

## Appendix A

### *Frequently Asked Questions*

#### **2011 Workplace and Equal Opportunity Survey of Reserve Component Members Defense Manpower Data Center (DMDC)**

The Defense Manpower Data Center (DMDC) Human Resources Strategic Assessment Program (HRSAP) has been conducting surveys of racial/ethnic issues for the military since 1996. HRSAP uses scientific state of the art statistical techniques to draw conclusions from random, representative samples of the Reserve component populations. To construct estimates for the 2011 Workplace and Equal Opportunity Survey of Reserve Component Members (*2011 WEOR*), DMDC used complex sampling and weighting procedures to ensure accuracy of estimates to the full Reserve component population. The following details some common questions about our methodology as a whole and the *2011 WEOR* specifically.

#### ***1. What was the population of interest for the 2011 Workplace and Equal Opportunity Survey of Reserve Component Members (WEOR)?***

The population of interest for the *2011 WEOR* consisted of:

- Selected Reserve in Reserve Unit, Active Guard/Reserve (AGR/FTS/AR; Title 10 and Title 32), or Individual Mobilization Augmentee programs from the Army National Guard, U.S. Army Reserve, U.S. Navy Reserve, U.S. Marine Corps Reserve, Air National Guard, and U.S. Air Force Reserve;
- Who had at least six months service at the time the questionnaire was first fielded;
- Were below flag rank.

Fielding of the survey began December 29, 2011 and ended on April 16, 2012.<sup>1</sup> Completed surveys were received from 15,641 eligible respondents. These survey responses were projected up to the full eligible Reserve component population of 801,887.

#### ***2. The 2011 Workplace and Equal Opportunity Survey of Reserve Component Members (WEOR) uses “sampling” and “weighting.” Why are these methods used and what do they do?***

Simply stated, sampling and weighting allows for data, based on a sample, to be accurately generalized up to the total population. In the case of the *2011 WEOR*, this allows DMDC to generalize to the full population of Reserve component members that meet the criteria listed above. This methodology, covered in more detail in Q3 and Q4, meets industry standards used by government statistical agencies including

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<sup>1</sup> Data for U.S. Coast Guard Reserve were collected between May 7, 2012 and ended June 18, 2012. This data is not included in the Overview Report.

the Census Bureau, Bureau of Labor Statistics, National Agricultural Statistical Service, National Center for Health Statistics, and National Center for Education Statistics. DMDC subscribes to the survey methodology best practices promoted by the American Association for Public Opinion Research (AAPOR).<sup>2</sup>

***3. Why don't the responses you received match the composition of the military population as a whole? For example, 11% of your respondents were Asian. How can you say your estimates represent the total Reserve component population when Asians make up 3.2% of the Reserve component force? Aren't the data skewed?***

The composition of the respondent sample (i.e., the surveys we receive back) is not always supposed to match the composition of the total population. This is intentional and is the most efficient design to make estimates for small subgroups (e.g., Asian). When conducting a large-scale survey, response rates vary for different groups of the population. These groups can also vary on core questions of interest to the Department of Defense, which can introduce “bias” to the data if not appropriately weighted. For example, if only a small percentage of responses to the *2011 WEOR* came from minority members, we may not get a good idea of the experiences for this group. In order to make more precise estimates for minorities, DMDC starts by oversampling known small reporting groups (e.g., Asian officers) and groups known to have low response rates. In order to construct accurate estimates weighted to the full population of military members, DMDC ensures during the sample design stage that we will receive enough respondents within all of the sub-groups of interest to make statistically accurate estimates. Many of these race groups comprise very small proportions of Reservists. This is the case with AIAN, NHPI, and those of Two or More Races. Therefore, DMDC sampled more of these races to gather adequate numbers in the sample. It is scientifically logical, and quite intentional, that proportionally more of these races would receive invitations to take the survey than other races in order for DMDC to accomplish this goal.

In general, this technique has a proven record of providing accurate estimates for total populations. Most recently, national election polls used responses from a small sample of individuals, typically around 2,000 or less, to accurately estimate to the U.S. voting population as a whole. A quick reference for this is on the website for the National Council on Public Polls Evaluations of the [2012](#) and [2010](#) elections.<sup>3</sup> In contrast, DMDC collected approximately 15,641 survey responses to accurately estimate to the eligible Reserve component population of 801,887.

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<sup>2</sup> AAPOR's "Best Practices" state that, "virtually all surveys taken seriously by social scientists, policy makers, and the informed media use some form of random or probability sampling, the methods of which are well grounded in statistical theory and the theory of probability" ([http://aapor.org/Best\\_Practices1/4081.htm#best3](http://aapor.org/Best_Practices1/4081.htm#best3)). DMDC has conducted surveys of the military and DoD community using stratified random sampling for 20 years.

<sup>3</sup> Poll information is hyperlinked or can be found here for 2012: <http://www.ncpp.org/files/Presidential%20National%20Polls%202012%200103%20Full.pdf>. Those surveys which contain margins of error (MOE) were scientifically conducted and typically have lower error despite often having fewer respondents compared to the other surveys.

#### ***4. Are these estimates valid with only a 25% response rate?***

Response rates to the 2011 WEOR are consistent with response rate levels and trends for the previous 2007 Workplace and Equal Opportunity Survey of Reserve Component Members and other Reserve component and active duty surveys conducted by DMDC (see Q6). Experts in the field have found that surveys with similar response rates, or lower, are able to produce reliable estimates.<sup>4</sup> While non-response bias due to low response rates is always a concern, DMDC has knowledge, based on administrative records, of the characteristics of both survey respondents and survey non-respondents, and uses this information to make statistical adjustments that compensate for survey non-response. This important advantage improves the quality of estimates from DMDC surveys that other survey organizations rarely have.

DMDC uses accurate administrative records (e.g., demographic data) for the Reserve component population both at the sample design stage as well as during the statistical weighting process to account for survey non-response and post-stratification to known distributions for key characteristics. Prior DMDC surveys provide empirical results showing how response rates vary by many characteristics (e.g., minority status and Service). DMDC uses this information to accurately estimate the optimum sample sizes needed to obtain sufficient numbers of respondents within key reporting groups (e.g., USAR, Black). After the survey is complete, DMDC makes statistical weighting adjustments so that each subgroup (e.g., USAR, E1-E3, and Black) contributes toward the survey estimates proportional to the known size of the subgroup.

#### ***5. Is 25% a common response rate for other military or civilian surveys?***

Response rates of 25% or less are now common in large-scale military surveys. Many civilian surveys often do not have the same knowledge about the composition of the total population in order to generalize results to full population via sampling and weighting. Therefore, these surveys often require much higher response rates in order to construct accurate estimates. For this reason, it is difficult to compare civilian survey response rates to DMDC survey response rates. However, many of the large-scale surveys conducted by DoD or civilian survey agencies rely on similar sampling and weighting procedures as DMDC to obtain accurate and generalizable findings with response rates lower than 30% (see Q6). Of note, DMDC has further advantage over these surveys by maintaining the administrative record data (e.g., demographic data) on the full population. This rich data, rarely available to survey

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<sup>4</sup> For example, Robert Groves, the former Director of the Census Bureau, stated, "...despite low response rates, probability sampling retains the value of unbiased sampling procedures from well-defined sampling frames." Groves, R. M. (2006). "Nonresponse Rates and Nonresponse Bias in Household Surveys." *Public Opinion Quarterly*, 70(5), pp. 646-675. <http://poq.oxfordjournals.org/content/70/5/646.short>

organizations, is used to reduce bias associated with the weighted estimates and increase the precision and accuracy of estimates.

**6. *Can you give some examples of other studies with similar response rates that were used by DoD to understand military populations and inform policy?***

The 2011 Health and Related Behaviors Survey, conducted by ICF International on behalf of the Tricare Activity Management, had a 22% response rate weighted up to the full active duty military population. This 22% represented approximately 34,000 respondents from a sample of about 154,000 active duty military members. In 2010, Gallup conducted a survey for the Air Force on sexual assault within the Service. Gallup weighted the results to generalize to the full population of Air Force members based on about 19,000 respondents representing a 19% response rate. Finally, in 2011, the U.S. Department of Defense Comprehensive Review Working Group, with the assistance of Westat, conducted a large-scale survey to measure the impact of overturning the Don't Ask Don't Tell (DADT) policy. The DADT survey, which was used to inform DoD policy, was sent to 400,000 active duty and Reserve members. It had a 28% response rate and was generalized up to the full population of military members, both active duty and Reserve. The survey methodology used for this survey, which used the DMDC sampling design, won the 2011 Policy Impact Award from The American Association for Public Opinion Research (AAPOR), which "recognizes outstanding research that has had a clear impact on improving policy decisions practice or discourse, either in the public or private sectors."

**7. *What about surveys that study the total U.S. population? How do they compare?***

In addition to the previously mentioned surveys on election voting (see Q3), surveys of sensitive topics and rare events rely on similar methodology and response rates to project estimates to the total U.S. adult population. For example, the 2010 National Intimate Partner and Sexual Violence Survey, conducted by the Centers for Disease Control and Prevention, calculated population estimates on a variety of sensitive measures based on about 18,000 interviews, reflecting a weighted response rate of between 28% to 34%.

**8. *Some of the estimates provided in the report show "NR" or "Not Reportable." What does this mean?***

The estimates become "Not Reportable" when they do not meet the criteria for statistically valid reporting. This can happen for a number of reasons including high variability or too few respondents. This process ensures that the estimates we provide in our analyses and reports are accurate within the margin of error.

**9. *How were the harassment and discrimination measures created and validated?***

The 1996 Equal Opportunity Survey (1996 EOS) provided estimates of racial/ethnic-related harassment and discrimination experienced by active-duty

military personnel and included items that tapped a limited set of antecedents and outcomes of such experiences. Survey questions were developed in consultation with subject matter experts and officials in the area of equal opportunity—including those in the federal, private, public, and military sectors; from an analysis of relevant literature—including reports and policy statements; from individual interviews with officials from organizations representing minority-group members in the military; and were adapted from existing military surveys (Elig et al., 1997).<sup>5</sup>

Items for the 1996 EOS were modified from the Sexual Experiences Questionnaire (SEQ; Fitzgerald et al., 1988<sup>6</sup>; Fitzgerald, Gelfand, & Drasgow, 1995<sup>7</sup>), a behavioral measure of sexual harassment, to reflect racial/ethnic-related harassment and discrimination. The SEQ was included in the 1995 Form B and subsequent gender and workplace relations surveys. Following item generation, the items were refined through an iterative process of pretesting and modification. A series of focus groups were conducted for these purposes and the items, particularly those pertaining to racial/ethnic-related harassment and discrimination, were pretested to ensure that they were realistic, tapped a range of racial/ethnic experiences, and were understood by respondents. A total of 305 military personnel from all five Services participated in more than 30 focus groups at nine installations located throughout the United States (Elig et al., 1997). The focus groups typically contained between seven to twelve members who were of the same racial/ethnic group and organizational level (e.g., Black officers) and group leaders who were from the same racial/ethnic group as the members. Following each focus group, modifications were made to the survey and tested in subsequent focus groups (Ormerod, Bergman, Palmieri, Drasgow, Juraska, 2001<sup>8</sup>). Confirmatory factor analyses were conducted to further validate the measure.<sup>9</sup>

The items constituting Racial/Ethnic Harassment and Discrimination were configured in various ways to represent a spectrum of perceived racial/ethnic harassment and discrimination experiences. These rates are reported as percentages, computed by dividing the number of respondents who match the

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<sup>5</sup> Elig, T. W., Edwards, J. E., & Reimer, R. A. (1997). *Armed Forces 1996 Equal Opportunity Survey: Administration, datasets, and codebook* (Report No. 97-026). Arlington, VA: Defense Manpower Data Center. (DTIC/NTIS No. AD A365 205).

<sup>6</sup> Fitzgerald, L. F., Shullman, S., Bailey, N., Richards, M., Swecker, J., Gold, Y., Ormerod, A. J., & Weitzman, L. (1988). The incidence and dimensions of sexual harassment in academia and the workplace. *Journal of Vocational Behavior*, *32*, 152-175.

<sup>7</sup> Fitzgerald, L. F., Gelfand, M. J., & Drasgow, F. (1995). Measuring sexual harassment: Theoretical and psychometric advances. *Basic and Applied Social Psychology*, *17*, 425-445.

<sup>8</sup> Ormerod, A. J., Bergman, M. E., Palmieri, P. A., Drasgow, F., Juraska, S. E. (2001, April). Structure of racial/ethnic harassment and discrimination in the military. In F. Drasgow (Chair), *Racial/ethnic discrimination and harassment: Methodology, measurement, and results*. Symposium presented at the annual meeting of the Society of Industrial Organizational Psychologists, San Diego, CA.

<sup>9</sup> Confirmatory factor analyses were conducted for these items using tetrachoric correlations (dichotomized responses) and diagonally-weighted least squares estimation. A tetrachoric correlation is computed as a measure of association between two dichotomous items. It is an estimation of the correlation that would be obtained if the items could be measured on a continuous scale. The reason for using a tetrachoric correlation is that the maximum Pearson product moment correlation is less than 1.0 for dichotomous variables with different base rates.

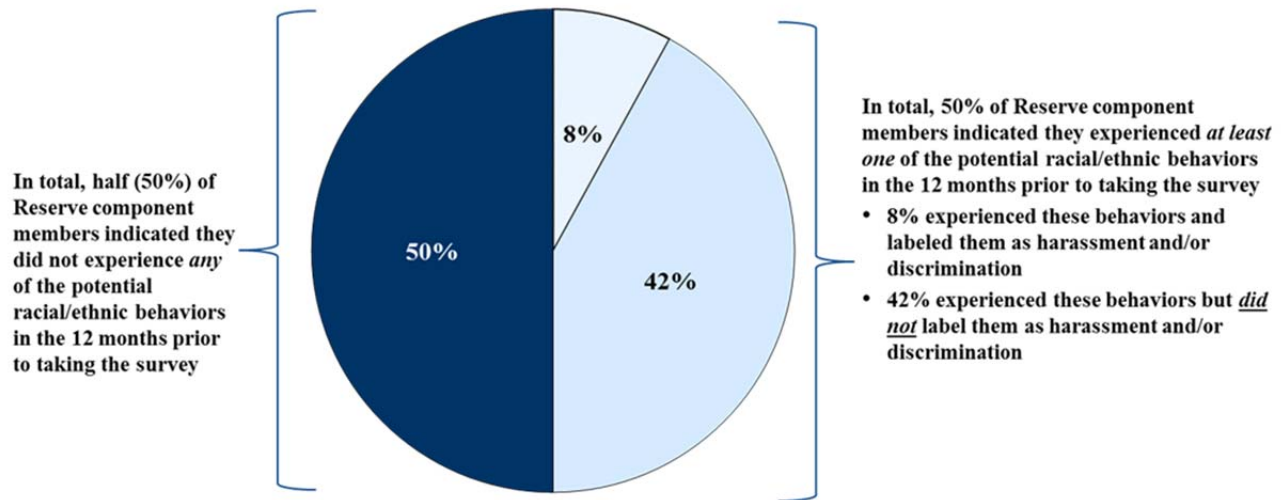
criteria for the measure (e.g., indicated that a behavior occurred at least once and labeled the behavior as harassment and/or discrimination) by the total number of respondents who completed surveys and were in the racial/ethnic group under consideration in the analysis.

***10. DMDC reports that 8% of the Reserve component members experienced racial/ethnic Harassment/Discrimination and then later states that 50% of Reserve component members experienced potential race/ethnicity-related behaviors. What is the difference between these two rates?***

In order to construct official prevalence rates for *Racial/Ethnic Harassment/Discrimination*, respondents must 1) indicate on the survey they experienced the race/ethnicity-related behavior and 2) label the experience as harassment and/or discrimination. Meeting these two criteria will result in inclusion in the official rates of racial/ethnic *Harassment, Discrimination*, overall *Harassment/Discrimination*, and each comprising factor within these rates. However, all 35 of the behaviors, regardless of whether the respondent labeled them as harassment/discrimination, should not occur in the military environment, are against DoD policy, and can be reported to a DoD authority. Therefore, the Department requests additional data on the population of Reserve component members who experience race/ethnicity-related behaviors, regardless of whether they label the behaviors as racial/ethnic harassment and/or discrimination. This more comprehensive data can often inform corrective actions and trainings.

Referencing the data, in 2011, 8% of Reserve component members indicated they experienced racial/ethnic *Harassment/Discrimination* in the DoD community in the 12 months prior to taking the survey. That is, they indicated experiencing racial/ethnic-related behaviors and labeled these experienced behaviors as harassment and/or discrimination. 42% of Reserve component members indicated experiencing at least one of the potential racial/ethnic behaviors in the 12 months prior to taking the survey, but did *not* label the behavior as harassment or discrimination. Therefore, overall, 50% of Reserve component members indicated they experienced at least one potential racial/ethnic behavior in the DoD Community *regardless of whether they labeled the behaviors as harassment/discrimination*. Figure 1 provides a visual of this breakdown.

**Figure 1.**  
**2011 One Situation of Racial/Ethnic Experiences**



**11. DMDC states that the 2011 scale for Discrimination includes a new subscale, Providers/Authority Discrimination, and that trends between 2007 and 2011 should be "interpreted with caution." What does this mean and to what extent did this additional subscale impact the estimates?**

DoD wanted to ensure the rates of *Discrimination* and *Harassment* reflect current policy and guidelines within the Department. Therefore, the 2011 rate includes this new subscale, *Providers/Authorities Discrimination*, in order to best reflect the experiences of members and the policies on racial/ethnic harassment/discrimination. The 2011 WEOR found that 1% of Reserve component members indicated experiencing *Providers/Authorities Discrimination*. DMDC conducted analyses both with this subscale included and without it included, to determine if its inclusion impacted significant differences between 2007 and 2011 trending. The 2011 rate for racial/ethnic *Discrimination* for Reserve component members was 3% whether the *Providers/Authorities Discrimination* subscale was included or not. The overall 2011 rate for racial/ethnic *Harassment/Discrimination* was 8% with the inclusion of the *Providers/Authorities Discrimination* subscale and 7% without the inclusion of the subscale. However, whether or not the *Provider/Authorities Discrimination* subscale is included, the 2011 racial/ethnic *Harassment/Discrimination* rate is still significantly higher than 2007 (8% vs. 6% and 7% vs. 6%). In order to best serve our military members, the decision was made to include these known behaviors of racial/ethnic discrimination to more accurately reflect experiences of Reserve component members and to better help inform policy decisions.