper surveys if needed.

**B.2.5 Estimation**

Though there is some interest is using the survey data to calculate population estimates, but there is more interest in using the survey data to calculate sub-population estimates and differences among sub-population estimates. Section B.3.2 describes the procedure that will be used to calculate sampling weights, which will be used to compute weighted totals and proportions and will also be used in the multivariate analyses described in Section A.16.1. For the sub-populations specified in Table B-1, the half widths of the 95% confidence intervals for estimated proportions will be less than or equal to 5% and for differences among sub-population proportion estimates, the half width of the 95% confidence intervals will be less than or equal to 7%.

# B.3 Methods to Maximize Response Rates and Deal with Non-Response

For the mail survey, the expected overall response rate is expected to be 35% for both spouses of active duty service members and spouse of reserve component service members. The mail survey data collection protocol will employ techniques to maximize response rates and address non-response. Following data collection, statistical weighting will be used to decrease non-response bias and a nonresponse bias study will be conducted.

**B.3.1 Mail Protocol**

To maximize the effectiveness of mail surveys the following design and process elements will be utilized throughout the field period:

* Survey booklets and outer envelopes will be printed in two-color ink and include visual elements (logo’s, artwork developed for the Don’t Ask, Don’t Tell survey, etc.) that “link” printed pieces together.
* A machine- and human-readable code will be printed on survey booklets for tracking and quality control purposes.
* Letters will be personalized and include the critical information about the study.
* The assembly process will be simplified and quality control improved by using windowed envelopes (obviating the need to match personalized letter with printed address label).
* Mailings will be sent via USPS using first-class postage ensuring timely and accurate delivery and prompt return of undeliverable mailing pieces.
* Users can get survey support by contacting staff using our toll-free telephone line and by email. This information will be provided in all mailings.

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Steps to minimize nonresponse are also built into the mail study protocol. These include the following:

* **Survey Advance Letters.** Advance materials will be sent to all households. The advance letters will describe the study’s goals and objectives and will give assurances of confidentiality. Letters will be sent to households approximately 1 week before the household is mailed the survey.
* **Multiple Followup for the Mail Survey.** If a survey is not received from a designated household 2 weeks after they are sent, a postcard reminder will be sent. If a survey has not been received 2 weeks after the postcard, a final remailing of the surveys will be sent.

**B.3.2 Statistical Weighting**

Sample weights will be calculated for each completed questionnaire to allow for unbiased estimates of population and sub-population proportions. The sample weights are products of the base weight, non-response adjustments, and a post-stratification adjustment. The *base weight* is the reciprocal of the probability of selection of each married service member. The *non-response adjustments* are designed to reduce the potential bias caused by differences between the responding and non-responding population and are equal to the reciprocals of weighted response rates within carefully selected response cells. The non-response adjustment cells will be constructed by starting with the sampling strata described in Tables B-2 and B-3. Some of these strata are expected to have a small number of respondents. When this occurs, strata having similar response rates will be combined to create nonresponse adjustment cells such that the resulting cells contains no less than 30 respondents.

The *post-stratification adjustment* modifies the non-response-adjusted base weights so that they aggregate to demographic totals computed from DEERS data by the Defense Manpower Data Center. This adjustment has the effect of reducing variance. Post-stratification adjustments will be performed by raking adjusted weights so that they add to control totals for each level of variables associated with the domains listed in Table B-1. For the Active Duty Spouse Survey, the raking dimensions will be service by pay grade, current-deployment status, location, gender, race and ethnicity, age category, and family status. All of these variables are associated with the military member. (Table B-1 indicates that he domains of interest for age and for race and ethnicity are the spouse’s age and the spouse’s race and ethnicity, not the military member’s, but control totals are not available for spouse variables.) The same raking dimensions will be used for the Reserve Spouse Survey, except instead of location the variable for Reserve program will be used.

**B.3.3 Nonresponse-Bias Study**

When unadjusted sample weights are used to estimate the population mean for some item, the non-response bias present in the resulting estimator is equal to the product of the nonresponse rate and the difference between the average value of the item for respondents and the average value of the item for nonrespondents. Hence, nonresponse rates are one measure of potential nonresponse bias. After the completion of data collection and the calculation of the sampling weights, base-weighted response rates will be calculated for each sample survey and for the domains specified in Table B-1. AAPOR Response Rate Formula RR3 will be used to calculate response rates.

To estimate the difference between the average value of an item for respondents and the average value of the item for nonrespondents, it is necessary to have data for the item for all the units in a sample, not just the responding units. Thus, administrative data present on the sample file, along with the base weights, will be used to estimate the difference in population means of respondents and nonrespondents for the available administrative-data variables. This will allow the estimation of non-response biases present in estimates of proportions calculated with unadjusted weights. This type of analysis will be performed on the following variables:

* 1. Variables used in stratification (and the creation of nonresponse adjustment cells),
  2. Variables used in raking,
  3. Additional variables:
* Whether military member is living on base,
* Military member’s occupation area,
* Military member’s career deployments
* Whether military member deployed in last 12 months,
* Whether military member deployed in last 24 months
* Whether military member deployed in last 36 months

Another way to estimate nonresponse biases is to compute population means from all the data on the sampling frame and then subtract this from weighted means calculated from the unadjusted weights and the administrative data associated with the respondents. The reductions in nonresponse bias resulting from adjusting the survey weights will be determined by using the adjusted weights to repeat the estimation of the nonresponse biases present in the above administrative data variables.

**B.4 Test of Procedures or Methods to be Undertaken**

Testing of survey questions to understand respondent comprehension, recall methods and judgment and estimation processes will be done with active military and reserve personnel prior to the finalization of the instrument. There are no planned cognitive tests with active duty or reserve spouses.

**B.5 Individuals Consulted on Statistical Aspects and/or Analyzing Data**

The individuals consulted on technical and statistical issues related to the data collection are listed below.

DoD has consulted with the following staff at Westat regarding this information collection:

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**References:**

Chromy, James R, (1987). Design Optimization with Multiple Objectives, *Proceedings of the Section on Survey Research Methods*, American Statistical Association, Alexandria, VA, pp. 194-199.

Kavee, Jill D. and Mason, Robert E (1997). *DMDC Sample Planning tools User’s Manual (Version 1.2)*, Defense Manpower Data Center, Arlington, VA.