SUPPORTING STATEMENT – PART B

2023 Active Duty Spouse Survey– OMB Control Number 0704-0604

B.  COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

1.  Description of the Activity

The Office of People Analytics (OPA) plans to conduct the biennial Active Duty Spouse Survey (ADSS) in 2023. This survey has been conducted regularly since 2006 and is sponsored by the Office of Military Community and Family Policy to support force resiliency and readiness. The population of interest for the 2023 ADSS consists of spouses of active duty members from the Army, Navy, Marine Corps, Air Force, and Space Force who are below flag rank. In addition, for the spouse to be eligible for the survey, they must indicate they are currently married to an active duty member at the time of the survey.

OPA uses a sampling tool developed by the Research Triangle Institute (RTI) to determine the sample size needed to achieve, if possible, a 95% confidence and an associated precision of 5% or less on each reporting domain. We select a single-stage, non-proportional stratified random sample to ensure statistically adequate expected number of responses for the reporting categories (i.e., domains). For the active duty spouse survey, OPA will use Service, paygrade, gender, and family status of the Service Member to define the initial strata. As an illustration, Attachment A contains a table with the number of individuals in the 2021 Active Duty Spouse Survey (ADSS) population and sample by strata. Space Force is not represented in 2021 table. This population is a new reporting domain and stratum level for the 2023 ADSS. We collapse these strata when there are fewer than 300 individuals in the stratum. The expected weighted response rate for this survey is 21%; the weighted response rate for this survey was 21% in 2021 and 15% in 2019. The increase in response rate from 2019 to 2021 is likely due to the shorter survey format for the statistical survey and the use of QR codes which complemented increased phone use (over PC use) to complete the web survey.

2.  Procedures for the Collection of Information

a. Statistical methodologies for stratification and sample selection;

As described above, OPA uses a sampling tool developed by the Research Triangle Institute (RTI) to determine the sample size needed to achieve, if possible, a 95% confidence and an associated precision of 5% or less on each reporting category domain. We select a single-stage, non-proportional stratified random sample to ensure statistically adequate expected number of responses for the reporting domains. For the 2023 ADSS, OPA will use Service, paygrade, gender, and family status of the Service Member to define the initial strata. We collapse these strata when there are fewer than 300 individuals in the stratum. Once OPA determines the stratum-level sample sizes, a random number is assigned to every member of the population and the population is sorted by stratum and random number prior to sampling, which results in a randomly-ordered population within each stratum. We then select the appropriate number of spouses from each stratum. The planned 2023 ADSS sample size (74,000) is slightly higher than in 2021 (68,846) to maintain response rates in hard to reach populations and overall, as reflected in the ADSS SSA.

b.  Estimation procedures;

OPA weights the eligible respondents in order to make inferences about the entire population of active duty spouses. The weighting methodology utilizes standard weighting processes. First, we assign a base weight to the sampled member based on the reciprocal of the selection probability. Second, OPA uses 20-30 administrative variables in the XGBoost application of Generalized Boosted Model (GBM) to predict survey eligibility and completion. OPA’s accurate and detailed administrative data on both survey respondents and nonrespondents provides confidence in our survey estimates. We adjust the sampling weights and then all prior-stage weights by the inverse of these model-predicted probabilities to adjust for nonresponse. Finally, we rake these adjusted weights to known population totals to further reduce the variance and bias of the estimates.

c. Degree of accuracy needed for the Purpose discussed in the justification;

OPA creates variance strata so precision measures can be associated with each estimate. We also produce precision measures for reporting categories using 95% confidence intervals with the goal of achieving a precision of 5% or less (e.g., 80% +/- 5%) of spouses of Army E1-E4 are satisfied with their job).

d. Unusual problems requiring specialized sampling procedures; and

OPA recognizes the response rates vary for certain domains of interest such as Service and paygrade. To account for this, we typically average the response rates for the previous three surveys at the stratum level and these response rates are utilized by the sampling tool to adjust the sample and compute expected sample sizes.

e. Use of periodic or cyclical data collections to reduce respondent burden.

OPA conducts the ADSS survey every other year to reduce respondent burden. The last ADSS was administered in 2021 so the current one is scheduled for 2023.

3.  Maximization of Response Rates, Non-response, and Reliability

To maximize response rates, OPA offers the survey via the Web as well as a paper survey option. Reminder letters, emails, and phone calls to nonrespondents are used to maximize response rates. To reduce respondent burden, web-based surveys use “smart skip” technology to ensure respondents only answer questions that are applicable to them. To ensure the accuracy and reliability of responses, OPA conducts nonresponse adjustments as part of the weighting process. The results for the 2021 ADSS nonresponse adjustments can be found in the *2021 ADSS Statistical Methodology Report* and is available on request: Office of People Analytics. (June 2022). 2021 Survey of Active Duty Spouses: Statistical Methodology Report. (OPA Report No. 2020-055). Alexandria, VA.

OPA conducted a Non Response Bias (NRB) analyses for the 2021 ADSS and these results are contained in the methodology report cited above. The next NRB will be performed in 2025.

To further increase response rates and enhance access to the survey, individual QR codes will be included on the postal letters, offering a quick mechanism for respondents to access and complete the survey via their mobile device. The first letter will also include an infographic of the results from the last ADSS survey. To increase response rates among the junior enlisted spouse population, a cash incentive of five dollars will be included in the initial survey invitation to spouses of Members in E1-E4 paygroups.

To maximize response rates, all spouses will be encouraged via various communications to go to the OPA Survey lookup site (<https://qa.surveysdrc.com/dmdc/lookupticket.aspx>) to confirm participation in the survey. Those who are in the sample, will be taken to the survey link. Those who are not, will be given a short supplemental survey including several standard survey questions and an open ended question(s) and be able to provide their opinions as a military spouse. Those qualitative responses will be analyzed separately from the main survey. The responses to the standard ADSS questions will be used to gauge potential differences between the scientifically sampled and weighted ADSS responses and the convenience sample responding to the supplemental survey. Also, at the end of the supplemental survey, spouses will be asked if they would like to voluntarily provide their personal email address to be contacted for future spouse surveys. The emails that are provided will be stored by OPA in a database and used as a contact means for future spouse surveys.

OPA uses complex probability sampling and post-stratification weighting to ensure the survey data can be generalized to the universe under study. (A detailed description of the sampling and weighting procedures used for the ADSS is available on request: Office of People Analytics. (June 2022). 2021 Survey of Active Duty Spouses: Statistical Methodology Report. (OPA Report No. 2020-055). Alexandria, VA.

4.  Tests of Procedures

Not applicable.

5.  Statistical Consultation and Information Analysis

a. Provide names and telephone number of individual(s) consulted on statistical aspects of the design.

Mr. Michael Shaw, Branch Chief; Statistical Methods Team, Methods, Analysis, and Systems Support, Office of People Analytics (OPA); (703) 470-2128.

Dr. Matthew Scheidt, Team Lead; Statistical Methods Team, Methods, Analysis, and Systems Support, Office of People Analytics (OPA); (765) 351-5211.

Ms. Donna Tadle, Statistical Methods Team, Methods, Analysis, and Systems Support, Office of People Analytics (OPA); (703) 402-7149.

b. Provide name and organization of person(s) who will actually collect and analyze the collected information.

The data will be collected by Data Recognition Corporation (DRC), which is OPA’s operations contractor. Ms. Valerie Waller is the Senior Managing Director at DRC.

The data will be analyzed by OPA analysts. Robin Myers (OPA) manages military spouse projects for the Office of People Analytics (OPA). Operations for the project are led by Fors Marsh Group (FMG), which is OPA’s partner in research operations and analysis. For FMG, Nadejda Nikolova and Amy Campbell are the lead operations analysts for military spouse projects.

Attachment A. 2021 ADSS - Population and Sample Size by Strata

|  |  |  |  |
| --- | --- | --- | --- |
| **Stratum** | **Stratum Definitions** | **Population Size** | **Sample Size** |
| All | Total | 665,074 | 68,846 |
| 1 | 001 ARMY\_E1-E4+E0\_MALE+UNK\_MAR+CHILD\_ | 23,301  | 2,758  |
| 2 | 002 ARMY\_E1-E4+E0\_MALE+UNK\_MARNOCHILD\_ | 23,287  | 2,554  |
| 3 | 003 ARMY\_E1-E4+E0\_FEMALE\_MAR+CHILD\_ | 4,462  | 652  |
| 4 | 004 ARMY\_E1-E4+E0\_FEMALE\_MARNOCHILD\_ | 7,329  | 1,076  |
| 5 | 005 ARMY\_E5-E6\_MALE+UNK\_MAR+CHILD\_ | 55,935  | 2,843  |
| 6 | 006 ARMY\_E5-E6\_MALE+UNK\_MARNOCHILD\_ | 21,464  | 1,011  |
| 7 | 007 ARMY\_E5-E6\_FEMALE\_MAR+CHILD\_ | 5,512  | 349  |
| 8 | 008 ARMY\_E5-E6\_FEMALE\_MARNOCHILD\_ | 4,966  | 315  |
| 9 | 009 ARMY\_E7-E9\_MALE+UNK\_MAR+CHILD\_ | 34,129  | 2,549  |
| 10 | 010 ARMY\_E7-E9\_MALE+UNK\_MARNOCHILD\_ | 4,364  | 308  |
| 11 | 011 ARMY\_E7-E9\_FEMALE\_MAR+CHILD\_ | 2,551  | 233  |
| 12 | 012 ARMY\_E7-E9\_FEMALE\_MARNOCHILD\_ | 889  | 77  |
| 13 | 013 ARMY\_W1-W5+W0\_MALE+UNK\_MAR+CHILD\_ | 9,401  | 141  |
| 14 | 014 ARMY\_W1-W5+W0\_MALE+UNK\_MARNOCHILD\_ | 1,602  | 27  |
| 15 | 015 ARMY\_W1-W5+W0\_FEMALE\_MARCHILD+NOCHILD\_ | 866  | 27  |
| 16 | 016 ARMY\_O1-O3+O0\_MALE+UNK\_MAR+CHILD\_ | 11,858  | 1,033  |
| 17 | 017 ARMY\_O1-O3+O0\_MALE+UNK\_MARNOCHILD\_ | 7,879  | 646  |
| 18 | 018 ARMY\_O1-O3+O0\_FEMALE\_MAR+CHILD\_ | 1,625  | 170  |
| 19 | 019 ARMY\_O1-O3+O0\_FEMALE\_MARNOCHILD\_ | 2,812  | 269  |
| 20 | 020 ARMY\_O4-O6\_MALE+UNK\_MAR+CHILD\_ | 18,869  | 1,378  |
| 21 | 021 ARMY\_O4-O6\_MALE+UNK\_MARNOCHILD\_ | 2,920  | 205  |
| 22 | 022 ARMY\_O4-O6\_FEMALE\_MAR+CHILD\_ | 2,435  | 199  |
| 23 | 023 ARMY\_O4-O6\_FEMALE\_MARNOCHILD\_ | 1,042  | 83 |
| 24 | 024 NAVY\_E1-E4+E0\_MALE+UNK\_MAR+CHILD\_ | 7,875  | 1,422  |
| 25 | 025 NAVY\_E1-E4+E0\_MALE+UNK\_MARNOCHILD\_ | 16,557  | 2,771  |
| 26 | 026 NAVY\_E1-E4+E0\_FEMALE\_MAR+CHILD\_ | 2,633  | 568  |
| 27 | 027 NAVY\_E1-E4+E0\_FEMALE\_MARNOCHILD\_ | 6,666  | 1,384  |
| 28 | 028 NAVY\_E5-E6\_MALE+UNK\_MAR+CHILD\_ | 40,219  | 2,273  |
| 29 | 029 NAVY\_E5-E6\_MALE+UNK\_MARNOCHILD\_ | 19,892  | 1,035  |
| 30 | 030 NAVY\_E5-E6\_FEMALE\_MAR+CHILD\_ | 5,428  | 376  |
| 31 | 031 NAVY\_E5-E6\_FEMALE\_MARNOCHILD\_ | 4,907  | 313  |
| 32 | 032 NAVY\_E7-E9\_MALE+UNK\_MAR+CHILD\_ | 21,098  | 2,246  |
| 33 | 033 NAVY\_E7-E9\_MALE+UNK\_MARNOCHILD\_ | 3,316  | 326 |
| 34 | 034 NAVY\_E7-E9\_FEMALE\_MAR+CHILD\_ | 1,756  | 224  |
| 35 | 035 NAVY\_E7-E9\_FEMALE\_MARNOCHILD\_ | 620  | 77  |
| 36 | 036 NAVY\_W1-W5+W0\_MALE+FEMALE\_MARCHILD+NOCHILD\_ | 1,647  | 33  |
| 37 | 037 NAVY\_O1-O3+O0\_MALE+UNK\_MAR+CHILD\_ | 7,687  | 1,005  |
| 38 | 038 NAVY\_O1-O3+O0\_MALE+UNK\_MARNOCHILD\_ | 5,435  | 627 |
| 39 | 039 NAVY\_O1-O3+O0\_FEMALE\_MAR+CHILD\_ | 1,117  | 169 |
| 40 | 040 NAVY\_O1-O3+O0\_FEMALE\_MARNOCHILD\_ | 1,820  | 253  |
| 41 | 041 NAVY\_O4-O6\_MALE+UNK\_MAR+CHILD\_ | 13,090  | 1,223  |
| 42 | 042 NAVY\_O4-O6\_MALE+UNK\_MARNOCHILD\_ | 2,392  | 216  |
| 43 | 043 NAVY\_O4-O6\_FEMALE\_MAR+CHILD\_ | 1,589  | 158  |
| 44 | 044 NAVY\_O4-O6\_FEMALE\_MARNOCHILD\_ | 771  | 85  |
| 45 | 045 USMC\_E1-E4+E0\_MALE+UNK\_MAR+CHILD\_ | 4,754  | 1,558  |
| 46 | 046 USMC\_E1-E4+E0\_MALE+UNK\_MARNOCHILD\_ | 14,104  | 4,112  |
| 47 | 047 USMC\_E1-E4+E0\_FEMALE\_MAR+CHILD\_ | 588  |  268  |
| 48 | 048 USMC\_E1-E4+E0\_FEMALE\_MARNOCHILD\_ | 2,148  |  776  |
| 49 | 049 USMC\_E5-E6\_MALE+UNK\_MAR+CHILD\_ | 14,297  |  2,724  |
| 50 | 050 USMC\_E5-E6\_MALE+UNK\_MARNOCHILD\_ | 8,338  |  1,489  |
| 51 | 051 USMC\_E5-E6\_FEMALE\_MAR+CHILD\_ | 893  |  212  |
| 52 | 052 USMC\_E5-E6\_FEMALE\_MARNOCHILD\_ | 1,039  |  239  |
| 53 | 053 USMC\_E7-E9\_MALE+UNK\_MAR+CHILD\_ | 10,162  |  2,900  |
| 54 | 054 USMC\_E7-E9\_MALE+UNK\_MARNOCHILD\_ | 1,194  |  316  |
| 55 | 055 USMC\_E7-E9\_FEMALE\_MARCHILD+NOCHILD\_ | 550  |  192  |
| 56 | 056 USMC\_W1-W5+W0\_MALE+FEMALE\_MARCHILD+NOCHILD\_ | 1,909  |  96  |
| 57 | 057 USMC\_O1-O3+O0\_MALE+UNK\_MAR+CHILD\_ | 2,965  |  992  |
| 58 | 058 USMC\_O1-O3+O0\_MALE+UNK\_MARNOCHILD\_ | 2,764  |  858  |
| 59 | 059 USMC\_O1-O3+O0\_FEMALE\_MARCHILD+NOCHILD\_ | 463  |  171  |
| 60 | 060 USMC\_O4-O6\_MALE+FEMALE\_MARCHILD+NOCHILD\_ | 5,928  |  1,843  |
| 61 | 061 USAF\_E1-E4+E0\_MALE+UNK\_MAR+CHILD\_ | 9,719  | 1,231 |
| 62 | 062 USAF\_E1-E4+E0\_MALE+UNK\_MARNOCHILD\_ | 17,578  |  2,234  |
| 63 | 063 USAF\_E1-E4+E0\_FEMALE\_MAR+CHILD\_ | 2,407  |  412  |
| 64 | 064 USAF\_E1-E4+E0\_FEMALE\_MARNOCHILD\_ | 7,294  |  1,029  |
| 65 | 065 USAF\_E5-E6\_MALE+UNK\_MAR+CHILD\_ | 38,106  |  1,972  |
| 66 | 066 USAF\_E5-E6\_MALE+UNK\_MARNOCHILD\_ | 18,594  |  915  |
| 67 | 067 USAF\_E5-E6\_FEMALE\_MAR+CHILD\_ | 5,732  |  351  |
| 68 | 068 USAF\_E5-E6\_FEMALE\_MARNOCHILD\_ | 5,099  |  284  |
| 69 | 069 USAF\_E7-E9\_MALE+UNK\_MAR+CHILD\_ | 20,524  |  1,762  |
| 70 | 070 USAF\_E7-E9\_MALE+UNK\_MARNOCHILD\_ | 3,333  |  270  |
| 71 | 071 USAF\_E7-E9\_FEMALE\_MAR+CHILD\_ | 3,699  |  371  |
| 72 | 072 USAF\_E7-E9\_FEMALE\_MARNOCHILD\_ | 1,199  |  108  |
| 73 | 073 USAF\_O1-O3+O0\_MALE+UNK\_MAR+CHILD\_ | 8,416  | 775 |
| 74 | 074 USAF\_O1-O3+O0\_MALE+UNK\_MARNOCHILD\_ | 7,048  |  602  |
| 75 | 075 USAF\_O1-O3+O0\_FEMALE\_MAR+CHILD\_ | 1,592  |  177  |
| 76 | 076 USAF\_O1-O3+O0\_FEMALE\_MARNOCHILD\_ | 2,880  |  262  |
| 77 | 077 USAF\_O4-O6\_MALE+UNK\_MAR+CHILD\_ | 16,894  |  1,149  |
| 78 | 078 USAF\_O4-O6\_MALE+UNK\_MARNOCHILD\_ | 3,083  |  201  |
| 79 | 079 USAF\_O4-O6\_FEMALE\_MAR+CHILD\_ | 2,578  |  210  |
| 80 | 080 USAF\_O4-O6\_FEMALE\_MARNOCHILD\_ | 1,190  |  88  |