

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