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2010 Workplace and Gender Relations Survey of Active Duty Members

Statistical Methodology Report

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2010 WORKPLACE AND GENDER RELATIONS
SURVEY OF ACTIVE DUTY MEMBERS:
STATISTICAL METHODOLOGY REPORT

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DMDC's Personnel Survey Branch, under the guidance of David McGrath, Branch Chief is responsible for the data processing, sampling, and weighting methods used in the survey program. Fawzi al Nassir, SRA International, Inc., supervised the sampling and weighting processes, and provided consultations and overall process control. The lead statistician was Owen Hung, SRA International, Inc., who used the DMDC Sampling Tool to plan the sample. He also developed weights for this survey. Susan Reinhold and Carole Massey, provided the data processing support. Dorothy Kester Jackman, SRA International, Inc., assisted in formatting the report. Fawzi Al Nassir and Owen Hung wrote this methodology report.

2010 WORKPLACE AND GENDER RELATIONS SURVEY OF ACTIVE DUTY MEMBERS: STATISTICAL METHODOLOGY REPORT

Executive Summary

This report describes sample design, sample selection, weighting, and variance estimation procedures for the *2010 Workplace and Gender Relations Survey of Active Duty Members (2010 WGRA)*.

The sampling frame consisted of 1,424,304 records drawn from the June 2009 Active Duty Master Edit File and DEERS File. The *2010 WGRA* used a single-stage stratified sample design. The allocation was nonproportional, with over-sampling of small domains and population subgroups having low response rates. The total sample size was based on 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 to account for unequal selection probabilities and varying response rates among population subgroups. First, sample records were classified for weighting according to eligibility for the survey and completion of the return. Second, the sampling weights (the inverse of the selection probabilities) were adjusted to account for sample members whose eligibility could not be determined. Third, the eligibility-adjusted weights were adjusted to account for eligible sample members who did not return usable questionnaires. Fourth, the adjusted weights were post-stratified to population totals. Finally, sampling strata were collapsed to create strata for variance estimation by 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, 2008). The weighted location rate was 86.1%, the weighted completion rate was 36.9%, and the weighted response rate was 31.8%.

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2010 WORKPLACE AND GENDER RELATIONS SURVEY OF ACTIVE DUTY MEMBERS: STATISTICAL METHODOLOGY REPORT

Introduction

This report describes the sample design, sample selection, weighting, and variance estimation procedures for the *2010 Workplace and Gender Relations Survey of Active Duty Members (2010 WGRA)*. The first section of this report presents the sample design and sample selection procedures. The second and third sections provide information regarding the processing of sample and frame files and the statistical methodology used for sample weighting.

Response rates for the *2010 WGRA* have also been computed in accordance with the RR3 recommendations of the American Association of Public Opinion Researchers (AAPOR, 2008). The response rates for the full sample and for subgroups and the computation methods are described in the last section of this report.

Sample Design and Selection

Target Population

The *2010 WGRA* was designed to represent individuals meeting all of the following criteria:

1. Active Duty members in the Army, Navy, Marine Corps and Air Force as well as members of Active Coast Guard;
2. At least six months service at the scheduled beginning of the survey fielding period;
3. Up to and including paygrade O6.

Fielding of the survey began March 8, 2010 and ended on June 4, 2010.

Sampling Frame

The sampling frame consisted of 1,424,304 records drawn from the June 2009 Active Duty Master Edit File (ADMF). Auxiliary information used to develop the frame was obtained from the July 2009 Defense Enrollment Eligibility Reporting System (DEERS) Point-in-Time Extracts (PITE), and June 2009 Contingency Tracking System (CTS) file.

Sample Design

The *2010 WGRA* used a single-stage stratified design. Five population characteristics defined the stratification dimensions: service, gender, paygrade, Race/ethnicity and deployed. These are the first five variables shown in Table 1. The frame was partitioned into 279 strata, produced by cross-classification of the stratification variables. In some circumstances, levels

were collapsed within dimensions. For example, minority deployed and not deployed was collapsed along with senior officers (O4-O6) to form a stratum representing female in the Army. Service and gender were preserved (not collapsed).

Within each stratum, individuals were selected with equal probability and without replacement. Because allocation of the sample was not proportional to the size of the strata, selection probabilities varied among strata, so individuals were not selected with equal probability overall. Nonproportional allocation was used to achieve adequate sample sizes for small subpopulations of analytic interest, the survey reporting domains. These domains included subpopulations defined by the stratification characteristics, as well as others: activation during the past 12 months, and region of residence. Key reporting domains variables are also shown in Table 1.

Table 1.
Stratification and Key Reporting Domain Variables

Variable	Categories
Service *	Army Navy Marine Corps Air Force Coast Guard
Pay Grade *	E1-E3/Unknown Enlisted E4 E5-E6 E7-E9 W1-W5 O1-O3/Unknown Officers O4-O6
Sex*	Male/Unknown Female
Race/Ethnicity *	Non-Minority/Unknown Minority
Deployed in the last 12 months *	None (Never Deployed) Yes No
Constructed DoD	DOD Non-DOD
Pay Grade	E1-E4 E5-E9 W1-W5 O1-O3 O4-O6 Unknown
Pay Grade Total Enlisted/Officer Code	Enlisted Officers
Race	White Black Hispanic Other Race

* Stratification variables

Sample Allocation

The total sample size was based on precision requirements for key reporting domains. 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. Anticipated eligibility and response rates were based on the *2006 Workplace and Gender Relations Survey of Active Duty Members (2006 WGRA)*.

The allocation was accomplished by means of the DMDC Sample Planning Tool, Version 2.1 (Dever and Mason, 2003). This application is based on the method originally developed by J. R. Chromy (1987), and is described in Mason, Wheelless, George, Dever,

Riemer, and Elig (1995). The Tool 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 per-unit costs of data collection, editing, and processing. The variance equations are solved simultaneously, subject to the constraints imposed, for the sample sizes that minimize the cost function. Eligibility rates modify the prevalence rates that are components of the variance equations, thus affecting the allocation; response rates inflate the allocation, thus affecting the final sample size.

Although 85 domains had been defined for the *2010 WGRA* allocation, precision constraints were imposed only on those of primary interest. Generally, the precision requirement was that an estimated prevalence rate of 0.5 have 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 a particular sample size.

The total *2010 WGRA* sample size was 90,391. Sample sizes by Service are shown in Table 2 for the levels of the stratification variables. The allocation solution by strata and by reporting domains are presented in Appendix A, Table A-1, and Appendix B, Table B-1 respectively.

Table 2.
Sample Size by Stratification Levels, Member Service

	Total	Army	Navy	Marine Corps	Air Force	Coast Guard
Total	90,391	25,788	18,682	24,719	16,425	4,777
Gender						
Male/Unknown	58,299	15,309	11,423	19,636	8,305	3,626
Female	32,092	10,479	7,259	5,083	8,120	1,151
Paygrade						
E1-E3	29,616	6,341	6,637	12,156	3,579	903
E4	19,197	6,833	3,464	4,810	3,161	929
E5-E6	18,321	4,437	4,477	3,986	4,386	1,035
E7-E9	4,839	1,333	988	961	1,317	240
W1-W5	4,044	2,949	347	394	0	354
O1-O3	8,596	2,234	1,642	1,749	2,191	780
O4-O6	5,778	1,661	1,127	663	1,791	536
Race						
Non-minority/Unknown	56,807	15,303	9,512	17,402	11,183	3,407
Minority	33,584	10,485	9,170	7,317	5,242	1,370
Deployed						
None	40,593	8,062	8,586	12,359	7,175	4,411
No	35,944	12,793	8,165	8,208	6,458	320
Yes	13,854	4,933	1,931	4,152	2,792	46

Weighting

Analytical weights for the *2010 Workplace and Gender Relations Survey of Active Duty Members* 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 and then adjusted for nonresponse. Nonresponse adjustments were accomplished in two phases, first the sampling weights were adjusted for eligibility then eligibility weights were adjusted for survey completion. The adjusted weights were poststratified to match the respective population totals and to reduce bias unaccounted for by the previous weighting steps.

Case Dispositions

First, case dispositions were assigned for weighting based on eligibility for the survey and completion of the return. Execution of the weighting process as well as computation of response rates both depend on this classification. Sample case disposition frequencies are reported in Table 3.

Table 3.
Description of 2010 WGRA Survey Control System Disposition Codes (SAMP_DC)

SAMP_DC	Description	Sample Cases	Percentage	Sum of Base Weights	Percentage of Sum of Base Weights
1	Record ineligible	3,092	3.42%	44,626	3.13%
2	Ineligible –Self/Proxy-Report	142	0.16%	2,564	0.18%
3	Ineligible –Survey Self-Report	369	0.41%	6,558	0.46%
4	Eligible – Complete Response	26,505	29.32%	431,053	30.26%
5	Eligible – Incomplete Response	3,203	3.54%	48,386	3.40%
8	Refused/Deployed/Other	965	1.07%	15,484	1.09%
9	Blank	588	0.65%	9,445	0.66%
10	PND	13,096	14.49%	191,846	13.47%
11	Nonrespondent	42,431	46.94%	674,343	47.35%
	Total	90,391	100.00%	1,424,304	100.00%

Final case dispositions for weighting were determined using information from administrative records, field operations (the Survey Control System or SCS), and returned surveys. No single source of information is both complete and accurate; inconsistencies among these sources were resolved according to the order of precedence shown in Table 4.

Table 4.
Case Disposition Resolution

SAMP_DC	Case Disposition	Label	Use
1	Frame ineligible	Personnel record	Ineligible – employed less than six months.
2	Ineligible by self- or proxy-report	Survey Control System	Separated from military, retired, ill, incarcerated, or deceased.
3	Survey response: ineligible	First survey question	Retired or separated from military.
4	Eligible, complete response	Item response rate	Item response is at least 50% and answered critical question related to sexual harassment.
5	Eligible, incomplete response	Item response rate	Return is not blank but item response is less than 50% or critical question not answered.
6	Unknown eligibility and complete response	Personnel record, first survey question, and item response rate	Incomplete personnel record AND first survey question response is missing AND item response is at least 50%.
7	Unknown eligibility, and incomplete response	Personnel record, first survey question, and item response rate	Incomplete personnel record AND first survey question response is missing AND return is not blank AND item response is less than 50%.
8	Active refusal	Survey Control System	Reason for refusal is ‘any;’ ineligible reason is ‘other;’ reason survey is blank is ‘too long’, ‘ineligible – other,’ ‘unreachable at this address,’ ‘refused by current resident,’ or ‘concerned about security/confidentiality.’
9	Blank return	Survey Control System	No reason given.
10	PND	Survey Control System	Postal non-delivery or original non-locatable.
11	Nonrespondent	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 was also given that the sample person had been hospitalized and was unable to complete the survey, the disposition would be “ineligible.”

Eligible Completed Cases for Weighting

The total number of eligible complete cases for weighting is shown in Table 5.

Table 5.
Complete Eligible Respondents by Service and Paygrade

Service by Paygrade	Total	Army	Navy	Marine Corps	Air Force	Coast Guard
Paygrade	26,505	6,703	5,330	5,033	6,963	2,476
E1-E3	4,339	650	932	1,237	1,253	267
E4	4,012	1,069	718	831	1,016	378
E5-E6	6,432	1,304	1,508	1,171	1,914	535
E7-E9	2,505	661	553	476	656	159
W1-W5	1,895	1,214	213	215	0	253
O1-O3	3,981	856	772	744	1,090	519
O4-O6	3,341	949	634	359	1,034	365

Nonresponse Adjustments and Poststratification

After case dispositions were resolved, the sampling weights were adjusted for nonresponse. First, the sampling weights for cases of known eligibility (samp_dc values 2, 3, 4, or 5) were adjusted to account for cases of unknown eligibility (samp_dc values 8, 9 10, or 11). Next, the eligibility-adjusted weights for eligible, complete respondents (value 4) were adjusted to account for eligible sample members who had not returned a completed survey (value 5). Note that record ineligibles (value 1) were excluded from these weighting adjustments.

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, gender, paygrade and race. Within each poststratification cell, the nonresponse-adjusted weights for eligible respondents (value 4) and self-reported ineligibles (value 2 or 3) were adjusted to match population counts. Final weights for record ineligibles (value 1) were set to zero. A summary of final weights by service is provided in Table 6.

Table 6.
Final Weighted Totals by Service and Pay Grade

Service by Paygrade	Army	Navy	Marine Corps	Air Force	Coast Guard
Paygrade	536,931	321,835	199,189	324,582	41,766
E1-E3	113,173	74,556	82,696	65,221	6,575
E4	130,204	49,829	36,381	51,277	7,691
E5-E6	148,081	115,249	45,845	109,571	14,853
E7-E9	56,091	30,264	13,610	33,665	4,357
W1-W5	14,824	1,738	2,002	0	1,800
O1-O3	44,616	30,077	12,361	37,302	4,003
O4-O6	29,942	20,122	6,294	27,546	2,487

Variance Estimation

Analysis of the 2010 WGRA data required a variance estimation procedure that accounted for the complex sample design. The final step of the weighting process was to define strata for variance estimation by Taylor series linearization. The 2010 WGRA survey variance estimation strata corresponded closely to the design strata; however, it was necessary to collapse some sampling strata containing fewer than 25 cases with non-zero final weights with similar strata. Ninety-one variance estimation strata were defined for the 2010 WGRA survey.

Location, Completion, and Response Rates

Location, completion, and response rates were calculated in accordance with the RR3 recommendations of (AAPOR, 2008), which estimates the proportion of eligible respondents among cases of unknown eligibility.

Location, completion, and response rates were computed for the 2010 WGRA as follows:

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 cases that contribute to the components of LR, CR, and RR, the disposition codes were grouped as shown in Table 7. Record Ineligibles were excluded from calculation of the eligibility rate because it was assumed that all ADMF ineligibles had been identified.

Table 7.
Disposition Codes for Response Rates

Response Category	Samp_DC Values
Eligible Sample	4, 5, 8, 9, 10, 11
Located Sample	4, 5, 8, 9, 11
Eligible Response	4
No Return	11
Eligibility Determined	2, 3, 4, 5, 8, 9
Self Report Ineligible	2, 3

Ineligibility Rate Definition

The ineligibility rate (IR) is defined as

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

Estimated Ineligible Postal Non-Deliverable or Not Located Rate Definition

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

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

Estimated Ineligible Nonresponse Rate Definition

The estimated ineligible nonresponse (EINR) is defined as

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

Adjusted Location Rate Definition

The adjusted location rate (ALR) is defined as

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

Adjusted Completion Rate Definition

The adjusted completion rate (ACR) is defined as

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

Adjusted Response Rate Definition

The adjusted response rate (ARR) is defined as

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

Unweighted and weighted sample counts used to compute the overall response rates are shown in Table 8; 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 2010 WGRA survey are shown in Table 9.

Weighted location, completion, and response rates for the full sample by stratification levels are shown in Table 10.

Table 8.
Unweighted and Weighted Sample Dispositions of the Final Sample

	Sample counts		Weighted estimates of population	
	n	%	n	%
Drawn sample & Population	90,391		1,424,304	
Ineligible on master files	-3,092	3.42%	-44,626	3.13%
Self-reported ineligible	-511	0.57%	-9,122	0.64%
Total: Ineligible	-3,603	3.99%	-53,748	3.77%
Eligible sample	86,788	96.01%	1,370,556	96.23%
Not located (estimated ineligible)	-211	0.23%	-3,408	0.24%
Not located (estimated eligible)	-12,885	14.26%	-188,438	13.23%
Total not located	-13,096	14.49%	-191,846	13.47%
Located sample	73,692	81.53%	1,178,710	82.76%
Requested removal from survey mailings	-965	1.07%	-15,484	1.09%
Returned blank	-588	0.65%	-9,445	0.66%
Skipped key questions	-3,203	3.54%	-48,386	3.40%
Did not return a survey (estimated ineligible)	-682	0.75%	-11,979	0.84%
Did not return a survey (estimated eligible)	-41,749	46.19%	-662,363	46.50%
Total: Nonresponse	-47,187	52.20%	-747,657	52.49%
Usable responses	26,505	29.32%	431,053	30.26%

Notes:

1. The categories labeled 'Not located . . .' and 'Did not return a survey . . .' have been broken down into additional subcategories labeled '(estimated ineligible)' and '(estimated eligible)'. The ineligible counts are based on an ineligible rate = Self-report ineligibles / (Eligible Respondents + Unusable responses + Self-reported ineligibles). Unusable responses include sample members who 'Requested removal,' 'Returned blank surveys,' or 'Skipped key questions.' The eligible counts are the complement of the ineligible count.

2. The observed counts of the various response categories are somewhat skewed by the oversampling employed in the sample design. Consequently, weighted counts are also provided because they are more representative of response propensity in the entire population.

A total of 3,603 sample members (3.99%) were lost from the final sample through classification as ineligible. Elimination of ineligibles resulted in decreasing the sample to 96.01% (N=86,788) of its original size. Because of the address update procedure, less than 14.49% of the drawn sample (13,096 of 90,391) was lost because the sample members could not be located. Losses attributable to either ineligibility or unlocatability resulted in a sample that was 81.53% of the drawn sample. Nonrespondents included the following groups: sample members who contacted the operations contractor (by mail, fax, e-mail, Web, or telephone) and asked to have their names removed from the survey mailing list, and 42,431 sample members

who did not return a survey. At the conclusion of the survey fielding, 26,505 eligible, locatable sample members had returned usable surveys.

Table 9.
Sample Location, Completion, and Response Rates

Type of Rate	Computation	Observed Rates	Weighted Rates
Location	Adjusted located sample / Adjusted eligible sample	85.0%	86.1%
Completion	Usable responses / Adjusted located sample	36.3%	36.9%
Response	Usable responses / Adjusted eligible sample	30.9%	31.8%

Table 10.
Response Rates by Stratification Variables and Key Reporting Domains

Domain Variable	Domain Variable Levels	Sample	Usable Responses	Sum of Weights	Weighted Location Rate	Weighted Completion Rate	Weighted Response Rate
Sample	Sample	90,391	26,505	1,424,304	86.1%	36.9%	31.8%
Service	Army	25,788	6,703	536,958	82.1%	31.8%	26.1%
	Navy	18,682	5,330	321,844	85.3%	38.3%	32.7%
	Marine Corps	24,719	5,033	199,171	82.9%	26.9%	22.3%
	Air Force	16,425	6,963	324,582	94.2%	46.2%	43.5%
	Coast Guard	4,777	2,476	41,749	95.3%	54.2%	51.7%
Paygroup	E1-E3	29,616	4,339	342,221	74.4%	19.9%	14.8%
	E4	19,197	4,012	275,382	79.9%	24.4%	19.5%
	E5-E6	18,321	6,432	433,599	90.9%	39.0%	35.5%
	E7-E9	4,839	2,505	137,987	97.1%	56.7%	55.0%
	W1-W5	4,044	1,895	20,365	95.4%	51.3%	48.9%
	O1-O3	8,596	3,981	128,359	93.0%	47.9%	44.5%
	O4-O6	5,778	3,341	86,391	97.7%	61.1%	59.7%
Gender	Male	58,299	15,865	1,222,464	85.8%	36.0%	30.9%
	Female	32,092	10,640	201,840	87.7%	42.7%	37.4%
Race	Non-minority/Unknown	56,807	17,570	945,472	86.9%	38.7%	33.6%
	Minority	33,584	8,935	478,832	84.6%	33.4%	28.3%
	Non-match to CTS file	40,593	10,628	591,239	82.6%	34.4%	28.4%
	No	35,944	11,909	698,230	89.1%	39.3%	35.0%
	Yes	13,854	3,968	134,835	85.9%	35.1%	30.2%
Constructed DOD	Non-DOD	4,777	2,476	41,749	95.3%	54.2%	51.7%
	DOD	85,614	24,029	1,382,555	85.8%	36.4%	31.2%
Paygroup Total Enlisted/Officers	Enlisted	71,973	17,288	1,189,189	84.3%	33.3%	28.1%
	Officer	18,418	9,217	235,115	94.9%	53.1%	50.4%
Race/Ethnicity	White/Unknown	56,798	17,565	945,302	86.9%	38.7%	33.6%
	Black	15,912	4,129	230,436	85.0%	32.9%	28.0%
	Hispanic	10,821	2,790	152,338	83.7%	32.9%	27.5%
	Other	6,860	2,021	96,228	85.0%	35.4%	30.1%

References

- American Association for Public Opinion Research. (2008). *Standard definitions: Final dispositions of case codes and outcome rates for surveys (5th edition)*. Lenexa, Kansas: Author.
- Chromy, J. R. (1987). Design optimization with multiple objectives. In *Proceedings of the Section on Survey Research Methods, presented at the annual meeting of the American Statistical Association, San Francisco, CA, August 17-20, 1987* (pp. 194-199). Alexandria, VA: The Association.
- Council of American Survey Research Organizations. (1982). *On the definition of response rates* (special report of the CASRO task force on completion rates, Lester R. Frankel, Chair). Port Jefferson, NY: Author.
- Dever, J. A., and Mason, R. E. (2003). *DMDC sample planning tool: Version 2.1*. Arlington, VA: DMDC.
- DMDC. (2009). *August 2009 Status of Forces Survey of Active Duty Members: Administration, datasets, and codebook* (Report No. 2009-060). Arlington, VA: Author.
- Mason, R. E., Wheelless, S. C., George, B. J., Dever, J. A., Riemer, R. A., and Elig, T. W. (1995). Sample allocation for the Status of the Armed Forces Surveys. In *Proceedings of the Section on Survey Research Methods, Volume II, American Statistical Association* (pp. 769– 774). Alexandria, VA: The Association.
- Riemer, R. A. and Kroeger, K. R. (2002). *Statistical design of the Status of Forces Surveys of Active Duty Members* (Report No. 2002-033). Arlington, VA: DMDC.

Appendix A.
Sample Allocation

Table A-1.
Sample Allocation

Stratum	Stratum Size	Allocation	Sample Size	% Sampled	Label
1	51,004	171	1,789	3.5	001Army_Male_E1-E3_Non-Minority_non
2	14,541	42	601	4.1	002Army_Male_E1-E3_Non-Minority_No
3	3,050	9	135	4.4	003Army_Male_E1-E3_Non-Minority_Yes
4	21,614	72	757	3.5	004Army_Male_E1-E3_Minoritynon
5	6,100	18	257	4.2	005Army_Male_E1-E3_Minority_No
6	1,129	4	60	5.3	006Army_Male_E1-E3_Minority_Yes
7	17,702	87	421	2.4	007Army_Male_E4_Non-Minority_non
8	48,103	195	1,386	2.9	008Army_Male_E4_Non-Minority_No
9	11,869	47	360	3.0	009Army_Male_E4_Non-Minority_Yes
10	8,391	37	222	2.6	010Army_Male_E4_Minority_non
11	21,554	79	699	3.2	011Army_Male_E4_Minority_No
12	4,911	18	172	3.5	012Army_Male_E4_Minority_Yes
13	7,372	49	128	1.7	013Army_Male_E5-E6_Non-Minority_non
14	62,310	376	1,192	1.9	014Army_Male_E5-E6_Non-Minority_No
15	11,097	67	217	2.0	015Army_Male_E5-E6_Non-Minority_Yes
16	4,549	29	84	1.8	016Army_Male_E5-E6_Minority_non
17	37,997	218	767	2.0	017Army_Male_E5-E6_Minority_No
18	6,360	36	130	2.0	018Army_Male_E5-E6_Minority_Yes
19	3,746	32	53	1.4	019Army_Male_E7-E9_Non-Minority_non
20	22,065	179	315	1.4	020Army_Male_E7-E9_Non-Minority_No
21	3,396	28	47	1.4	021Army_Male_E7-E9_Non-Minority_Yes
22	3,162	25	47	1.5	022Army_Male_E7-E9_Minority_non
23	15,311	117	234	1.5	023Army_Male_E7-E9_Minority_No
24	2,318	18	36	1.6	024Army_Male_E7-E9_Minority_Yes
25	8,973	151	323	3.6	025Army_Male_O1-O3_Non-Minority_non
26	16,070	260	600	3.7	026Army_Male_O1-O3_Non-Minority_No
27	2,903	43	119	4.1	027Army_Male_O1-O3_Non-Minority_Yes
28	2,290	37	90	3.9	028Army_Male_O1-O3_Minority_non
29	4,828	73	196	4.1	029Army_Male_O1-O3_Minority_No
30	831	12	38	4.6	030Army_Male_O1-O3_Minority_Yes
31	3,581	100	149	4.2	031Army_Male_O4-O6_Non-Minority_non
32	15,501	420	657	4.2	032Army_Male_O4-O6_Non-Minority_No
33	2,239	58	102	4.6	033Army_Male_O4-O6_Non-Minority_Yes
34	854	22	39	4.6	034Army_Male_O4-O6_Minority_non
35	3,318	84	152	4.6	035Army_Male_O4-O6_Minority_No
36	476	12	26	5.5	036Army_Male_O4-O6_Minority_Yes
37	6,675	196	961	14.4	037Army_Female_E1-E3_Non-Minority_non
38	1,069	28	182	17.0	038Army_Female_E1-E3_Non-Minority_No
39	214	25	173	80.8	039Army_Female_E1-E3_Non-Minority_Yes

Table A-1. (continued)

Stratum	Stratum Size	Allocation	Sample Size	% Sampled	Label
40	6,434	172	1,013	15.7	040Army_Female_E1-E3_Minority_non
41	1,107	26	205	18.5	041Army_Female_E1-E3_Minority_No
42	236	25	208	88.1	042Army_Female_E1-E3_Minority_Yes
43	3,530	128	412	11.7	043Army_Female_E4_Non-Minority_non
44	3,779	116	522	13.8	044Army_Female_E4_Non-Minority_No
45	836	110	561	67.1	045Army_Female_E4_Non-Minority_Yes
46	3,975	119	561	14.1	046Army_Female_E4_Minority_non
47	4,604	122	741	16.1	047Army_Female_E4_Minority_No
48	950	103	776	81.7	048Army_Female_E4_Minority_Yes
49	1,547	41	85	5.5	049Army_Female_E5-E6_Non-Minority_non
50	4,293	104	255	5.9	050Army_Female_E5-E6_Non-Minority_No
51	646	117	302	46.7	051Army_Female_E5-E6_Non-Minority_Yes
52	2,675	63	165	6.2	052Army_Female_E5-E6_Minority_non
53	8,128	179	531	6.5	053Army_Female_E5-E6_Minority_No
54	1,107	177	581	52.5	054Army_Female_E5-E6_Minority_Yes
55	536	17	26	4.9	055Army_Female_E7-E9_Non-Minority_non
56	1,245	140	228	18.3	056Army_Female_E7-E9_Non-Minority_No/Yes
57	1,354	38	72	5.3	057Army_Female_E7-E9_Minority_non
58	2,643	71	143	5.4	058Army_Female_E7-E9_Minority_No
59	315	64	132	41.9	059Army_Female_E7-E9_Minority_Yes
60	2,701	85	166	6.1	060Army_Female_O1-O3_Non-Minority_non
61	2,339	73	145	6.2	061Army_Female_O1-O3_Non-Minority_No
62	412	76	192	46.6	062Army_Female_O1-O3_Non-Minority_Yes
63	1,309	37	92	7.0	063Army_Female_O1-O3_Minority_non
64	1,671	47	119	7.1	064Army_Female_O1-O3_Minority_No
65	289	46	154	53.3	065Army_Female_O1-O3_Minority_Yes
66	906	37	56	6.2	066Army_Female_O4-O6_Non-Minority_non
67	1,632	171	264	16.2	067Army_Female_O4-O6_Non-Minority_No/Yes
68	476	17	33	6.9	068Army_Female_O4-O6_Minority_non
69	959	92	183	19.1	069Army_Female_O4-O6_Minority_No/Yes
70	22,442	118	1,357	6.0	070Navy_Male_E1-E3_Non-Minority_non
71	4,198	22	277	6.6	071Navy_Male_E1-E3_Non-Minority_No
72	1,036	6	81	7.8	072Navy_Male_E1-E3_Non-Minority_Yes
73	25,246	136	1,490	5.9	073Navy_Male_E1-E3_Minority_non
74	5,855	30	372	6.4	074Navy_Male_E1-E3_Minority_No
75	1,352	7	89	6.6	075Navy_Male_E1-E3_Minority_Yes
76	10,332	85	395	3.8	076Navy_Male_E4_Non-Minority_non
77	9,132	68	396	4.3	077Navy_Male_E4_Non-Minority_No
78	1,482	11	67	4.5	078Navy_Male_E4_Non-Minority_Yes
79	8,679	66	362	4.2	079Navy_Male_E4_Minority_non

Table A-1. (continued)

Stratum	Stratum Size	Allocation	Sample Size	% Sampled	Label
80	10,251	70	481	4.7	080Navy_Male_E4_Minority_No
81	1,358	10	72	5.3	081Navy_Male_E4_Minority_Yes
82	16,099	169	481	3.0	082Navy_Male_E5-E6_Non-Minority_non
83	36,188	372	1,099	3.0	083Navy_Male_E5-E6_Non-Minority_No
84	3,556	36	110	3.1	084Navy_Male_E5-E6_Non-Minority_Yes
85	10,118	102	313	3.1	085Navy_Male_E5-E6_Minority_non
86	30,925	303	985	3.2	086Navy_Male_E5-E6_Minority_No
87	2,625	26	85	3.2	087Navy_Male_E5-E6_Minority_Yes
88	4,944	64	122	2.5	088Navy_Male_E7-E9_Non-Minority_non
89	12,039	156	290	2.4	089Navy_Male_E7-E9_Non-Minority_No
90	1,083	15	28	2.6	090Navy_Male_E7-E9_Non-Minority_Yes
91	2,296	28	60	2.6	091Navy_Male_E7-E9_Minority_non
92	7,174	88	183	2.6	092Navy_Male_E7-E9_Minority_No
93	494	7	14	2.8	093Navy_Male_E7-E9_Minority_Yes
94	9,577	188	391	4.1	094Navy_Male_O1-O3_Non-Minority_non
95	9,038	175	374	4.1	095Navy_Male_O1-O3_Non-Minority_No
96	1,138	22	50	4.4	096Navy_Male_O1-O3_Non-Minority_Yes
97	2,242	42	96	4.3	097Navy_Male_O1-O3_Minority_non
98	2,569	48	112	4.4	098Navy_Male_O1-O3_Minority_No
99	251	5	13	5.2	099Navy_Male_O1-O3_Minority_Yes
100	4,682	134	219	4.7	100Navy_Male_O4-O6_Non-Minority_non
101	9,381	265	447	4.8	101Navy_Male_O4-O6_Non-Minority_No
102	686	19	34	5.0	102Navy_Male_O4-O6_Non-Minority_Yes
103	826	22	42	5.1	103Navy_Male_O4-O6_Minority_non
104	1,948	51	101	5.2	104Navy_Male_O4-O6_Minority_No/Yes
105	4,199	112	666	15.9	105Navy_Female_E1-E3_Non-Minority_non
106	829	60	416	50.2	106Navy_Female_E1-E3_Non-Minority_No/Yes
107	7,590	188	1,295	17.1	107Navy_Female_E1-E3_Minority_non
108	1,414	33	256	18.1	108Navy_Female_E1-E3_Minority_No
109	395	42	338	85.6	109Navy_Female_E1-E3_Minority_Yes
110	1,905	67	234	12.3	110Navy_Female_E4_Non-Minority_non
111	1,438	106	461	32.1	111Navy_Female_E4_Non-Minority_No/Yes
112	2,620	78	377	14.4	112Navy_Female_E4_Minority_non
113	2,296	62	363	15.8	113Navy_Female_E4_Minority_No
114	336	40	256	76.2	114Navy_Female_E4_Minority_Yes
115	2,053	52	115	5.6	115Navy_Female_E5-E6_Non-Minority_non
116	3,891	92	238	6.1	116Navy_Female_E5-E6_Non-Minority_No
117	350	62	165	47.1	117Navy_Female_E5-E6_Non-Minority_Yes
118	2,728	60	182	6.7	118Navy_Female_E5-E6_Minority_non
119	6,181	131	420	6.8	119Navy_Female_E5-E6_Minority_No

Table A-1. (continued)

Stratum	Stratum Size	Allocation	Sample Size	% Sampled	Label
120	535	86	284	53.1	120Navy_Female_E5-E6_Minority_Yes
121	290	9	17	5.9	121Navy_Female_E7-E9_Non-Minority_non
122	812	66	121	14.9	122Navy_Female_E7-E9_Non-Minority_No/Yes
123	292	8	19	6.5	123Navy_Female_E7-E9_Minority_non
124	840	58	134	16.0	124Navy_Female_E7-E9_Minority_No/Yes
125	2,191	67	137	6.3	125Navy_Female_O1-O3_Non-Minority_non
126	1,563	133	288	18.4	126Navy_Female_O1-O3_Non-Minority_No/Yes
127	904	25	64	7.1	127Navy_Female_O1-O3_Minority_non
128	604	44	117	19.4	128Navy_Female_O1-O3_Minority_No/Yes
129	1,021	39	67	6.6	129Navy_Female_O4-O6_Non-Minority_non
130	967	79	141	14.6	130Navy_Female_O4-O6_Non-Minority_No/Yes
131	294	10	24	8.2	131Navy_Female_O4-O6_Minority_non
132	317	22	52	16.4	132Navy_Female_O4-O6_Minority_No/Yes
133	46,301	469	5,876	12.7	133Marine Corps_Male_E1-E3_Non-Minority_non
134	7,427	68	1,057	14.2	134Marine Corps_Male_E1-E3_Non-Minority_No
135	6,259	56	928	14.8	135Marine Corps_Male_E1-E3_Non-Minority_Yes
136	13,768	142	1,724	12.5	136Marine Corps_Male_E1-E3_Minority_non
137	1,977	19	289	14.6	137Marine Corps_Male_E1-E3_Minority_No
138	1,915	18	286	14.9	138Marine Corps_Male_E1-E3_Minority_Yes
139	7,586	108	693	9.1	139Marine Corps_Male_E4_Non-Minority_non
140	11,113	132	1,209	10.9	140Marine Corps_Male_E4_Non-Minority_No
141	6,324	74	712	11.3	141Marine Corps_Male_E4_Non-Minority_Yes
142	2,792	36	280	10.0	142Marine Corps_Male_E4_Minority_non
143	3,901	43	470	12.0	143Marine Corps_Male_E4_Minority_No
144	2,012	22	256	12.7	144Marine Corps_Male_E4_Minority_Yes
145	3,932	70	285	7.2	145Marine Corps_Male_E5-E6_Non-Minority_non
146	19,203	320	1,473	7.7	146Marine Corps_Male_E5-E6_Non-Minority_No
147	4,827	78	385	8.0	147Marine Corps_Male_E5-E6_Non-Minority_Yes
148	2,421	41	184	7.6	148Marine Corps_Male_E5-E6_Minority_non
149	10,247	160	845	8.2	149Marine Corps_Male_E5-E6_Minority_No
150	2,362	37	200	8.5	150Marine Corps_Male_E5-E6_Minority_Yes
151	1,147	26	66	5.8	151Marine Corps_Male_E7-E9_Non-Minority_non

Table A-1. (continued)

Stratum	Stratum Size	Allocation	Sample Size	% Sampled	Label
152	5,478	121	319	5.8	152Marine Corps_Male_E7-E9_Non-Minority_No
153	1,240	28	74	6.0	153Marine Corps_Male_E7-E9_Non-Minority_Yes
154	979	21	62	6.3	154Marine Corps_Male_E7-E9_Minority_non
155	3,289	68	209	6.4	155Marine Corps_Male_E7-E9_Minority_No
156	757	16	49	6.5	156Marine Corps_Male_E7-E9_Minority_Yes
157	4,003	99	290	7.2	157Marine Corps_Male_O1-O3_Non-Minority_non
158	4,066	96	305	7.5	158Marine Corps_Male_O1-O3_Non-Minority_No
159	1,580	34	130	8.2	159Marine Corps_Male_O1-O3_Non-Minority_Yes
160	650	15	50	7.7	160Marine Corps_Male_O1-O3_Minority_non
161	904	21	74	8.2	161Marine Corps_Male_O1-O3_Minority_No
162	284	6	26	9.2	162Marine Corps_Male_O1-O3_Minority_Yes
163	516	17	37	7.2	163Marine Corps_Male_O4-O6_Non-Minority_non
164	3,818	121	279	7.3	164Marine Corps_Male_O4-O6_Non-Minority_No
165	827	25	66	8.0	165Marine Corps_Male_O4-O6_Non-Minority_Yes
166	929	27	77	8.3	166Marine Corps_Male_O4-O6_Minority_All
167	3,054	164	968	31.7	167Marine Corps_Female_E1-E3_Non-Minority_non
168	278	30	219	78.8	168Marine Corps_Female_E1-E3_Non-Minority_
169	1,717	93	809	47.1	169Marine Corps_Female_E1-E3_Minority_All
170	896	57	247	27.6	170Marine Corps_Female_E4_Non-Minority_non
171	416	23	134	32.2	171Marine Corps_Female_E4_Non-Minority_No
172	315	40	258	81.9	172Marine Corps_Female_E4_Non-Minority_Yes
173	553	30	186	33.6	173Marine Corps_Female_E4_Minority_non
174	473	42	365	77.2	174Marine Corps_Female_E4_Minority_No/Yes
175	522	12	38	7.3	175Marine Corps_Female_E5-E6_Non-Minority_non
176	698	14	52	7.4	176Marine Corps_Female_E5-E6_Non-Minority_No
177	218	33	128	58.7	177Marine Corps_Female_E5-E6_Non-Minority_Yes

Table A-1. (continued)

Stratum	Stratum Size	Allocation	Sample Size	% Sampled	Label
178	512	10	41	8.0	178Marine Corps_Female_E5-E6_Minority_non
179	903	73	355	39.3	179Marine Corps_Female_E5-E6_Minority_No/Yes
180	311	32	76	24.4	180Marine Corps_Female_E7-E9_Non-Minority_All
181	409	33	106	25.9	181Marine Corps_Female_E7-E9_Minority_All
182	313	247	313	100.0	182Marine Corps_Female_O1-O3_Non-Minority_non
183	348	272	348	100.0	183Marine Corps_Female_O1-O3_Non-Minority_No/Yes
184	213	147	213	100.0	184Marine Corps_Female_O1-O3_Minority_All
185	204	174	204	100.0	185Marine Corps_Female_O4-O6_All_All
186	33,884	234	1,111	3.3	186Air Force_Male_E1-E3_Non-Minority_non
187	3,764	26	125	3.3	187Air Force_Male_E1-E3_Non-Minority_No
188	1,960	14	67	3.4	188Air Force_Male_E1-E3_Non-Minority_Yes
189	10,258	70	342	3.3	189Air Force_Male_E1-E3_Minority_non
190	1,200	9	44	3.7	190Air Force_Male_E1-E3_Minority_No
191	619	5	25	4.0	191Air Force_Male_E1-E3_Minority_Yes
192	12,838	100	378	2.9	192Air Force_Male_E4_Non-Minority_non
193	13,212	97	411	3.1	193Air Force_Male_E4_Non-Minority_No
194	4,234	31	133	3.1	194Air Force_Male_E4_Non-Minority_Yes
195	4,124	29	136	3.3	195Air Force_Male_E4_Minority_non
196	4,797	32	168	3.5	196Air Force_Male_E4_Minority_No
197	1,374	9	48	3.5	197Air Force_Male_E4_Minority_Yes
198	15,396	139	386	2.5	198Air Force_Male_E5-E6_Non-Minority_non
199	41,009	373	1,009	2.5	199Air Force_Male_E5-E6_Non-Minority_No
200	6,839	63	170	2.5	200Air Force_Male_E5-E6_Non-Minority_Yes
201	5,606	48	152	2.7	201Air Force_Male_E5-E6_Minority_non
202	15,758	135	413	2.6	202Air Force_Male_E5-E6_Minority_No
203	2,423	21	64	2.6	203Air Force_Male_E5-E6_Minority_Yes
204	6,663	69	148	2.2	204Air Force_Male_E7-E9_Non-Minority_non
205	13,441	144	282	2.1	205Air Force_Male_E7-E9_Non-Minority_No
206	1,823	20	38	2.1	206Air Force_Male_E7-E9_Non-Minority_Yes
207	2,294	22	57	2.5	207Air Force_Male_E7-E9_Minority_non
208	4,124	41	95	2.3	208Air Force_Male_E7-E9_Minority_No
209	583	6	14	2.4	209Air Force_Male_E7-E9_Minority_Yes
210	13,637	229	578	4.2	210Air Force_Male_O1-O3_Non-Minority_non
211	9,307	156	398	4.3	211Air Force_Male_O1-O3_Non-Minority_No
212	2,550	42	112	4.4	212Air Force_Male_O1-O3_Non-Minority_Yes
213	2,005	32	95	4.7	213Air Force_Male_O1-O3_Minority_non

Table A-1. (continued)

Stratum	Stratum Size	Allocation	Sample Size	% Sampled	Label
214	1,610	25	75	4.7	214Air Force_Male_O1-O3_Minority_No
215	348	6	19	5.5	215Air Force_Male_O1-O3_Minority_Yes
216	6,823	171	346	5.1	216Air Force_Male_O4-O6_Non-Minority_non
217	12,421	310	631	5.1	217Air Force_Male_O4-O6_Non-Minority_No
218	1,535	38	79	5.1	218Air Force_Male_O4-O6_Non-Minority_Yes
219	957	22	57	6.0	219Air Force_Male_O4-O6_Minority_non
220	1,493	33	86	5.8	220Air Force_Male_O4-O6_Minority_No
221	218	5	13	6.0	221Air Force_Male_O4-O6_Minority_Yes
222	8,057	295	920	11.4	222Air Force_Female_E1-E3_Non-Minority_non
223	565	21	66	11.7	223Air Force_Female_E1-E3_Non-Minority_No
224	273	45	145	53.1	224Air Force_Female_E1-E3_Non-Minority_Yes
225	4,173	140	525	12.6	225Air Force_Female_E1-E3_Minority_non
226	468	55	209	44.7	226Air Force_Female_E1-E3_Minority_No/Yes
227	3,805	137	446	11.7	227Air Force_Female_E4_Non-Minority_non
228	2,276	79	282	12.4	228Air Force_Female_E4_Non-Minority_No
229	678	103	387	57.1	229Air Force_Female_E4_Non-Minority_Yes
230	2,144	64	305	14.2	230Air Force_Female_E4_Minority_non
231	1,436	41	212	14.8	231Air Force_Female_E4_Minority_No
232	359	46	255	71.0	232Air Force_Female_E4_Minority_Yes
233	4,685	109	289	6.2	233Air Force_Female_E5-E6_Non-Minority_non
234	6,984	163	430	6.2	234Air Force_Female_E5-E6_Non-Minority_No
235	877	157	413	47.1	235Air Force_Female_E5-E6_Non-Minority_Yes
236	3,546	72	253	7.1	236Air Force_Female_E5-E6_Minority_non
237	5,702	116	404	7.1	237Air Force_Female_E5-E6_Minority_No
238	746	117	403	54.0	238Air Force_Female_E5-E6_Minority_Yes
239	1,198	31	71	5.9	239Air Force_Female_E7-E9_Non-Minority_non
240	1,705	170	320	18.8	240Air Force_Female_E7-E9_Non-Minority_No/Yes
241	810	18	58	7.2	241Air Force_Female_E7-E9_Minority_non
242	1,024	79	234	22.9	242Air Force_Female_E7-E9_Minority_No/Yes
243	3,974	109	283	7.1	243Air Force_Female_O1-O3_Non-Minority_non
244	1,796	52	123	6.8	244Air Force_Female_O1-O3_Non-Minority_No
245	380	65	192	50.5	245Air Force_Female_O1-O3_Non-Minority_Yes

Table A-1. (continued)

Stratum	Stratum Size	Allocation	Sample Size	% Sampled	Label
246	1,021	23	88	8.6	246Air Force_Female_O1-O3_Minority_non
247	674	59	228	33.8	247Air Force_Female_O1-O3_Minority_No/Yes
248	1,486	52	109	7.3	248Air Force_Female_O4-O6_Non-Minority_non
249	1,727	169	305	17.7	249Air Force_Female_O4-O6_Non-Minority_No/Yes
250	428	11	42	9.8	250Air Force_Female_O4-O6_Minority_non
251	458	32	123	26.9	251Air Force_Female_O4-O6_Minority_No/Yes
252	3,524	78	415	11.8	252Coast Guard_Male_E1-E3_Non-Minority_All
253	1,981	44	239	12.1	253Coast Guard_Male_E1-E3_Minority_All
254	4,184	112	407	9.7	254Coast Guard_Male_E4_Non-Minority_non
255	242	7	28	11.6	255Coast Guard_Male_E4_Non-Minority_No/Yes
256	2,274	55	251	11.0	256Coast Guard_Male_E4_Minority_All
257	8,734	158	456	5.2	257Coast Guard_Male_E5-E6_Non-Minority_non
258	1,035	20	53	5.1	258Coast Guard_Male_E5-E6_Non-Minority_No/Yes
259	3,070	51	177	5.8	259Coast Guard_Male_E5-E6_Minority_non
260	393	7	23	5.9	260Coast Guard_Male_E5-E6_Minority_No/Yes
261	3,042	63	143	4.7	261Coast Guard_Male_E7-E9_Non-Minority_non
262	326	8	16	4.9	262Coast Guard_Male_E7-E9_Non-Minority_No/Yes
263	700	15	31	4.4	263Coast Guard_Male_E7-E9_Minority_All
264	2,193	181	404	18.4	264Coast Guard_Male_O1-O3_Non-Minority_non
265	291	28	47	16.2	265Coast Guard_Male_O1-O3_Non-Minority_No/Yes
266	654	50	134	20.5	266Coast Guard_Male_O1-O3_Minority_All
267	1,894	259	388	20.5	267Coast Guard_Male_O4-O6_Non-Minority_All
268	304	36	75	24.7	268Coast Guard_Male_O4-O6_Minority_All
269	714	56	160	22.4	269Coast Guard_Female_E1-E3_Non-Minority_All
270	356	25	89	25.0	270Coast Guard_Female_E1-E3_Minority_All
271	679	53	155	22.8	271Coast Guard_Female_E4_Non-Minority_All
272	312	20	88	28.2	272Coast Guard_Female_E4_Minority_All
273	1,131	94	217	19.2	273Coast Guard_Female_E5-E6_Non-Minority_All
274	490	36	109	22.2	274Coast Guard_Female_E5-E6_Minority_All

Table A-1. (continued)

Stratum	Stratum Size	Allocation	Sample Size	% Sampled	Label
275	289	27	50	17.3	275Coast Guard_Female_E7-E9_All_All
276	659	95	134	20.3	276Coast Guard_Female_O1-O3_Non-Minority_All
277	206	21	61	29.6	277Coast Guard_Female_O1-O3_Minority_All
278	289	50	73	25.3	278Coast Guard_Female_O4-O6_All_All
279	20,365	1,987	4,044	19.9	279Warrant Officer

Appendix B.
Allocation Solution for Reporting Domains

Table B-1.
Allocation Solution for Reporting Domains

Domain	Label	Population	Expected Precision	Allocation	Estimated n	Percent Sampled	Design effect
1	All Domains	1,424,304	0.01	24,116	89,931	6.35	2.03
2	DoD	1,382,681	0.01	22,305	85,207	6.19	1.97
3	Army	537,123	0.02	7,552	25,666	4.81	2.40
4	Navy	321,773	0.02	4,961	18,580	5.80	1.55
5	Marine Corps	199,203	0.02	4,357	24,632	12.41	1.61
6	Air Force	324,582	0.02	5,436	16,349	5.06	1.56
7	Enlisted*DoD	1,155,713	0.01	14,195	68,566	5.96	1.70
8	E1-E4*DoD	603,328	0.02	6,714	46,831	7.79	1.86
9	E1-E3*DoD	335,646	0.02	3,515	28,654	8.55	1.82
10	E4*DoD	267,691	0.02	3,199	18,184	6.82	1.90
11	E5-E9*DoD	552,376	0.01	7,481	21,762	3.96	1.44
12	E5-E6*DoD	418,746	0.02	5,308	17,217	4.13	1.40
13	E7-E9*DoD	133,630	0.03	2,173	4,550	3.44	1.50
14	Officer*DoD	226,968	0.01	8,110	16,629	7.39	1.50
15	O1-O3*DoD	124,356	0.02	3,424	7,768	6.29	1.42
16	O4-O6*DoD	83,904	0.02	2,861	5,184	6.25	1.19
17	Deployed in last 12 Months*DoD	134,270	0.03	3,342	13,738	10.28	3.06
18	Not Deployed in last 12 Months*DoD	695,255	0.01	11,095	35,416	5.12	1.90
19	Non-minority*DoD	914,752	0.01	14,965	53,082	5.83	1.97
20	Minority*DoD	467,929	0.02	7,341	32,127	6.90	1.97
21	Black*DoD	228,592	0.03	3,846	15,614	6.86	3.08
22	Hispanic*DoD	147,460	0.04	2,121	10,248	6.98	3.14
23	Female*DoD	196,788	0.01	8,999	30,776	15.74	1.45
24	Army*Female	71,946	0.02	2,994	10,428	14.61	1.34
25	Navy*Female	48,926	0.03	1,838	7,221	14.84	1.27
26	Marine Corps*Female	12,461	0.04	1,537	5,057	40.78	2.28
27	Air Force*Female	63,455	0.02	2,630	8,074	12.80	1.34
28	Enlisted*Female*DoD	161,678	0.01	6,337	25,661	15.96	1.30
29	E1-E4*Female*DoD	88,364	0.02	3,463	17,840	20.27	1.16
30	E5-E9*Female*DoD	73,311	0.02	2,874	7,831	10.76	1.48

Table B-1. (continued)

Domain	Label	Population	Expected Precision	Allocation	Estimated n	Percent Sampled	Design effect
31	Officer*Female*DoD	35,110	0.03	2,662	5,116	14.72	1.89
32	O1-O3*Female*DoD	22,700	0.03	1,607	3,236	14.37	2.04
33	O4-O6*Female*DoD	10,875	0.04	905	1,580	14.74	1.46
34	Deployed in last 12 Months*Female*DoD	13,430	0.02	1,966	7,358	55.16	1.27
35	Not Deployed in last 12 Months*Female*DoD	81,681	0.02	3,544	10,460	12.90	1.47
36	Army*Enlisted*Female	57,898	0.02	2,181	8,777	15.26	1.28
37	Army*E1-E4*Female	33,409	0.03	1,170	6,283	18.90	1.13
38	Army*Officer*Female	14,048	0.04	813	1,653	11.91	1.44
39	Navy*Enlisted*Female	40,994	0.03	1,412	6,327	15.51	1.24
40	Navy*E1-E4*Female	23,020	0.04	788	4,644	20.25	1.15
41	Navy*Officer*Female	7,932	0.05	426	895	11.40	1.22
42	Marine Corps*Enlisted*Female	11,275	0.04	686	3,964	35.32	1.22
43	Marine Corps*E1-E4*Female	7,702	0.04	479	3,175	41.37	1.00
44	Marine Corps*Officer*Female	1,186	0.05	851	1,089	92.70	2.44
45	Air Force*Enlisted*Female	51,511	0.02	2,058	6,594	12.87	1.33
46	Air Force*E1-E4*Female	24,233	0.03	1,026	3,738	15.48	1.13
47	Air Force*Officer*Female	11,944	0.05	572	1,480	12.50	1.36
48	Male*DoD	1,185,893	0.01	13,307	54,404	4.61	1.54
49	Army*Male	465,177	0.02	4,558	15,225	3.29	1.88
50	Navy*Male	272,847	0.02	3,123	11,355	4.18	1.29
51	Marine Corps*Male	186,742	0.02	2,820	19,572	10.52	1.17
52	Air Force*Male	261,127	0.02	2,806	8,268	3.18	1.16
53	Enlisted*Male*DoD	994,035	0.01	7,858	42,885	4.33	1.23
54	E1-E4*Male*DoD	514,964	0.02	3,251	28,978	5.64	1.20
55	E5-E9*Male*DoD	479,065	0.02	4,607	13,923	2.92	1.12
56	Officer*Male*DoD	191,858	0.02	5,449	11,507	6.05	1.28
57	O1-O3*Male*DoD	101,646	0.02	1,817	4,528	4.48	1.01
58	O4-O6*Male*DoD	73,029	0.02	1,956	3,601	4.98	1.00
59	Deployed in last 12 Months*Male*DoD	120,840	0.03	1,375	6,369	5.30	1.54

Table B-1. (continued)

Domain	Label	Population	Expected Precision	Allocation	Estimated n	Percent Sampled	Design effect
60	Not Deployed in last 12 Months*Male*DoD	613,574	0.01	7,552	24,946	4.09	1.61
61	Army*Enlisted*Male	389,651	0.02	1,953	10,059	2.59	1.11
62	Army*E1-E4*Male	209,968	0.04	779	6,834	3.27	1.02
63	Army*Officer*Male	75,526	0.02	2,605	5,152	6.89	1.54
64	Navy*Enlisted*Male	228,904	0.02	1,995	9,173	4.02	1.10
65	Navy*E1-E4*Male	101,359	0.04	629	5,424	5.37	1.03
66	Navy*Officer*Male	43,943	0.03	1,128	2,181	5.00	1.12
67	Marine Corps*Enlisted*Male	167,257	0.02	2,173	17,873	10.72	1.07
68	Marine Corps*E1-E4*Male	111,375	0.03	1,187	13,747	12.37	1.01
69	Marine Corps*Officer*Male	19,485	0.04	647	1,700	8.79	1.21
70	Air Force*Enlisted*Male	208,223	0.02	1,737	5,794	2.79	1.02
71	Air Force*E1-E4*Male	92,262	0.04	656	2,980	3.24	1.00
72	Air Force*Officer*Male	52,904	0.03	1,069	2,472	4.70	1.03
73	Coast Guard	41,623	0.03	1,811	4,721	11.42	1.64
74	Coast Guard*Enlisted	33,476	0.04	929	3,090	9.28	1.22
75	Coast Guard*E1-E4	14,264	0.05	450	1,825	12.84	1.16
76	Coast Guard*E5-E9	19,210	0.05	479	1,266	6.64	1.24
77	Coast Guard*Officer	8,147	0.04	882	1,628	20.19	1.16
78	Coast Guard*O1-O3	4,002	0.05	375	774	19.49	0.97
79	Coast Guard*O4-O6	2,487	0.05	345	529	21.55	0.89
80	Coast Guard*Female	5,216	0.04	486	1,145	22.13	1.01
81	Coast Guard*Female*Enlisted	3,971	0.05	311	862	21.86	0.94
82	Coast Guard*Female*Officer	1,245	0.07	175	283	22.98	1.01
83	Coast Guard*Male	36,407	0.03	1,325	3,576	9.88	1.51
84	Coast Guard*Male*Enlisted	29,505	0.04	618	2,227	7.59	1.01
85	Coast Guard*Male*Officer	6,902	0.04	707	1,345	19.69	1.16

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