Empowering Employees. Inspiring Change.

Technical Report

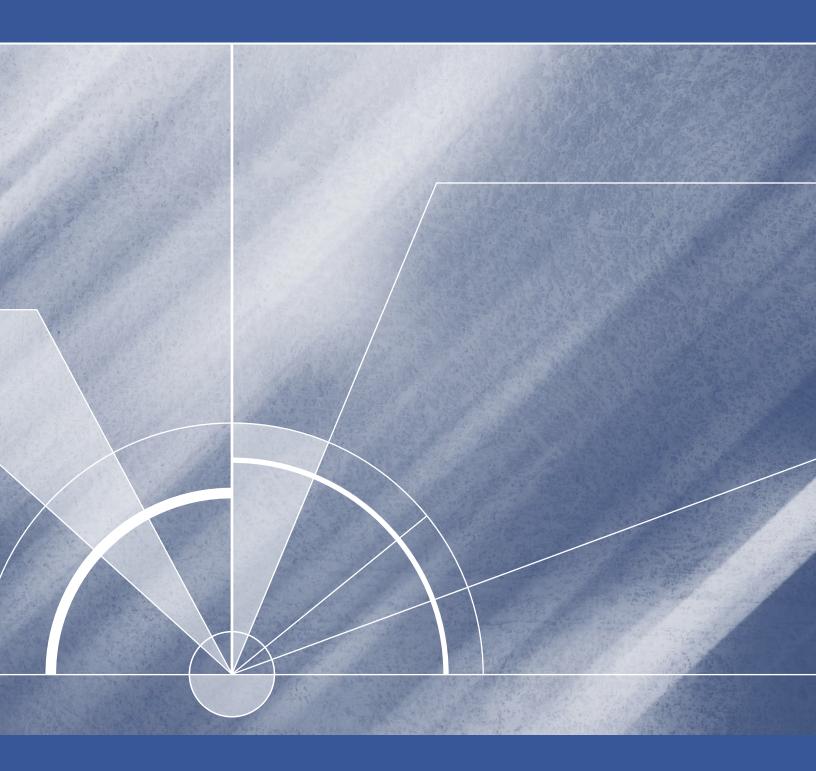




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Survey Introduction

Overview

This report provides a description of the sample design, administration, analysis, and reporting procedures for the 2018 Federal Employee Viewpoint Survey (FEVS). The U.S. Office of Personnel Management (OPM) has conducted the FEVS since 2002. The survey was conducted biennially between 2002 and 2010, and annually thereafter. Westat has supported the survey since 2004.

The FEVS is a climate survey designed to capture Federal employees' perceptions of organizational policies, practices, and procedures, and subsequent patterns of interactions and behaviors that support organizational performance. Climate, as a construct, is a surface manifestation of organizational culture.² Climate assessments like the FEVS are, consequently, important to organizational improvement largely because of the key role culture plays in directing organizational performance.

The FEVS is designed to provide agencies with employee feedback on dimensions critical to organizational performance: conditions for engagement, perceptions of leadership organizational effectiveness, outcomes related to climate (e.g., job satisfaction) and more. In 2018 the FEVS was modified slightly to clarify meaning and item referent (e.g. work "unit" to work "group") and reflect wording changes contained in the updated 250 regulations (5 CFR Part 250 Subpart C³) (See Appendix A for a list of the items that were changed in the 2018 FEVS).

The 94-item survey covers the following eight topic areas:

- Personal Work Experiences,
- · Work Unit,
- Agency,
- · Supervisor,
- · Leadership,
- Satisfaction,
- Work/Life, and
- · Demographics.

The sample design for the FEVS ensures that the resulting estimates of perceptions are statistically reliable not only at the overall Federal workforce (i.e., governmentwide) level but also at the level of pre-identified work units and senior leader status (i.e., whether a member of the Senior Executive Service (SES) or equivalent).

Survey Introduction

¹ Prior to 2010, the survey was called the Federal Human Capital Survey (FHCS).

² Schneider, B. (1990). The climate for service: an application of the climate construct. In B. Schneider (Ed.), Organizational climate and culture (pp. 383–412). San Francisco, CA: Jossey-Bass.

³ As per regulations initially provided by the U.S. Office of Personnel Management (5 CFR Part 250 Subpart C), 45 items are prescribed. These 45 items are known as the "Annual Employee Survey" (AES) and all were included in OPM's FEVS. OPM made significant changes to 5 CFR Part 250 Subpart C (published date December 2016, effective date April 2017), including reducing the number of required AES items to 16. The 16 items required by regulation will be maintained for year-to-year trending. Also maintained are the indices of Employee Engagement and Global Satisfaction. With these measures in common across surveys, year-to-year comparisons will continue to be possible.

Survey Introduction (continued)

Uses of Survey Results

FEVS results are used by Federal leaders to identify development and improvement strategies, evaluate development actions, and highlight important agency successes. FEVS findings allow agencies and subagencies to assess trends, where applicable, by comparing earlier results with the 2018 results. The results also allow agencies to compare their results with the governmentwide results, to identify current strengths and challenges, and to focus on short-term and long-term action targets that will help agencies reach their strategic human resource management goals. The recommended approach to assessing and driving change in agencies utilizes FEVS results in conjunction with other resources, such as results from other internal surveys, administrative data, focus groups, exit interviews and so on.

Survey Introduction 2



Sample Design and Selection

Sample Design

The FEVS sample design reflects OPM's commitment to providing Federal agency leaders with representative information about their employees' perceptions of workplace management practices, policies, and procedures. The survey population for the 2018 FEVS included permanently employed, non-political, non-seasonal, full-and part-time Federal employees who were employed and in pay status as of October 2017. The 2018 FEVS was administered as a census that included all eligible employees from 36 departments and large agencies as well as 43 small and independent agencies. The only other year the FEVS was administered as a census was in 2012.

The total sample size for the 2018 FEVS was 1,537,139 employees compared to 1,139,882 in 2017 and 941,425 in 2016. The 2018 sample size was larger than previous years' samples' because the FEVS was administered as a census in all agencies. The overall sample size was smaller in 2018 than for the 2012 comparative census year because the Department of Veterans Affairs did not participate in 2018. The 2018 sample size was more than sufficient to ensure a 95 percent chance that the true population value would be between plus or minus 1 percent of any estimated percentage for the total Federal workforce.

Sampling Frame and Stratification Variables

The sampling frame is a comprehensive list of all persons in the survey population, those eligible to be selected for the survey. For the 2018 FEVS, the sampling frame consisted of all 1,537,139 permanently employed, non-political, non-seasonal, full- and part-time Federal employees employed and in pay status as of October 2017 in the agencies participating in the survey. Apart from a few exceptions,⁶ this list was extracted from the personnel database managed by OPM as part of the Statistical Data Mart of the Enterprise Human Resources Integration (EHRI-SDM) (http://www.fedscope.opm.gov/datadefn/aehri_sdm.asp). OPM contacted participating agencies for supplemental organization code information. This information provides the hierarchical work unit(s) designations for each employee and provides more detailed information than available from the EHRI-SDM. Organization code information, when provided, along with information about whether an employee was a Senior Leader (SES employee), was used to create strata. The total survey population size was 1,537,139 employees but after cleaning the list based on, for example, eligibility criteria, the final population size was 1,473,870 Federal employees.

⁴ The Department of Veterans Affairs did not participate in the 2018 FEVS.

⁵ That is, reflecting any imprecision in estimates attributable to nonresponse etc., given the Census approach for 2018.

⁶ At the time of sample selection, EHRI-SDM did not maintain information on the following employee types eligible to participate in the survey, and so a separate data submission was arranged: (1) Department of State Foreign Service; (2) Health and Human Services Commissioned Corps; and (3) Employees of the Postal Regulatory Commission.



Survey Instrument

Survey Content

The FEVS instrument is designed to assess the climate of Federal agencies. Climate is exhibited through workplace tangibles such as behaviors and practices, which employees can perceive and describe in response to survey items developed to describe aspects of climate. Like other organizational climate instruments, the Federal Employee Viewpoint Survey (FEVS) captures employee perspectives regarding workplace conditions. Research suggests that climate perceptions are associated with effectiveness related outcomes, such as turnover intentions, job satisfaction, and organizational performance.⁷

The 2018 survey instrument was modified slightly from the version administered in 2017. Several items were revised reflect wording changes contained in the updated 250 regulations (5 CFR Part 250 Subpart C) as well as some revised demographic items (see Appendix A for a list of the items that were changed in the 2018 FEVS).

The 2018 FEVS was administered completely via the Web and was 508 compliant.⁸ The core 94-item survey included 16 demographic questions and 78 items that addressed the following eight topic areas (see Appendix B for a complete list of survey items):

- Personal Work Experience: Items 1–19 addressed employees' personal work experiences and opinions.
- Work Unit: Items 20–29 addressed employees' opinions regarding cooperation, recruitment, quality, and performance management in their work unit.
- Agency: Items 30–41 covered agency policies and practices related to job performance, performance appraisals, workplace diversity and fairness, as well as perceptions of employees' personal empowerment, safety and preparedness. This section also addresses employees' views of their agency.
- **Supervisor:** Items 42–52 addressed employees' perceptions of their supervisor. For instance, this section asked whether supervisors support work life balance, provide opportunities to demonstrate leadership skills, and promote a workplace culture that supports staff development.
- Leadership: Items 53–62 asked about the effectiveness of the agency's senior leaders and mangers overall, and in motivating employees, maintaining high ethical standards, communicating organizational policies, and generating respect.
- Satisfaction: Items 63–71 addressed employee satisfaction with various aspects of their jobs, including pay, job training, opportunities for advancement, recognition for work well done, and the policies and practices of senior leaders.
- Work/Life: Items 72–78 asked employees about teleworking and if they are satisfied with various employment benefits and work/life programs.
- **Demographics:** Items 79–94 covered employee information, such as location of employment (headquarters vs. field), supervisory status, gender, ethnicity/race, education, pay category/grade, Federal employment tenure, agency tenure, disability status, military service status, sexual orientation, transgender, and age group.

In addition to the core survey items, 60 agencies opted to add extra items tailored specifically to issues of interest to the agency. A total of 510 agency-specific items were added across the 60 agencies, with no one agency adding more than 9 items.

Survey Instrument 4

⁷ Patterson, M. G., West, M. A., Shackleton, V. J., Dawson, J. F., Lawthom, R., Maitlis, S., Robinson, D. L, & Wallace, A. M. (2005). Validating the organizational climate measure: links to managerial practices, productivity and innovation. *Journal of organizational behavior, 26*(4), 379-408

^{8 508} compliant refers to Section 508, an amendment of the U.S. Workforce Rehabilitation Act, mandating that all documents used by the Federal government are accessible to people with disabilities.



Data Collection

In this section, we describe the data collection procedures OPM used to administer the Web-based surveys. It includes details on the disposition codes used during data collection and those used for the calculation of response rates. This section concludes with a description of the procedures used during the data collection period to address questions received from Federal employees.

Web-Based Data Collection Procedures

The 2018 FEVS was a Web-based, self-administered survey. OPM sent emails to employees with an invitation to participate in the survey. The invitation email included instructions for accessing the survey (see Appendix C for sample email text). OPM also provided agencies with sample communication materials that could be used to promote the survey and encourage participation. To improve response rates, OPM sent weekly reminder emails to non-respondents, including a final reminder sent in the morning of the final day of the data collection period indicating the survey would close at the end of the day.

Estimates indicated the time for survey completion was no more than 30 minutes for the core items. The actual total survey completion times varied from agency to agency depending upon the number and complexity of any included agency-specific items. Employees were allowed to complete the survey during official work hours.

Data Collection Period

The data collection period for the 2018 traditional FEVS was April 30, 2018 to June 21, 2018. To spread the workload more evenly over that period, OPM arranged for surveys to be released in two waves to groups of agencies, beginning either April 30th or May 7th (see Table 1). The data collection period for each agency spanned six workweeks.



Table 1. 2018 FEVS Survey Launch Date and Final Close-Out Date, by Agency

Agency	Launch Date	Close Date
Broadcasting Board of Governors	May 8	June 19
Court Services & Offender Supervision Agency	May 2	June 13
Department of Agriculture	May 2	June 13
Department of Commerce	May 7	June 18
Department of Defense		
Department of the Air Force	May 2	June 13
Department of the Army	May 1	June 12
U.S. Army Corps of Engineers	May 8	June 19
Department of the Navy	April 30	June 11
U.S. Marine Corps	May 10	June 21
DOD 4th Estate	May 9	June 20





Table 1. 2018 FEVS Survey Launch Date and Final Close-Out Date, by Agency (continued)

Agency	Launch Date	Close Date
Department of Education	May 9	June 20
Department of Energy	May 3	June 14
Department of Health and Human Services	May 7	June 18
Department of Homeland Security	May 10	June 21
Department of Housing and Urban Development	May 8	June 19
Department of Justice	May 1	June 12
Department of Labor	May 3	June 14
Department of State	May 9	June 20
Department of the Interior	May 2	June 13
Department of the Treasury	May 1	June 12
Department of Transportation	April 30	June 11
Environmental Protection Agency	May 1	June 12
Equal Employment Opportunity Commission	May 2	June 13
Federal Communications Commission	May 8	June 19
Federal Energy Regulatory Commission	May 3	June 14
Federal Trade Commission	May 2	June 13
General Services Administration	May 1	June 1
National Aeronautics and Space Administration	May 10	June 21
National Archives and Records Administration	May 8	June 19
National Credit Union Administration	May 1	June 12
National Labor Relations Board	May 2	June 13
National Science Foundation	May 8	June 19
Nuclear Regulatory Commission	May 3	June 14





Table 1. 2018 FEVS Survey Launch Date and Final Close-Out Date, by Agency (continued)

Agency	Launch Date	Close Date
Office of Management and Budget	May 8	June 19
Office of Personnel Management	May 10	June 21
Pension Benefit Guaranty Corporation	May 2	June 13
Railroad Retirement Board	May 3	June 14
Securities and Exchange Commission	May 9	June 20
Small Business Administration	May 3	June 14
Social Security Administration	May 10	June 21
U.S. Agency for International Development	May 3	June 14
Small/Independent Agencies	May 8	June 19

Survey Disposition Codes

During the data collection period, each case in the sample frame was assigned a status or disposition code to indicate the result of specific survey contact attempts (e.g., refusal, complete, ineligible). Two types of disposition codes were assigned to indicate the status of each case: interim disposition codes and final disposition codes.

Interim Disposition Codes

Throughout data collection, each case was assigned a numeric interim disposition code if the case was not yet considered closed (e.g., completed survey, refusal, ineligible). Codes are summarized in Table 2. Upon the close of data collection, a final disposition code was assigned to each case (see Table 3).



Table 2. 2018 FEVS Interim Disposition Codes

Interim code	Description of Interim Disposition Code
00	Pending, non-response
CO	Complete
IE	Ineligible (e.g., deceased, retired, no longer with agency)





Table 2. 2018 FEVS Interim Disposition Codes (continued)

Interim code	Description of Interim Disposition Code
Undeliverable	
11	1st Undeliverable
12	2nd Undeliverable
13	3rd Undeliverable
14	4th Undeliverable
15	5th Undeliverable
16	6th Undeliverable
17	7th Undeliverable
18	8th or More Undeliverable messages
20	No longer at email address, no forwarding information
NE	No email address
Out-of-office	
41	1st Out-of-office
42	2nd Out-of-office
43	3rd Out-of-office
44	4th Out-of-office
45	5th Out-of-office
46	6th Out-of-office
47	7th Out-of-office
48	8th Out-of-office
Other	
90	Request Reset URL
RF	Refusal
UA	Unavailable during the field period
DU	Duplicate entry

Data Collection (continued)

In previous years, the Help Center has attempted to encourage first time refusals to complete the survey. For the 2018 survey, respondents who emailed or called the Help Center to refuse participation were immediately coded as a refusal and unsubscribed from future communications. A disposition code for refusal conversions was removed from this list, as there was no attempt for refusal conversions.

During data collection, if the respondent's out-of-office email indicated that they were out of the office during the entire data collection period, the case was given an interim disposition code of Unavailable (UA).

Converting Interim Codes to Final Disposition Codes

This section reviews the rules that were applied when converting interim disposition codes to final disposition codes.

Survey Completes and Incompletes

All respondents who viewed the surveys were considered an interim complete. However, to be coded as a final complete (CO), a respondent had to provide answers to at least 21 of the 78 non-demographic items. That is, they needed to complete over 25% of the survey. If the respondent answered between 1 and 20 items of the 78 nondemographic items, the respondent was coded as an Incomplete (IN). If the respondent did not respond to any of the 84 items, they were coded as a no response (NR).

Once the respondents were coded into completes or incompletes, the following rules were applied to the survey population in hierarchical order:

- Refusals: Respondents coded as a Refusal (code RF) remained so unless they completed the survey. If a case coded as a Refusal, completed the survey, the case was coded as a complete (CO).
- Ineligibles: Cases were coded as ineligible based on the following criteria; the person was discovered after sampling to be:
 - retired:
 - no longer with the agency;
 - unavailable during the data collection period (UA) (i.e., out on maternity leave, out of the country, on leave for any other reason during the entire data collection period);
 - determined to be active duty, activated military, a political appointee, or a contractor; or
 - deceased.

Undeliverable Fmails

If a respondent had an undeliverable email bounce back, we counted the number of undeliverable messages received and this number provided the interim undeliverable code of 11 through 18 (i.e. 1 through 8 or more undeliverable messages). The following rule applied to determine the respondent's undeliverable (UD) status: if the total number of contacts with the respondent's agency equaled at least ½ the number of undeliverable bounce backs, then the respondent was considered UD. If less than ½ the number total contacts were undeliverable bounce backs, the case was designated as NR. For example, if OPM had 7 potential contacts (invitations and reminders), any OPM respondent with at least 4 (7 contacts divided by 2 = 3.5 rounded up) interim undeliverable emails (interim codes 14 through 18) would be coded as UD, otherwise they would be designated NR.



Final Disposition Codes

Table 3 lists the final disposition codes for the surveys, with the number of cases per code, for the 2018 FEVS. The codes abide by the American Association of Public Opinion Research's (AAPOR) 2016 guidelines for Internet surveys of specifically named persons9. Final disposition codes were used when calculating survey response rates, survey analysis weights, and which cases should be included in the final analysis dataset. Only cases with a disposition code of complete (CO) were retained in the final analysis dataset. All other cases were removed.



Table 3. 2018 FEVS Final Disposition Codes and Case Count per Disposition Code

Final Disposition codes	Description	No. of cases
CO	Complete – respondent answered at least 21 of the first 78 non-demographic items	598,003
IN	Incomplete – respondent answered at least 1 but less than 21 of the first 78 non-demographic items	10,798
RF	Refusal	271
NR	No response	864,798
IE	Ineligible (e.g., deceased or no longer with agency)	38,653
NE	No email address	23,795
UA	Unavailable during the fielding period	330
UD	Undeliverable email	491
Total		1,537,139

Response Rates

Westat calculated response rates in two ways: 1) using the formula that has been used for reporting in previous administrations of the survey and 2) using AAPOR's Response Rate 3 formula, an industry-standard method that allows a more accurate comparison to other surveys as shown in Appendix D. The two formulas lead to different results due to differences in the allocations of final disposition codes among the four main groupings of survey cases:

- Eligible respondents (ER = surveyed and responded),
- Eligible non-respondents (ENR = known eligible cases that did not return completed surveys),
- Unknown eligibility (UNK), and
- Ineligible cases (IE).

The distributions of final disposition codes among these four groupings are summarized in Table 4. The governmentwide and agency response rates, calculated using the FEVS formula, are presented in Table 5.

⁹ The American Association for Public Opinion Research. (2016). Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys. (9th ed.) AAPOR. Last retrieved January 23, 2019: https://www.aapor.org/AAPOR_Main/media/publications/Standard-Definitions20169theditionfinal.pdf



Table 4. Case Assignment Allocation to Response Rate Groups

Response Rate (RR) Group	FEVS Method Allocation	FEVS Method Counts
Eligible Respondents (ER)	CO	598,003
Eligible Non-respondents (ENR)	NR, RF, IN	875,867
Unknown Eligibility (UNK)	_	
Ineligible (IE)	IE, UD, NE, UA	63,269
Total		1,473,870

Using the counts in Table 4 the response rate is calculated and used in final reporting as follows:

FEVS formula:

Number of eligible employees returning completed surveys / Number of eligible employees:

RR = ER / (ER + ENR) * 100

RR = 598,003/ (598,003+ 875,867) * 100

 $RR = (598,003/1,473,870)^* 100$

RR = 40.6 percent (down from 45.5 percent in 2017)



Table 5. 2018 FEVS Agency Response Rates

Agency and Agency Size	Number of Completed Surveys	Response Rate
Governmentwide	598,003	40.6%
Very Large Agencies (> 75,000 employees)	415,400	36.8%
Department of Agriculture	43,352	55.1%
Department of Defense	182,115	30.0%
United States Department of the Air Force	33,351	24.1%
United States Department of the Army*	70,005	34.7%
United States Army Corps of Engineers	18,696	61.1%
United States Department of the Navy**	47,882	27.1%
United States Marine Corps	5,270	35.2%
OSD, Joint Staff, Defense Agencies, and Field Activities	30,877	34.2%
Department of Health and Human Services	43,029	57.2%
Department of Homeland Security	73,899	41.3%
Department of Justice	30,978	28.1%
Department of the Treasury	42,027	53.7%
Large Agencies (10,000 – 74,999 employees)	147,509	50.5%
Department of Commerce	20,725	55.4%
Department of Energy	8,624	69.0%
Department of Labor	8,075	56.3%
Department of State	7,228	31.3%
Department of the Interior	28,290	57.7%
Department of Transportation	21,552	41.0%
Environmental Protection Agency	7,972	57.1%

^{*} United States Department of the Army numbers include United States Army Corps of Engineers

 $[\]ensuremath{^{\star\star}}$ United States Department of the Navy numbers include United States Marine Corps



Data Collection (continued)



Table 5. 2018 FEVS Agency Response Rates (continued)

Large Agencies (10,000 – 74,999 employees) (continued) 147,509 50.5% General Services Administration 7,157 66.0% National Aeronautics and Space Administration 11,568 68.2% Social Security Administration 26,318 43.0% Medium Agencies (1,000 – 9,999 employees) 28,571 64.6% Broadcasting Board of Governors 829 58.5% Court Services and Offender Supervision Agency 470 41.4% Department of Education 2,592 69.9% Department of Housing and Urban Development 4,628 62.1% Equal Employment Opportunity Commission 1,379 71.3% Federal Communications Commission 594 42.2% Federal Energy Regulatory Commission 1,115 80.7% Federal Trade Commission 638 60.5% National Archives and Records Administration 1,743 63.7% National Labor Relations Board 859 62.4% National Science Foundation 940 75.8% Nuclear Regulatory Commission 2,308 75.1% Office of Per	Agency and Agency Size	Number of Completed Surveys	Response Rate
General Services Administration 7,157 66.0% National Aeronautics and Space Administration 11,568 68.2% Social Security Administration 26,318 43.0% Medium Agencies (1,000 – 9,999 employees) 28,571 64.6% Broadcasting Board of Governors 829 58.5% Court Services and Offender Supervision Agency 470 41.4% Department of Education 2,592 69.9% Department of Housing and Urban Development 4,628 62.1% Equal Employment Opportunity Commission 1,379 71.3% Federal Communications Commission 594 42.2% Federal Energy Regulatory Commission 1,115 80.7% Federal Trade Commission 638 60.5% National Archives and Records Administration 1,743 63.7% National Labor Relations Board 859 62.4% National Science Foundation 940 75.8% Nuclear Regulatory Commission 2,308 75.1% Office of Personnel Management 3,069 58.7% Securities and Exchange Commission	Governmentwide	598,003	40.6%
National Aeronautics and Space Administration 11,568 68.2% Social Security Administration 26,318 43.0% Medium Agencies (1,000 – 9,999 employees) 28,571 64.6% Broadcasting Board of Governors 829 58.5% Court Services and Offender Supervision Agency 470 41.4% Department of Education 2,592 69.9% Department of Housing and Urban Development 4,628 62.1% Equal Employment Opportunity Commission 1,379 71.3% Federal Communications Commission 594 42.2% Federal Energy Regulatory Commission 1,115 80.7% Federal Trade Commission 638 60.5% National Archives and Records Administration 1,743 63.7% National Labor Relations Board 859 62.4% National Science Foundation 940 75.8% Nuclear Regulatory Commission 2,308 75.1% Office of Personnel Management 3,069 58.7% Securities and Exchange Commission 3,394 76.4% Small Business Administration	Large Agencies (10,000 – 74,999 employees) (continued)	147,509	50.5%
Social Security Administration 26,318 43.0% Medium Agencies (1,000 – 9,999 employees) 28,571 64.6% Broadcasting Board of Governors 829 58.5% Court Services and Offender Supervision Agency 470 41.4% Department of Education 2,592 69.9% Department of Housing and Urban Development 4,628 62.1% Equal Employment Opportunity Commission 1,379 71.3% Federal Communications Commission 594 42.2% Federal Energy Regulatory Commission 1,115 80.7% Federal Trade Commission 638 60.5% National Archives and Records Administration 1,743 63.7% National Credit Union Administration 633 58.4% National Science Foundation 940 75.8% Nuclear Regulatory Commission 2,308 75.1% Office of Personnel Management 3,069 58.7% Securities and Exchange Commission 1,543 74.1%	General Services Administration	7,157	66.0%
Medium Agencies (1,000 – 9,999 employees) 28,571 64.6% Broadcasting Board of Governors 829 58.5% Court Services and Offender Supervision Agency 470 41.4% Department of Education 2,592 69.9% Department of Housing and Urban Development 4,628 62.1% Equal Employment Opportunity Commission 1,379 71.3% Federal Communications Commission 594 42.2% Federal Energy Regulatory Commission 1,115 80.7% Federal Trade Commission 638 60.5% National Archives and Records Administration 1,743 63.7% National Credit Union Administration 633 58.4% National Science Foundation 940 75.8% Nuclear Regulatory Commission 2,308 75.1% Office of Personnel Management 3,069 58.7% Securities and Exchange Commission 1,543 74.1%	National Aeronautics and Space Administration	11,568	68.2%
Broadcasting Board of Governors Court Services and Offender Supervision Agency Department of Education 2,592 69.9% Department of Housing and Urban Development 4,628 62.1% Equal Employment Opportunity Commission 1,379 71.3% Federal Communications Commission 594 42.2% Federal Energy Regulatory Commission 1,115 80.7% Federal Trade Commission 638 60.5% National Archives and Records Administration 1,743 63.7% National Credit Union Administration 859 62.4% National Science Foundation 940 75.8% Nuclear Regulatory Commission 2,308 75.1% Office of Personnel Management 3,069 58.7% Securities and Exchange Commission 3,394 76.4% Small Business Administration 1,543 74.1%	Social Security Administration	26,318	43.0%
Court Services and Offender Supervision Agency Department of Education 2,592 69.9% Department of Housing and Urban Development 4,628 62.1% Equal Employment Opportunity Commission 1,379 71.3% Federal Communications Commission 594 42.2% Federal Energy Regulatory Commission 1,115 80.7% Federal Trade Commission 638 60.5% National Archives and Records Administration 1,743 63.7% National Credit Union Administration 633 58.4% National Science Foundation 940 75.8% Nuclear Regulatory Commission 2,308 75.1% Office of Personnel Management 3,069 58.7% Securities and Exchange Commission 3,394 76.4% Small Business Administration 1,543 74.1%	Medium Agencies (1,000 – 9,999 employees)	28,571	64.6%
Department of Education2,59269.9%Department of Housing and Urban Development4,62862.1%Equal Employment Opportunity Commission1,37971.3%Federal Communications Commission59442.2%Federal Energy Regulatory Commission1,11580.7%Federal Trade Commission63860.5%National Archives and Records Administration1,74363.7%National Credit Union Administration63358.4%National Science Foundation94075.8%Nuclear Regulatory Commission2,30875.1%Office of Personnel Management3,06958.7%Securities and Exchange Commission3,39476.4%Small Business Administration1,54374.1%	Broadcasting Board of Governors	829	58.5%
Department of Housing and Urban Development 4,628 62.1% Equal Employment Opportunity Commission 1,379 71.3% Federal Communications Commission 594 42.2% Federal Energy Regulatory Commission 1,115 80.7% Federal Trade Commission 638 60.5% National Archives and Records Administration 1,743 63.7% National Credit Union Administration 633 58.4% National Labor Relations Board 859 62.4% National Science Foundation 940 75.8% Nuclear Regulatory Commission 2,308 75.1% Office of Personnel Management 3,069 58.7% Securities and Exchange Commission 1,543 74.1%	Court Services and Offender Supervision Agency	470	41.4%
Equal Employment Opportunity Commission1,37971.3%Federal Communications Commission59442.2%Federal Energy Regulatory Commission1,11580.7%Federal Trade Commission63860.5%National Archives and Records Administration1,74363.7%National Credit Union Administration63358.4%National Labor Relations Board85962.4%National Science Foundation94075.8%Nuclear Regulatory Commission2,30875.1%Office of Personnel Management3,06958.7%Securities and Exchange Commission3,39476.4%Small Business Administration1,54374.1%	Department of Education	2,592	69.9%
Federal Communications Commission59442.2%Federal Energy Regulatory Commission1,11580.7%Federal Trade Commission63860.5%National Archives and Records Administration1,74363.7%National Credit Union Administration63358.4%National Labor Relations Board85962.4%National Science Foundation94075.8%Nuclear Regulatory Commission2,30875.1%Office of Personnel Management3,06958.7%Securities and Exchange Commission3,39476.4%Small Business Administration1,54374.1%	Department of Housing and Urban Development	4,628	62.1%
Federal Energy Regulatory Commission 1,115 80.7% Federal Trade Commission 638 60.5% National Archives and Records Administration 1,743 63.7% National Credit Union Administration 633 58.4% National Labor Relations Board 859 62.4% National Science Foundation 940 75.8% Nuclear Regulatory Commission 2,308 75.1% Office of Personnel Management 3,069 58.7% Securities and Exchange Commission 3,394 76.4% Small Business Administration 1,543 74.1%	Equal Employment Opportunity Commission	1,379	71.3%
Federal Trade Commission 638 60.5% National Archives and Records Administration 1,743 63.7% National Credit Union Administration 633 58.4% National Labor Relations Board 859 62.4% National Science Foundation 940 75.8% Nuclear Regulatory Commission 2,308 75.1% Office of Personnel Management 3,069 58.7% Securities and Exchange Commission 3,394 76.4% Small Business Administration 1,543 74.1%	Federal Communications Commission	594	42.2%
National Archives and Records Administration1,74363.7%National Credit Union Administration63358.4%National Labor Relations Board85962.4%National Science Foundation94075.8%Nuclear Regulatory Commission2,30875.1%Office of Personnel Management3,06958.7%Securities and Exchange Commission3,39476.4%Small Business Administration1,54374.1%	Federal Energy Regulatory Commission	1,115	80.7%
National Credit Union Administration63358.4%National Labor Relations Board85962.4%National Science Foundation94075.8%Nuclear Regulatory Commission2,30875.1%Office of Personnel Management3,06958.7%Securities and Exchange Commission3,39476.4%Small Business Administration1,54374.1%	Federal Trade Commission	638	60.5%
National Labor Relations Board 859 62.4% National Science Foundation 940 75.8% Nuclear Regulatory Commission 2,308 75.1% Office of Personnel Management 3,069 58.7% Securities and Exchange Commission 3,394 76.4% Small Business Administration 1,543 74.1%	National Archives and Records Administration	1,743	63.7%
National Science Foundation 940 75.8% Nuclear Regulatory Commission 2,308 75.1% Office of Personnel Management 3,069 58.7% Securities and Exchange Commission 3,394 76.4% Small Business Administration 1,543 74.1%	National Credit Union Administration	633	58.4%
Nuclear Regulatory Commission 2,308 75.1% Office of Personnel Management 3,069 58.7% Securities and Exchange Commission 3,394 76.4% Small Business Administration 1,543 74.1%	National Labor Relations Board	859	62.4%
Office of Personnel Management 3,069 58.7% Securities and Exchange Commission 3,394 76.4% Small Business Administration 1,543 74.1%	National Science Foundation	940	75.8%
Securities and Exchange Commission 3,394 76.4% Small Business Administration 1,543 74.1%	Nuclear Regulatory Commission	2,308	75.1%
Small Business Administration 1,543 74.1%	Office of Personnel Management	3,069	58.7%
·	Securities and Exchange Commission	3,394	76.4%
U.S. Agency for International Development 1,837 52.8%	Small Business Administration	1,543	74.1%
	U.S. Agency for International Development	1,837	52.8%





Table 5. 2018 FEVS Agency Response Rates (continued)

Agency and Agency Size	Number of Completed Surveys	Response Rate
Governmentwide	598,003	40.6%
Small Agencies (100 – 999 employees)	6,079	67.0%
Commodity Futures Trading Commission	476	71.4%
Consumer Product Safety Commission	355	72.4%
Corporation for National and Community Service	326	71.2%
Defense Nuclear Facilities Safety Board	77	81.9%
Export-Import Bank of the United States	229	56.3%
Farm Credit Administration	237	84.0%
Federal Election Commission	182	60.7%
Federal Housing Finance Agency	412	72.0%
Federal Labor Relations Authority	82	75.2%
Federal Maritime Commission	75	70.1%
Federal Mediation and Conciliation Service	142	68.9%
Federal Retirement Thrift Investment Board	215	82.4%
International Boundary and Water Commission	89	36.6%
Merit Systems Protection Board	135	68.5%
National Endowment for the Arts	68	61.8%
National Endowment for the Humanities	50	44.2%
National Gallery of Art	520	69.9%
National Indian Gaming Commission	63	57.8%
National Transportation Safety Board	282	73.8%
Office of Management and Budget	338	79.9%
Office of the U.S. Trade Representative	111	59.7%
Overseas Private Investment Corporation	163	72.8%





Table 5. 2018 FEVS Agency Response Rates (continued)

Agency and Agency Size	Number of Completed Surveys	Response Rate
Governmentwide	598,003	40.6%
Small Agencies (100 – 999 employees) (continued)	6,079	67.0%
Pension Benefit Guaranty Corporation	526	59.6%
Railroad Retirement Board	413	48.0%
Selective Service System	51	52.0%
Surface Transportation Board	82	74.5%
U.S. International Trade Commission	290	91.2%
U.S. Office of Special Counsel	90	73.2%
Very Small Agencies (<100 employees)	444	65.2%
AbilityOne Commission	10	35.7%
African Development Foundation	30	88.2%
American Battle Monuments Commission	33	45.2%
Chemical Safety and Hazard Investigation Board	28	80.0%
Commission on Civil Rights	16	59.3%
Farm Credit System Insurance Corporation [†]	<10	_
Federal Mine Safety and Health Review Commission	13	30.2%
Institute of Museum and Library Services	47	77.0%
Inter-American Foundation	29	87.9%
Marine Mammal Commission [†]	<10	_
National Capital Planning Commission	24	72.7%
National Council on Disability	21	70.0%
National Mediation Board	20	43.5%
Occupational Safety and Health Review Commission	16	55.2%

[†] Surveys completed and response rates are not shown for agencies with less than 10 respondents



Data Collection (continued)



Table 5. 2018 FEVS Agency Response Rates (continued)

Agency and Agency Size	Number of Completed Surveys	Response Rate
Governmentwide	598,003	40.6%
Very Small Agencies (<100 employees) (continued)	444	65.2%
Office of Navajo and Hopi Indian Relocation	54	87.1%
Postal Regulatory Commission	15	57.7%
U.S. Access Board	48	77.4%
U.S. Office of Government Ethics	24	63.2%
U.S. Trade and Development Agency	29	87.9%

Data Collection (continued)

Help Center

A Help Center was set up during the data collection of the FEVS to assist Federal employees with questions about the surveys. Providing a Help Center helps to ensure that all inquiries were handled promptly, accurately, professionally, and in a consistent manner. A Help Center also helps achieve higher response rates during data collection by allowing respondents to obtain answers to questions, voice concerns, ensure the legitimacy of the survey, and remedy any technical issues with the survey. The Help Center served as a central point for coordinating and managing reported problems and issues. Employees could email their questions and concerns or call a toll-free number to contact Help Center staff. Thirty email accounts were set up, one for each of the 28 large departments/ agencies, one for the small/independent agencies, and one for the large independent agencies. Westat's Help Center staff included four trained team staff members, one Help Center Supervisor, and two assistant Help Center Supervisors; with all operations overseen by the Data Collection Task Manager.

The Help Center opened with the launch of the first survey invitation on April 30, 2018 and closed on the last day of the fielding period, June 21, 2018. Hours of operation were 8:30 a.m. to 5 p.m. Eastern Time, Monday through Friday. The Help Center was located at the Westat campus in Rockville, Maryland.

Staff Training

The Help Center Supervisor conducted a 2-hour staff training session prior to the launch of the survey. The training session included an introduction to the project, a review of the 2018 FEVS Contractor Answer Book prepared by OPM, a technical session on how to use the Web-based Help Center Application (see next section for details on this application), and procedures for handling emails and toll-free calls from employees. After the technical session, all trainees used test accounts and cases that were set up in a training version Web-based application to apply what they had learned in a set of example resolution exercises. The training session closed with questions from Help Center staff.

The formal 2-hour training was followed-up with one-on-one training sessions between the Help Center supervisors and the Help Center staff. One-on-one sessions further assisted the Help Center staff understand eligibility requirements and how to code dispositions properly. During the survey administration period, the Help Center supervisors frequently reviewed the survey support inboxes, Help Center staff workload, and replies to respondents to ensure responses were not only timely but also appropriate.

Web-based Help Center Application

The Web-based Help Center Application or Survey Management System (SMS) is an application enabling Help Center staff to respond to emails, facilitate quick handling of respondent inquiries, and optimize technical assistance response times. The SMS managed email and phone inquiries from survey participants and provided other support functions such as tracking disposition codes for the surveys, updating contact information, capturing real-time survey submissions, and generating response rate reports. The SMS was linked to the OPM survey platform enabling Help Center staff to unsubscribe employees who explicitly refused to take the survey or who were designated as ineligible so that these individuals did not continue to receive reminder notifications. The SMS also automatically received response information in real-time from the survey platform to keep response rate reporting as accurate and up-to-date as possible. Cases for which the SMS could not provide real-time updates, were updated twice daily.



Response Rate Reporting Website

Since 2014, FEVS Points of Contact for agencies have been provided access to a Response Rate Reporting Website to view their agency's real-time survey completion rate information during the data collection period. The 2018 website provided the following information: launch date of the survey, number of days in field and remaining, sample size, number of completed surveys (based on an interim disposition code), and the response rate to date. It provided the final response rates for the previous survey administrations as well as the response rate to date in the same period of survey data collection for the previous year. Agency leaders could also drill down in their organization to view subagency response rates to identify where response rates were high as well as any subagencies that might be driving lower agency response rates.

Finally, the Response Rate Reporting website provided a dashboard feature. It allowed agencies to graphically see response rates over time and in comparison to governmentwide, the top 3 and bottom 3 subagencies, the subagencies leading and trailing the previous agency response rate to date, number of daily and weekly completes, and response rates with the option to show comparative data for the previous two years where applicable. (See Figure 1). This information was intended for use by agency managers and executives to help monitor and promote participation in the FEVS.

Figure 1. Sample Views in FEVS Response Rate Website



¹⁰ The completion rate differs from the response rate as it does not take into consideration ineligible respondents, and surveys submitted that do not meet completion criteria. It is the number of submitted surveys divided by the sample size.

Data Collection (continued)

Help Center Operational Procedures

This section details the Help Center operational procedures, as well as the volume and types of inquiries received.

Emails

Figure 2 illustrates the operational procedures for handling emails at the Help Center. When an email was received within the SMS, the Help Center Staff had the option to reply with an appropriate response from the FEVS Contractor Answer Book or flag for OPM for further assistance. The Help Center processed over 350,000 emails within the Help Center SMS across the 30 email accounts (see Table 6).

Of the 380,425 emails received by the Help Center, 78,223 were undeliverable notifications, 291,492 were automated out-of-office replies, and 10,710 were inquiries or comments from individuals. Of the 78,223 undeliverable notifications, 7,865 were from unique respondents. Of the 291,492 automated out-of-office replies, Westat staff worked through and programmatically processed 140,845 from unique respondents to gather information to help assign final disposition codes to cases during survey closeout. Information from these emails helped to code a small percentage of the cases as ineligible or unavailable during the data collection period. Help Center staff reviewed all inquiries and comments in the inbox and determined that 9,071 of the 10,710 emails required a response. The other 1,639 emails consisted of comments from users that did not require a response, such as letting the Help Center know that the respondent intended to complete the survey or thanking Help Center Staff for their assistance. Of the 9,071 emails that required a response, 337 (3.72 percent of the total) were flagged for OPM for additional assistance.

Figure 2. 2018 FEVS Help Center Email Procedures

Emails received at 1 o	f 30 FEVS email accounts.	
Emails auto-forward to 1	of 30 Westat email accounts.	
	the FEVS Contractor Answer Book. priate response to inquiry?	
YES	1	NO
Copy/modify approved response from FEVS Contractor Answer Book.	What type of	question is it?
	Other Technical/ Content	Paguast Pasat LIDI
Westat Help Center staff provides appropriate response to respondent.	Other rechinical/ Content	Request Reset URL
	Westat flags inquiry for OPM to review and provide a response	Westat creates a report listing Reset User IDs for OPM to reset weekly.
	OPM provides resp	ponse to respondent.
Westat updates FEVS Contractor Answer Book and conducts refresher training among Help Center staff.		t periodic updates to or Answer Book.





Table 6. Number of Emails Handled by Help Center and OPM, by Agency

Folder

Agency	Inbox	Out of Office	Undeliverable	Sent Items	Total*
Department of Agriculture	370	14,790	21	309	15,181
Department of Commerce	415	8,315	349	333	9,079
Department of Defense					
Department of the Air Force	303	5,319	30,110	250	35,732
Department of the Army	1,388	43,785	111	1,254	45,284
U.S. Army Corps of Engineers	768	84	32	687	884
Department of the Navy	618	45,286	5,038	521	50,942
U.S. Marine Corps	118	4,525	145	93	4,788
DOD 4th Estate	643	24,706	206	549	25,555
Department of Education	80	1,422	0	68	1,502
Department of Energy	131	3,338	10	114	3,479
Department of Health and Human Services	1,339	24,451	107	1,137	25,897
Department of Homeland Security	810	25,596	39,485	684	65,891
Department of Housing and Urban Development	49	2,690	2	41	2,741
Department of Justice	578	14,140	10	447	14,728
Department of Labor	145	3,582	11	122	3,738
Department of State	101	10,075	6	58	10,182
Department of the Interior	509	11,198	32	422	11,739
Department of the Treasury	444	8,561	1,952	353	10,957





Table 6. Number of Emails Handled by Help Center and OPM, by Agency (continued)

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Agency	Inbox	Out of Office	Undeliverable	Sent Items	Total*
Department of Transportation	315	8,502	11	283	8,828
Environmental Protection Agency	357	4,515	13	328	4,885
General Services Administration	153	3,628	8	125	3,789
Large independent agencies	223	4,815	499	182	5,537
National Aeronautics and Space Administration	349	3,864	6	309	4,219
National Science Foundation	12	427	0	8	439
Office of Management and Budget	36	169	0	32	205
Office of Personnel Management	36	1,545	0	32	1,581
Small Business Administration	165	920	0	136	1,085
Social Security Administration	166	6,344	10	133	6,520
U.S. Agency for International Development	39	3,067	6	17	3,112
Small/Independent agencies	50	1,833	43	44	1,926
Totals	10,710	291,492	78,223	9,071	380,425

^{*}Note: Overall total does not include sent items.

Data Collection (continued)

Toll-Free Calls

The Help Center staff also handled calls made to the survey's toll-free hotline by respondents with questions or comments about the survey. A voicemail box was set up for calls received outside of regular Help Center hours or for when Help Center staff were unable to answer the phone. Almost all voicemail messages were returned within 1 business day. A total of 1,847 calls were received during the data collection period. A daily telephone log was maintained to record all incoming calls.

Types of Inquiries Received

The types of inquiries received are listed below and demonstrate the frequently asked questions that the Help Center responded to through email and telephone. The Help Center Staff answered all inquiries using the appropriate response from the FEVS Contractor Answer Book, which consisted of 61 questions, which mostly fell into the following categories:

- Individuals verifying the survey was legitimate;
- Individuals who recently moved positions within the government;
- Individuals who had lost their survey URL;
- Individuals reporting they were no longer Federal employees;
- Individuals who had received a reminder from within their agency (not from OPM), who were not in the sample and so did not get a survey invitation and were wondering how to take the survey;
- Individuals with questions about confidentiality, particularly for members of small subgroups; and
- Individuals having difficulty accessing the survey.



Data Cleaning and Weighting

This section outlines the data cleaning and recoding performed on the analysis dataset as well as weighting of survey cases to represent the Federal employee population.

Data Cleaning and Recoding

Given that the FEVS is a Web-based survey, programs to inspect the data for various response errors or out of range values were built into the instrument; thus, data cleaning was a continuous operation throughout the data collection period. After data collection, the data cleaning and editing process involved assigning final disposition codes and recoding some of the variables for analysis purposes. Many of the demographic variables were recoded to report on collapsed categories. Military service, for example, was recoded to combine three categories: Currently in National Guard or Reserves, Retired, and Separated or Discharged. Other variables were recoded for reporting purposes, such as the race and ethnicity variables were recoded into a minority and non-minority variable.

Weighting

The process of weighting refers to the development of an analysis weight assigned to each respondent to the 2018 FEVS. The weights are necessary to achieve the survey objective of making unbiased inferences regarding the perceptions of the full population of Federal employees. Without the weights, the FEVS could result in biased population estimates. While the 2018 FEVS was a census and all employees had an equal probability of being selected to participate, nonresponse remains a source of potential bias (and imprecision) in the 2018 FEVS estimates is nonresponse. In an ideal scenario, all members of the survey sample receive the survey invitation and complete the survey. In actuality, however, some survey cases cannot be located (e.g., undeliverable emails) and others who receive the survey do not complete it. Undeliverable survey invitations as well as varying response rates across subgroups of employees were experienced during the 2018 FEVS. Analysis of data from the 2018 FEVS therefore still requires the use of weights to adjust for survey nonresponse and to match known population control totals.

For the 2018 FEVS, final disposition codes and information from the sampling frame were used to develop the weights. The disposition codes were used to determine whether each employee returned a completed questionnaire or if information was obtained indicating the employee was ineligible to participate in the FEVS. Variables utilized from the sampling frame include the stratum identifier and a set of demographic variables known for both respondents and non-respondents.¹¹

Statisticians used a three-stage, industry-standard procedure to develop the full-sample weights. First, they calculated base weights for each sampled employee equaling the reciprocal of each individual's selection probability (i.e., 1 for all employees for 2018 since it was a census). Second, statisticians adjusted the base weights for nonresponse within agency subgroups. Those adjustments inflate the weights of survey respondents to represent all employees in the subgroup, including non-respondents and ineligible employees. Third, statisticians used a procedure known as raking to ensure weighted distributions matched known population distributions by gender, sub-agency, and minority status within agencies. This technique can increase the precision of survey estimates. Unless otherwise noted, the full-sample weights were used to compute all FEVS estimates. The full-sample weights were also used to compute measures of precision by using Taylor linearization in all analyses, except for government-wide trend analyses. For this analysis, the measures of precision were computed by using replicate weights, which were developed using the JKn method. See Appendix E for detailed information on the 2018 FEVS weighting processes and Appendix F for an illustration of the weight adjustment operation.

Data Cleaning and Weighting 23

¹¹ The sampling-frame variables were obtained from administrative data in the EHRI-SDM database.



Data Analysis

This section outlines the statistical methodology used to analyze the 2018 FEVS survey responses received from all 598,003 respondents.

Frequency Distributions

As in prior administrations, the primary data analysis in 2018 included calculating governmentwide, agency, and subagency frequency distributions for each survey question. In addition, frequency distributions were calculated for various demographic groups and select work-related characteristics. All percentages and statistical analyses were based on weighted data unless noted otherwise.

Positive, Negative, and Neutral Responses

Many of the FEVS item were on 5-point Likert-type response scales. Three such scales were used: (a) Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree; (b) Very Satisfied, Satisfied, Neither Satisfied nor Dissatisfied, Dissatisfied, Very Dissatisfied; and (c) Very Good, Good, Fair, Poor, Very Poor.

Analysts collapsed the positive and negative response options to facilitate managers' use of the data. Analysts produced governmentwide, agency, subagency, and other subgroup estimates of the collapsed positive and negative responses. The proportion of positive, neutral, and negative responses are defined as follows:

- **Percent Positive:** the combined percentages of respondents who answered Strongly Agree or Agree; Very Satisfied or Satisfied; or Very Good or Good, depending on the item's response categories.
- **Percent Neutral:** the percentage of respondents choosing the middle response option in the 5-point scale (Neither Agree nor Disagree, Neither Satisfied nor Dissatisfied, Fair).
- **Percent Negative:** the combined percentages of respondents answering Strongly Disagree or Disagree; Very Dissatisfied or Dissatisfied; or Very Poor or Poor, depending on the item's response categories.

Do Not Know and No Basis to Judge Responses

For items 9–19, 21–27, 29–39, 41–47, and 53–62 of the survey, respondents had the additional option of answering Do Not Know or No Basis to Judge. The responses Do Not Know or No Basis to Judge were not included in the calculation of response percentages for those items.

Work/Life Program Participation Responses

In 2018, the new work/life items (Q73-Q78) had, in addition to the satisfaction responses, three additional response options—"I choose not to participate in these programs", "These programs are not available to me", and "I am unaware of these programs" (see Appendix A for more details). Response percentages for the work/life items were calculated with and without the participation response options.

Missing Data

Any missing data, or items that were not answered by respondents, were not included in the calculation of response percentages for those items.

Data Suppression

To maintain respondent confidentiality, new suppression rules were implemented on all demographic results in 2018. If there were fewer than 4 responses for a single demographic response option, all results for that question were suppressed (see Table 7a). If there were fewer than 4 responses in multiple response options for a given demographic item, only those results were suppressed, and the remaining data were displayed (see Table 7b). Note while the number of respondents (N) are shown in the tables for illustrative purposes, they were not shown in the reports to protect confidentiality.





Table 7a. Example Full Data Suppression

What is your supervisory status?	N	%
Non-Supervisor	50	_
Team Leader	25	_
Supervisor	15	_
Manager	8	_
Senior Leader	2	_
Total	100	_



Table 7b. Example Partial Data Suppression

What is your supervisory status?	N	%
Non-Supervisor	60	60%
Team Leader	25	25%
Supervisor	3	_
Manager	10	10%
Senior Leader	2	_
Total	100	_

Indices

Three sets of indices were reported on for the 2018 FEVS. These composite measures join specific observations in more general dimensions or constructs, and include: Employee Engagement Index, Global Satisfaction Index, and the New Inclusion Quotient (New IQ) Index. The next sections review each index in turn.

Employee Engagement Index

The Employee Engagement Index is a measure of the conditions conducive to engagement. The index consists of 15 items grouped into three subindices: Leaders Lead, Supervisors, and Intrinsic Work Experience (see Table 8).

Subindex scores were calculated by averaging the unrounded percent positive of each of the items in the subindex. Averaging the three unrounded subindex scores created the overall Employee Engagement score. Index and subindex scores were rounded for reporting purposes.





Table 8. Employee Engagement Index (15 items)

Engagement Index (3 Subindices)

Leaders Lead (5 items)

- 53. In my organization, senior leaders generate high levels of motivation and commitment in the workforce.
- 54. My organization's senior leaders maintain high standards of honesty and integrity.
- 56. Managers communicate the goals of the organization.
- 60. Overall, how good a job do you feel is being done by the manager directly above your immediate supervisor?
- 61. I have a high level of respect for my organization's senior leaders.

Supervisors (5 items)

- 47. Supervisors in my work unit support employee development.
- 48. My supervisor listens to what I have to say.
- 49. My supervisor treats me with respect.
- 51. I have trust and confidence in my supervisor.
- 52. Overall, how good a job do you feel is being done by your immediate supervisor?

Intrinsic Work Experience (5 items)

- 3. I feel encouraged to come up with new and better ways of doing things.
- 4. My work gives me a feeling of personal accomplishment.
- 6. I know what is expected of me on the job.
- 11. My talents are used well in the workplace.
- 12. I know how my work relates to the agency's goals.

Global Satisfaction Index

Global Satisfaction Index is a combination of four items assessing employees' satisfaction with their job, their pay, and their organization, plus their willingness to recommend their organization as a good place to work (see Table 9).

Overall Global Satisfaction Index scores were calculated by averaging the unrounded percent positive of each of the four items. Index scores were rounded for reporting purposes.



Table 9. Global Satisfaction Index (4 items)

Global Satisfaction (4 items)

- 40. I recommend my organization as a good place to work.
- 69. Considering everything, how satisfied are you with your job?
- 70. Considering everything, how satisfied are you with your pay?
- 71. Considering everything, how satisfied are you with your organization?

The New Inclusion Quotient (The New IQ) Index

The New IQ was built on the concept that individual behaviors, repeated over time, form the habits that create the essential building blocks of an inclusive environment. These behaviors can be learned, practiced, and developed into habits of inclusiveness and subsequently improve the inclusive intelligence of organizational members. Workplace inclusion is a contributing factor to employee engagement and organizational performance. The New IQ consists of 20 items that are related to inclusive environments (see Table 10). These 20 items are grouped into "5 Habits of Inclusion:"

- Fair,
- · Open,
- · Cooperative,
- · Supportive, and
- · Empowering.

Subindex scores were calculated by averaging the unrounded percent positive of each of the items in the subindex. Averaging the five unrounded subindex scores created the overall New IQ score. Index and subindex scores were rounded for reporting purposes.





Table 10. The New IQ Index Items (20 items)

The New IQ Index (5 Subindices)

Fair (5 items)

- 23. In my work unit, steps are taken to deal with a poor performer who cannot or will not improve.
- 24. In my work unit, differences in performance are recognized in a meaningful way.
- 25. Awards in my work unit depend on how well employees perform their jobs.
- 37. Arbitrary action, personal favoritism and coercion for partisan political purposes are not tolerated.
- 38. Prohibited Personnel Practices (for example, illegally discriminating for or against any employee/applicant, obstructing a person's right to compete for employment, knowingly violating veterans' preference requirements) are not tolerated.

Open (4 items)

- 32. Creativity and innovation are rewarded.
- 34. Policies and programs promote diversity in the workplace (for example, recruiting minorities and women, training in awareness of diversity issues, mentoring).
- 45. My supervisor is committed to a workforce representative of all segments of society.
- 55. Supervisors work well with employees of different backgrounds.

Cooperative (2 items)

- 58. Managers promote communication among different work units (for example, about projects, goals, needed resources).
- 59. Managers support collaboration across work units to accomplish work objectives.

Supportive (5 items)

- 42. My supervisor supports my need to balance work and other life issues.
- 46. My supervisor provides me with constructive suggestions to improve my job performance.
- 48. My supervisor listens to what I have to say.
- 49. My supervisor treats me with respect.
- 50. In the last six months, my supervisor has talked with me about my performance.

Empowering (4 items)

- 2. I have enough information to do my job well.
- 3. I feel encouraged to come up with new and better ways of doing things.
- 11. My talents are used well in the workplace.
- 30. Employees have a feeling of personal empowerment with respect to work processes.

Index Rankings

The agencies were rank ordered on the different indices in a variety of ways. First, the 36 departments, large, and medium agencies were rank ordered separately from the other agencies (see page 30). The other small/independent agencies were then rank ordered separately. Finally, the agencies were rank ordered based on five agency size groupings: 1) Very Small Agencies with less than 100 employees; 2) Small Agencies with 100-999 employees; 3) Medium Agencies with 1,000-9,999 employees; 4) Large Agencies with 10,000-74,999 employees; and 5) Very Large Agencies with more than 75,000 employees (see Table 5). Agencies with less than 10 respondents were excluded from the rankings. Size rankings were presented by the agency size in the Agency Management Reports (AMRs) and Small Agency Management Reports (SAMs).

In all cases, the rankings were calculated from the rounded percent positive results for the overall index, which allowed for ties. For instance, the 36 departments, large, and medium agency rankings ranged from '1' for the highest percent positive (if there was a tie, all tied agencies would be ranked 1st) to '36' (for the departments, large, and medium agencies) for the lowest percent positive (even if there was a tie). When ranking the departments, large, and medium, Army, Army Corps of Engineers, Air Force, Navy, Marine Corps, and Other Defense agencies/ activities, were rolled into Department of Defense (DOD) and did not receive their own ranking, but received the DOD ranking overall.



The 36 Departments, Large, and Medium Agencies

Departments/Large Agencies

Department of Agriculture

Department of Commerce

Department of Defense

Department of Energy

Department of Health and Human Services

Department of Homeland Security

Department of the Interior

Department of Justice

Department of Labor

Department of State

Department of Transportation

Department of the Treasury

Environmental Protection Agency

General Services Administration

National Aeronautics and Space Administration

Office of Management and Budget

Pension Benefit Guaranty Corporation

Railroad Retirement Board

Social Security Administration

Medium Agencies

Broadcasting Board of Governors

Court Services & Offender Supervision Agency

Department of Education

Department of Housing and Urban Development

Equal Employment Opportunity Commission

Federal Communications Commission

Federal Energy Regulatory Commission

Federal Trade Commission

National Archives and Records Administration

National Credit Union Administration

National Labor Relations Board

National Science Foundation

Nuclear Regulatory Commission

Office of Personnel Management

Securities and Exchange Commission

Small Business Administration

U.S. Agency of International Development



Public Release Data Files

Data Masking Methodology for Disclosure Avoidance

Starting in 2016, the FEVS PRDF uses a new method to identify at-risk individuals and an optimized masking process to reduce the risk of re-identification and disclosure of confidential survey responses while maximizing the amount of demographic data that can be kept intact. There are two key aspects to re-identifying individuals, including where the employee works and their demographic profile.

The first task is to limit identifiable work units. Agencies or level 1 work units with less than 300 respondents were masked at the agency or level 1, respectively. Testing showed this number was an acceptable medium between being able to report more work units while keeping most of the demographic data intact. The inclusion of work units at lower levels begins to limit the number of demographic items.

The second task in the disclosure avoidance process is to limit the demographic information by reducing the number of demographic variables included in the file and collapsing response choices that remain. The fewer distinctions in the demographic information allow for less masking of groups at risk for disclosure. By collapsing or dichotomizing response choices in a logical way, such as combining the original supervisory status categories into a more simplified Non-supervisor/Supervisor-type response accomplishes less masking.

The third task is to identify people who are at-risk of disclosure. Individuals are grouped by combining their demographic responses together into a string of characters¹². An example demographic profile is shown in Table 11.



Table 11. Sample Demographic Profile

Demographic Characteristic	Demographic Response	Demographic Profile
Sex	(A) Male	
Education	(B) Bachelor's Degree	Combined:
Minority	(A) Non-minority	A B A B
Supervisor	(B) Supervisor/Manager/Executive	

Everyone in the same work unit who has a profile of ABAB is part of what is called a "cell" that identifies them as having a unique combination identifying characteristics. The FEVS uses a Rule of Ten to protect respondent confidentiality – at least 10 responses are required to produce a report for any work unit. This same rule is used to produce the public release data file – any cell with fewer than 10 respondents is considered at risk of disclosure.

The fourth task involves masking the demographic data in an attempt to roll the at-risk cells into larger cells to avoid disclosure. This is accomplished by systematically setting demographic values (such as A or B) to missing (using the dummy value "X"). A demonstration of this masking/substitution procedure follows.

Masking Procedure Demonstration

In the first pass, three at-risk cells have counts less than 10 in Table 12. Four possible substitutions are presented by replacing one of the demographic values in sequence. For the first at-risk cell (AAAA), changing the fourth "A" value to the "X" value matches the sequence of the AAAX cell, which is not at-risk. Everyone in cell AAAA will be reassigned to cell AAAX at the end of this pass through the data. For the at-risk cells ABAB and BABA, a single substitution will not move either into a not-at-risk cell, so not treatment is applied.

12 For missing demographic data, a dummy value "X" is used.

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Table 12. Masking Procedure Pass 1 (Single Substitution)

Cell	Count	Solution
AAAA	3	AAAX
AAAX	13	_
ABAB	6	Still at risk
AXXB	24	_
ВАВА	3	Still at risk

In the second pass, two substitutions are performed simultaneously as shown in Table 13. Changing the two middle values of at-risk cell ABAB will allow them to be merged with the cell AXXB which is not at risk. Also note that cell AAAX's count went from 13 to 16 because the 3 people who formerly had AAAA were combined with the 16 that have AAAX in the first pass.

Table 13. Masking Procedure Pass 2 (Double Substitution)

Cell	Count	Solution
AAAX	16	_
ABAB	6	AXXB
AXXB	24	_
ВАВА	3	Still at risk

The third pass performs three substitutions shown in Table 14. This does not help move BABA into a not-at-risk cell. No treatment is applied.



Table 14. Masking Procedure Pass 3 (Triple Substitution)

Cell	Count	Solution
AAAX	16	_
AXXB	30	_
BABA	3	Still at risk

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Public Release Data Files (continued)

In the fourth and final pass, because the at-risk cell BABA hasn't moved into a not-at-risk cell, the only solution is to remove all the demographic information of those 3 respondents as shown in Table 15. The combination of no demographic data and a work unit of at least 300 respondents greatly reduce their risk of being disclosed.



Table 15. Masking Procedure Pass 4 (Full Substitution)

Cell	Count	Solution
AAAX	16	AAAX
AXXB	30	AXXB
BABA	3	XXXX

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Presentation of Results

This section details the seven types of reports that were produced from the 2018 FEVS as well as the tools for report dissemination and performing online analyses on demand. OPM distributed survey findings in the following seven reports:

- Governmentwide reports
- All Levels, All Indices, All Items reports
- Annual Employee Survey (AES) reports
- Management reports
- Subagency reports
- Agency-specific item reports
- Demographic comparison reports

A listing of the reports with the approximate number of each type produced is shown in Table 16. The Governmentwide reports were posted on the 2018 FEVS public website (www.opm.gov/FEVS), and individual agency reports were distributed via the FEVS Online Analysis and Reporting Tool (WesDaX hosted by Westat). These reports are described in more detail in the sections below.



Table 16. FEVS Reports

Number of Reports				
2015	2016	2017	2018	
4	4	4	4	
1	1	1	1	
1	1	1	1	
1	1	1	1	
1	1	1	1	
*	*	*	785	
*	*	*	83	
*	*	*	702	
82	625	802	785	
82	80	86	85	
_	545	716	700	
84	83	83	83	
43	43	43	42	
41	40	40	41	
	4 1 1 1 1 1 * * * 82 82 82 — 84 43	2015 2016 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 * * * * * * * * * * * * * *	2015 2016 2017 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 8 8 82 6 25 80 86 545 716 84 83 83 43 43 43	

[—] Signifies the product was not produced that year.

^{*} In 2015 to 2017, the All Levels, All Indices, All Items reports were only generated electronically via the pre-configured option within the FEVS Online Analysis and Reporting Tool (discussed below).





Table 16. FEVS Reports (continued)

		Number of Reports			
Report	2015	2016	2017	2018	
Subagency Reports	24,589	25,181	33,780	29,879	
1st level comparison	54	56	60	62	
1st level breakout	534	543	584	566	
2nd level comparison	408	425	423	413	
2nd level breakout	2,203	2,399	2,321	2,247	
3rd level comparison	1,132	1,228	1,429	1,403	
3rd level breakout	5,700	5,848	6,313	5,914	
4th level comparison	1,418	1,563	2,109	2,038	
4th level breakout	4,991	5,182	8,281	6,748	
5th level comparison	947	1,083	2,364	1,413	
5th level breakout	2,686	2,943	5,091	3,684	
6th level comparison	537	566	739	887	
6th level breakout	1,497	1,263	2,016	2,112	
7th level comparison	382	247	294	373	
7th level breakout	994	798	802	998	
8th level comparison	333	260	229	268	
8th level breakout	677	509	446	495	
9th level comparison	43	93	92	90	
9th level breakout	53	175	187	168	
Agency Specific Item Reports	104	58	61	32	
Demographic Comparison Reports	930	950	960	892	
WesDaX	Unlimited	Unlimited	Unlimited	Unlimited	
Total	25,793	26,901	35,690	32,460	

Governmentwide Reports

There are four 508 compliant Governmentwide reports. The 2018 main Governmentwide report (*Government Management Report*) includes an overview of the respondents compared to the total Federal workforce, response rates over time, highlights from the 2018 FEVS, trending of the AES item results from 2014 to 2018, index results by agency size, and top performing agencies on the Employee Engagement and Global Satisfaction indices. The report has seven appendices providing participating agencies by employee population size and response rates, analytic methods and additional FEVS resources, item change summary, trend analyses, work/life program results, respondent characteristics, and FEVS index results. Many of the appendices were also provided in Excel.

Three other Governmentwide data reports generated were:

- **Report by Agency:** Displays question-by-question counts and percentages for each response option for the 2018, 2017, and 2016 FEVS *by participating agency* and governmentwide. Counts of respondents are unweighted, but the percentage estimates for each question are weighted.
- **Report by Demographics:** Displays question-by-question counts and percentages for each response option for the 2018, 2017, and 2016 FEVS *by demographic groups* and also governmentwide. Counts of respondents are unweighted, but the percentage estimates for each response category are weighted.
- Report on Demographic Questions by Agency (Unweighted): Displays counts and percentages by participating agencies' demographic and workforce profile (e.g., work location, supervisory status, sex, age, pay category, intention to retire) for 2018, 2017, and 2016. Both respondent counts and percentage estimates are unweighted.

All Levels, All Indices, All Items Reports

The All Levels, All Indices, All Items Reports provide a comprehensive summary of all FEVS non-demographic items and index scores for agencies and subagencies with at least 10 respondents. It includes index and subindex scores for the Employee Engagement Index, Global Satisfaction Index, and the New IQ Index. It also includes the percent positive, neutral, and negative results for each non-demographic item across the subagencies. Results were weighted and can be benchmarked against the Governmentwide and agency size numbers. These reports were produced in Microsoft® Excel, and generated for agencies and 1st level subagencies with at least 10 respondents. Because these reports show results to all the subagencies within an agency or 1st level subagency, they tend to be large files, hence downloading them as Preconfigured reports may be less desirable. In 2018, the agency level reports generated in Excel for ease of viewing and downloading.



Annual Employee Survey Reports

The Annual Employee Survey (AES) Report provides weighted agency-specific data for all the non-demographic items on the FEVS, with the 16 items mandated by 5 CFR Part 250 Subpart C denoted with an asterisk. These reports include the number and proportion of responses in each response category, the proportion of positive and negative responses to each survey item (where relevant), the proportion of positive, neutral and negative responses to each survey item (where relevant) for 2011 to 2017 historical data for trending, the unweighted responses to the demographic questions, and a summary of item changes between the 2017 and 2018 instruments. The AES reports include a dashboard interface to allow users to select and display highest and lowest percent positive or negative items as well as highlight how many items were identified as strengths or challenges. The dashboard also includes background information such as the survey field period, the number of respondents, response rate, and if the agency frame was a census or sample. A second dashboard, available for agencies that administered demographic items, spotlights the respondent demographic profile. A third dashboard allows users to select and display the largest increases or decreases in percent positive between 2015 or 2016 or 2017 and 2018 for comparison. It displays the percentage point change for the top five increases or decreases and the total number of items that increased or decreased between the selected year and 2018. Finally, for the 60 agencies that added agency-specific items to the FEVS, the results for these items were also included in the AES. The AES report was produced in Microsoft® Excel, and generated for the 85 agencies with at least 4 respondents (breaking out the Department of Defense Agencies as well) and 700 1st level subagencies with at least 10 respondents.

Management Reports

For the 2018 FEVS, OPM's data presentation for the Management Reports included:

- 42 Agency Management Reports for the Departments, large, and medium agencies
- 41 Small Agency Management Reports for the small and independent agencies

The Agency Management Report (AMR) and Small Agency Management (SAM) Reports provide similar content, the AMRs for large and medium agencies and the SAMs for the small agencies. These reports were only provided to agencies with at least 10 responses. The following sections provide more information about these reports.



The AMRs were designed to help agency directors and managers identify what they can do to improve management in their agencies. The agency management reports included the following information:

- A guide to understanding and using the results from the FEVS;
- A section entitled "Respondent Overview." This section provide survey administration information (data collection period, sample size, agency and subagency response rates, agency results margin of error), and highlights of the 2018 FEVS agency respondent characteristics;
- A series of sections that display scores, rankings, and trends governmentwide and by agency size for:
 - Employee Engagement Index
 - The New IQ Index
 - Global Satisfaction;
- A series of Decision Aid tables that present all items that increased, decreased, or did not change since 2017 as well as items considered a strength, challenge or caution item, when items became a new strength or were a past strength, and a feature highlighting if the question was in the top 10 positive or negative items;
- Four appendices showing item change summary, results for all items benchmarked against the governmentwide
 percent positive, the agency's work/life programs and demographic results, and a list of all participating agencies by
 employee population size.

Small Agency Management Report (SAM)

The SAMs are almost identical to the AMRs but designed specifically for small agencies, and provide comparisons to other small agencies, rather than the governmentwide averages. The Small Agency Management reports include:

- A guide to understanding and using the results from the FEVS;
- A section for agencies that administered respondent characteristic and demographic questions entitled
 "Respondent Overview". This section provide survey administration information (data collection period, sample
 size, agency and subagency response rates, agency results margin of error), and highlights of the 2018 FEVS agency
 respondent characteristics;
- A series of sections that displays scores, rankings, and trends for all small agencies combined and by agency size for:
 - Employee Engagement Index
 - The New IQ Index
 - Global Satisfaction;
- A series of Decision Aid tables that present all items that increased, decreased, or did not change since 2017 as well as items considered a strength, challenge or caution item, when items became a new strength or were a past strength, and a feature highlighting if the question was in the top 10 positive or negative items;
- Four appendices that show item change summary, results for all items benchmarked against all small agencies combined, the agency's work/life program and demographic results (where applicable), and a list of all participating agencies by employee population size.

Subagency Reports

Each agency and their components or subagencies (down to the 9th level where applicable) received separate reports showing the percent positive, neutral, and negative results for each item across the subagencies. These results include weighted percentage data for all survey items and the unweighted demographic responses.

The subagency reports for each level (1st – 9th) include both a comparison and a breakout report.

- The Comparison Reports provide the governmentwide, agency, and the specific level results (e.g., the 2nd level comparison had the governmentwide, agency, 1st level, and all 2nd level subagencies' results). In the reports for the 4th level subagency and lower, the higher level results (e.g., governmentwide, agency) were dropped for simplicity.
- The Breakout Reports provide the governmentwide, agency, and one specific level result (e.g., the 2nd level Breakout report had the governmentwide, agency, 1st level, and one 2nd level subagency results rather than comparing all 2nd level subagencies as in the comparison reports). In the reports for the 4th level subagency and lower, the higher level results (e.g., governmentwide, agency) were dropped for simplicity. These reports also include two sections which highlighted the level's top 10 positive and negative items, as well as items in which they are leading or trailing the level directly above their level (e.g., 4th level would be compared to the 3rd level subagency).

These reports also include an embedded Microsoft® Excel® file, which provide the results in electronic form to allow agency leaders to sort the data as needed.

No reports were produced when a subagency had fewer than 10 respondents.

Agency-Specific Item Reports

In 2018, 60 agencies administered items that were specific to their agency in addition to the core survey items. Sixteen of these agencies received separate agency-specific item reports as the item(s) lend themselves to being broken out by each FEVS non-demographic item. There were three general types of agency specific item reports:

- **Area of Emphasis Reports:** These reports provide the counts and the percent positive, negative, and neutral for each survey item by each area of emphasis in the agency.
- Occupation Reports: These reports provide the counts and the percent positive, negative, and neutral for each survey item for respondent-reported occupation groups.
- **Agency-Specific Work Location Reports:** These reports provide the counts and the percent positive, negative, and neutral for each survey item by work location in the agency.

The counts were all unweighted and the percentages were weighted for non-demographic type items only. Agency-specific item reports also include an embedded Microsoft® Excel® file, which provided the results in electronic form to allow agency leaders to sort the data as needed.

Demographic Comparison Reports

The demographic comparison reports provide item level results by demographic characteristics for each of the 63 agencies that answered the demographic section of the survey and had enough responses after suppression to generate a report. The results included weighted percentage data for all survey items by the 16 demographic variables:

- Work Location
- Supervisory Status
- Gender
- Ethnicity
- Race
- Education Level
- Pay Category
- Federal Tenure

- Agency Tenure
- Retirement Plans
- Turnover Intentions
- Sexual Orientation and Gender Identity
- Military Service Status
- Disability Status
- Age Group
- Generations

For the demographic reports, several additional suppression rules applied for confidentiality reasons.

- If there were fewer than 10 respondents within an agency on a demographic response category (e.g., Asian on the race item), all results for that demographic response category were suppressed (e.g., no results for the FEVS items were displayed for the Asian response category in the report for that agency).
- If there were fewer than 10 respondents within an agency on a demographic response category for any given FEVS item (e.g., Q1 had fewer than 10 response for the Black or African American race category), the results for that item for that response category were suppressed (e.g., Q1 would not show any results for the Black or African American race category).
- If there were fewer than 4 respondents to a single demographic response category (e.g., only 2 respondents marked "Native Hawaiian or Other Pacific Islander within an agency but all other race categories had 10 or mores responses), the report was not generated (an exception was made for the Generations demographic variable report).
- If there were only one demographic category (e.g., Female) with data that would not be suppressed for all the survey items based on the suppression rules, the report was not generated.
- For the sexual orientation and transgender report only, there also needed to be at least 30 respondents answering the demographic question within the agency in order for the report to be produced. All other suppression rules still applied.

These reports also include an embedded Microsoft® Excel® file, which provides the results in electronic form to allow agency leaders to sort the data as needed.



Delivery of Agency Results, Reports and Ad Hoc Analyses – WesDaX

The FEVS Online Analysis and Reporting tool is run by Westat's Data Xplorer (WesDaX), and is an online query and analysis system. It allows OPM and Federal agency users to view and download their reports by following the links as illustrated in Figure 3. The online reporting system is available for users to access their data at any time.



Figure 3. FEVS Online Analysis and Reporting Tool – Main Menu



Governmentwide Reports

Users were able to view/download the following 508 compliant PDF reports:

- Governmentwide Management Report
- Report by Agency
- Report by Demographics
- Unweighted Report by Demographic Questions by Agency

Agency Level Reports

Users were able to view/download their agency level reports. These included the

- Annual Employee Survey (AES) Report,
- Agency Management Report (AMR), or Small Agency Management (SAM) Report (508 compliant), and
- All Levels, All Indices, All Items Report.

Prese

Presentation of Results (continued)

1st Level Reports

Users were able to drill down and view/download, in PDF format, for any 1st level subagency reports provided. These included the:

- 1st Level Annual Employee Survey (AES) Report, and
- 1st Level Subagency Comparison and Breakout Reports, and
- 1st Level All Levels, All Indices, All Items Reports.

Lower Level Reports

Users were able to drill down and view/download, in PDF format, any applicable 2nd -9th level Subagency Comparison and Breakout Reports.

Demographic Comparison Reports

For the 63 agencies that answered the demographic section of the survey, users are able to view/download, in PDF format, the different types of demographic comparison reports available to them.

Agency-Specific Item Reports

For the 16 of the 60 agencies that added agency-specific items to the end of the core FEVS, users are able to view/download, in PDF format, the different types of agency-specific item reports. If an agency did not have any agency-specific item reports, this option does not show on the menu.

Preconfigured Reports

Users are able to manually configure many of the preceding agency reports to several formats, including PDF, Excel, HTML, and RTF. These include 1st - 9th level subagency comparison and breakout reports. In addition to these reports, the following are also available via a pre-configured report

- Agency and 1st level occupational series reports;
- All levels response rate reports;
- Agency and 1st level indices reports (Employee Engagement, Global Satisfaction, and the New IQ);
- Agency and 1st level Index Creation reports whereby users could create their own index scores, and;
- Agency and 1st level Decision Aid reports (New in 2018) similarly to the results shown in the Decision Aid sections of the AMRs and SAMs, users can now output results to Excel and sort/filter on the items by the degree and type of change (i.e. increase, decrease, or no change).

Cart

Similar to online shopping carts, this feature allows users to add multiple reports from the different report options to a cart to download at one time. The feature zips all selected reports into one file for downloading to a location of the user's choice.

In addition to being able to view and download the above reports through WesDaX, users have access to Analysis on Demand feature:



Analysis on Demand

This feature allows users to drill down into the data to explore relationships of interest. Users can subset the data by year, select variables from a list and produce simple frequency distributions, two-way tables (cross-tabulation), three-way tables, and trend analysis (only for large agencies). A new select-all feature was added in 2018 to allow users to be able to select or deselect all variables from a list.

After selecting the year(s), users can choose the type of table for a simple frequency, or two-way or three-way table or trends over time, they can also select their variables of interest, as well as types of statistics desired (e.g., weighted number of responses, cell, row, or column percentages, standard errors, confidence intervals, etc.). It should be noted that statistical analysis such as standard errors, confidence intervals, chi-square tests and significance testing for trends are only available for large agencies. Optional features are to filter the data by a subagency, demographic, or responses to an item, and/or benchmark to compare results to the entire dataset or specific agencies. A set of video tutorials was added in 2018 to facilitate use of Analysis On Demand: https://www.dataxplorer.com/Public/TutorialFEVS.aspx.

Users are able to tailor the type of analysis to their interests and download the analysis output. Because users sometimes get "timed-out" due to the complexity of the queries, queries are automatically saved and users will be able to view/download the results upon logging in. This feature allows users to be able to run multiple queries simultaneously and not having to worry about the time-out issue. In addition, the twenty most recent queries are automatically saved for users.

Starting in 2018, users are able to share queries with all users from their agency. They can share queries with users from their own subagency or users from other subagencies within the same agency. For example, a user from the Office of the Director of OPM can share queries within own component and with users from the Office of the Inspector General of OPM. This new sharing feature helps minimize the need to recreate queries that are commonly used by most users.

Since 2014, users are able to create charts from results in Analysis on Demand. Users were able to select various chart type (bar, pie, donut, line, and area), chart size, color palette, and data cells. Users could also specify whether or not to show the data values within the chart. Figure 4 provides the main menu for Analysis on Demand.



Figure 4. FEVS Online Analysis and Reporting Tool – Analysis on Demand Main Menu



Account Access

All agency level and 1st level points of contacts (POC) and users were carried over from 2017 and provided access to 2018 data. POCs had the capability to grant access to the online reporting tool to others in their agency. This access could be given for all agency results or to only certain 1st level subagencies. For 1st level access, the individual would only be able to view or review data for his/her 1st level subagency, the agency as a whole, and governmentwide results.

Summary of Quality Control Process

In order to ensure the highest accuracy and validity of the data, each number within each report goes through two levels of quality control (QC). The first level of QC for the reports was the electronic quality control with the use of SAS°. Two programmers created the numbers independently based on a set of pre-defined specifications and electronically compared the numbers to ensure they matched. The second level of QC was performed by staff members who compare the input (SAS°-produced results) to the output (the actual report with the data incorporated into it). While each type of report has a different process due to the different types of data, the general process is the same. Staff members are put into teams of two, to ensure the highest level of accuracy when comparing data. One staff member reads off each number from the input data, and the other staff member reads off the number from the output data. If they match, a check mark is placed by the number. If they do not match, they inform the QC manager, who relays the error to the project manager and programmers to get it fixed. If the error is due to a problem with the code, the output data reports are re-run and the staff members go back and QC the new reports. The QC manager keeps all finished reports in a locked filing cabinet to ensure security in case there is a need to review them.



Appendix A: Item Change Summary

Some FEVS items were modified slightly in 2018 to improve the interpretation or understanding of the items. These changes are outlined in this section.

New Item Text (2018)	Change	Old Item Text (2017)		
12. I know how my work relates to the agency's goals.	Text change.	12. I know how my work relates to the agency's goals and priorities.		
29. My work unit has the job-relevant knowledge and skills necessary to accomplish organizational goals.	Text change.	29. The workforce has the job-relevant knowledge and skills necessary to accomplish organizational goals.		
56. Managers communicate the goals of the organization.	Text change.	56. Managers communicate the organization.	e goals and priorities of the	
Item removed from 2018 FEVS	Item removed.	 72. Have you been notified whether or not you are eligible to telework? Yes, I was notified that I was eligible to telework Yes, I was notified that I was not eligible to telework No, I was not notified of my telework eligibility Not sure if I was notified of my telework eligibility 		
 72. Please select the response below that BEST describes your current teleworking schedule. I telework very infrequently, on an unscheduled or short-term basis I telework, but only about 1 or 2 days per month I telework 1 or 2 days per week I telework 3 or 4 days per week I telework every work day I do not telework because I have to be physically present on the job (e.g. Law Enforcement Officers, Park Rangers, Security Personnel) I do not telework because of technical issues (e.g. connectivity, inadequate equipment) that prevent me from teleworking I do not telework because I did not receive approval to do so, even though I have the kind of job where I can telework I do not telework because I choose not to telework 	Response options modified.	73. Please select the response below that BEST describes your current teleworking situation. • I telework 3 or more days per week • I telework 1 or 2 days per week • I telework, but no more than 1 or 2 days per month • I telework very infrequently, on an unscheduled or short-term basis • I do not telework because I have to be physically present on the job (e.g., Law Enforcement Officers, Park Rangers, Security Personnel) • I do not telework because I have technical issues (e.g., connectivity, inadequate equipment) that preve me from teleworking • I do not telework because I did not receive approval to do so, even though I have the kind of job where I can telework • I do not telework because I choose not to telework		
73-78. How satisfied are you with the following Work/Life programs in your agency? Note: 2017 FEVS items 74-84 were combined (participation - satisfaction); new response scale for these items is displayed below item 78.	Questions combined.	74-78. Do you participate in the following Work/Life programs? Note: Response scale for these items is displayed below item 78.	79-84. How satisfied are you with the following Work/Life programs in your agency? Note: Response scale for these items is displayed below item 84.	
73. Telework	Questions combined.	N/A	79. Telework	
74. Alternative Work Schedules (AWS, for example, compressed work schedule or flexible work schedule)	Questions combined. Text change.	74. Alternative Work Schedules (AWS)	80. Alternative Work Schedules (AWS)	

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New Item Text (2018)	Change	Old Item Text (2017)		
75. Health and Wellness Programs (for example, onsite exercise, flu vaccination, medical screening, CPR Training, health and wellness fair)	Questions combined. Text change.	75. Health and Wellness Programs (for example, exercise, medical screening, quit smoking programs)	81. Health and Wellness Programs (for example, exercise, medical screening, quit smoking programs)	
76. Employee Assistance Program (EAP, for example, short-term counseling, referral services, legal services, information services)	Questions combined.	76. Employee Assistance Program (EAP)	76. Employee Assistance Program (EAP)	
77. Child Care Programs (for example, child care center, parenting classes and support groups, back-up care, flexible spending account)	Questions combined. Text change.	77. Child Care Programs (for example, daycare, parenting classes, par- enting support groups)	77. Child Care Programs (for example, daycare, parenting classes, parenting support groups)	
 78. Elder Care Programs (for example, elder/adult care, support groups, speakers) Very satisfied Satisfied Neither Satisfied nor Dissatisfied Dissatisfied Very Dissatisfied I choose not to participate in these programs These programs are not available to me I am unaware of these programs 	Questions combined. Text change.	78. Elder Care Programs (for example, elder/adult care, support groups, speakers) • Yes • No • Not available to me	84. Elder Care Programs (for example, elder/adult care, support groups, speakers) • Very satisfied • Satisfied • Neither Satisfied nor Dissatisfied • Dissatisfied • Very Dissatisfied • No Basis to Judge	
90. Are you transgender? • Yes • No	New item.	Not a separate item in 2017 F	EVS	
 91. Which one of the following do you consider yourself to be? Straight, that is not gay or lesbian Gay or Lesbian Bisexual Something else 	Response options modified.	96. Do you consider yourself to following? (Mark all that a Heterosexual or Straight Gay or Lesbian Bisexual Transgender I prefer not to say	apply)	
 94. What is your age group? 25 and under 26-29 years old 30-39 years old 40-49 years old 50-59 years old 60 years or older 	New item.	Not a separate item in 2017	FEVS	

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Appendix B: 2018 FEVS Instrument

Appendix B: 2018 Federal Employee Viewpoint Survey Instrument

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	
My Work Experience						
I. I am given a real opportunity to improve my skills in my organization.						
2. I have enough information to do my job well.						
I feel encouraged to come up with new and better ways of doing things.						
My work gives me a feeling of personal accomplishment.						
5. I like the kind of work I do.						
6. I know what is expected of me on the job.						
7. When needed I am willing to put in the extra effort to get a job done.						
8. I am constantly looking for ways to do my job better.						
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Do Not Know
9. I have sufficient resources (for example, people, materials, budget) to get my job done.		Agree	Agree nor	Disagree		
		Agree	Agree nor	Disagree		
materials, budget) to get my job done.		Agree	Agree nor	Disagree		
materials, budget) to get my job done. 10. My workload is reasonable.		Agree	Agree nor	Disagree		
materials, budget) to get my job done. 10. My workload is reasonable. 11. My talents are used well in the workplace.		Agree	Agree nor	Disagree		
materials, budget) to get my job done. 10. My workload is reasonable. 11. My talents are used well in the workplace. 12. I know how my work relates to the agency's goals.		Agree	Agree nor	Disagree		
materials, budget) to get my job done. 10. My workload is reasonable. 11. My talents are used well in the workplace. 12. I know how my work relates to the agency's goals. 13. The work I do is important. 14. Physical conditions (for example, noise level, temperature, lighting, cleanliness in the workplace)		Agree	Agree nor	Disagree		
materials, budget) to get my job done. 10. My workload is reasonable. 11. My talents are used well in the workplace. 12. I know how my work relates to the agency's goals. 13. The work I do is important. 14. Physical conditions (for example, noise level, temperature, lighting, cleanliness in the workplace) allow employees to perform their jobs well. 15. My performance appraisal is a fair reflection of		Agree	Agree nor	Disagree		



Appendix B: 2018 Federal Employee Viewpoint Survey Instrument (continued)

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Do Not Know
17. I can disclose a suspected violation of any law, rule or regulation without fear of reprisal.						
18. My training needs are assessed.						
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No Basis to Judge
19. In my most recent performance appraisal, I understood what I had to do to be rated at different performance levels (for example, Fully Successful, Outstanding).						
My Work Unit						
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	
20. The people I work with cooperate to get the job done.						
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Do Not Know
21. My work unit is able to recruit people with the right skills.						
22. Promotions in my work unit are based on merit.						
23. In my work unit, steps are taken to deal with a poor performer who cannot or will not improve.						
24. In my work unit, differences in performance are recognized in a meaningful way.						
25. Awards in my work unit depend on how well employees perform their jobs.						
26. Employees in my work unit share job knowledge with each other.						
27. The skill level in my work unit has improved in the past year.						



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Appendix B: 2018 Federal Employee Viewpoint Survey Instrument (continued)

	Very Good	Good	Fair	Poor	Very Poor	
28. How would you rate the overall quality of work done by your work unit?						
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Do Not Know
29. My work unit has the job-relevant knowledge and skills necessary to accomplish organizational goals.						
My Agency						
30. Employees have a feeling of personal empowerment with respect to work processes.						
31. Employees are recognized for providing high quality products and services.						
32. Creativity and innovation are rewarded.						
33. Pay raises depend on how well employees perform their jobs.						
34. Policies and programs promote diversity in the workplace (for example, recruiting minorities and women, training in awareness of diversity issues, mentoring).						
35. Employees are protected from health and safety hazards on the job.						
36. My organization has prepared employees for potential security threats.						
37. Arbitrary action, personal favoritism and coercion for partisan political purposes are not tolerated.						
38. Prohibited Personnel Practices (for example, illegally discriminating for or against any employee/applicant, obstructing a person's right to compete for employment, knowingly violating veterans' preference requirements) are not tolerated.						
39. My agency is successful at accomplishing its mission.						



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Appendix B: 2018 Federal Employee Viewpoint Survey Instrument (continued)

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	
40. I recommend my organization as a good place to work.						
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Do Not Know
41. I believe the results of this survey will be used to make my agency a better place to work.						
My Supervisor						
42. My supervisor supports my need to balance work and other life issues.						
43. My supervisor provides me with opportunities to demonstrate my leadership skills.						
44. Discussions with my supervisor about my performance are worthwhile.						
45. My supervisor is committed to a workforce representative of all segments of society.						
46. My supervisor provides me with constructive suggestions to improve my job performance.						
47. Supervisors in my work unit support employee development.						
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	
48. My supervisor listens to what I have to say.						
49. My supervisor treats me with respect.						
50. In the last six months, my supervisor has talked with me about my performance.						
51. I have trust and confidence in my supervisor.						



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Appendix B: 2018 Federal Employee Viewpoint Survey Instrument (continued)

	Very Good	Good	Fair	Poor	Very Poor	
52. Overall, how good a job do you feel is being done by your immediate supervisor?						
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Do Not Know
Leadership						
53. In my organization, senior leaders generate high levels of motivation and commitment in the workforce.						
54. My organization's senior leaders maintain high standards of honesty and integrity.						
55. Supervisors work well with employees of different backgrounds.						
56. Managers communicate the goals of the organization.						
57. Managers review and evaluate the organization's progress toward meeting its goals and objectives.						
58. Managers promote communication among different work units (for example, about projects, goals, needed resources).						
59. Managers support collaboration across work units to accomplish work objectives.						
	Very Good	Good	Fair	Poor	Very Poor	Do Not Know
60. Overall, how good a job do you feel is being done by the manager directly above your immediate supervisor?						
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Do Not Know
61. I have a high level of respect for my organization's senior leaders.						
62. Senior leaders demonstrate support for Work/Life programs.						



Appendix B: 2018 Federal Employee Viewpoint Survey Instrument (continued)

	Very Satisfied	Satisfied	Neither Satisfied nor Dissatisfied	Dissatisfied	Very Dissatisfied
My Satisfaction					
63. How satisfied are you with your involvement in decisions that affect your work?					
64. How satisfied are you with the information you receive from management on what's going on in your organization?					
65. How satisfied are you with the recognition you receive for doing a good job?					
66. How satisfied are you with the policies and practices of your senior leaders?					
67. How satisfied are you with your opportunity to get a better job in your organization?					
68. How satisfied are you with the training you receive for your present job?					
69. Considering everything, how satisfied are you with your job?					
70. Considering everything, how satisfied are you with your pay?					
71. Considering everything, how satisfied are you with your organization?					
Work/Life					
72. Please select the response below that BEST describes	s your current	teleworking	situation.		
I telework very infrequently, on an unscheduled of	or short-term	basis.			
I telework, but only about 1 or 2 days per month					
☐ I telework 1 or 2 days per week.					
☐ I telework 3 or 4 days per week.					
☐ I telework every work day.					
I do not telework because I have to be physically present on the job (e.g. Law Enforcement Officers, Park Rangers, Security Personnel).					
I do not telework because of technical issues (e.g. connectivity, inadequate equipment) that prevent me from teleworking.					
I do not telework because I did not receive approval to do so, even though I have the kind of job where I can telework.					
I do not telework because I choose not to telework.					



Appendix B: 2018 Federal Employee Viewpoint Survey Instrument (continued)

	Very Satisfied	Satisfied	Neither Satisfied nor Dissatisfied	Dissatisfied	Very Dissatisfied	I choose not to participate in these programs	These programs are not available to me	I am unaware of these programs
73 -78. How satisfied are you with	the followin	g Work/Life	programs in y	our agency?				
73. Telework								
74. Alternative Work Schedules (AWS) (AWS, for example, compressed work schedule or flexible work schedule)								
75. Health and Wellness Programs (for example, onsite exercise, flu vaccination, medical screening, CPR training, health and wellness fair)								
76. Employee Assistance Program (EAP, for example, short- term counseling, referral services, legal services, information services)								
77. Child Care Programs (for example, child care center, parenting classes and support groups, back-up care, flexible spending account)								
78. Elder Care Programs (for example, elder/adult care, support groups, speakers)								
Demographics								
79. Where do you work?								
Headquarters								
Field								
80. What is your supervisory status	80. What is your supervisory status?							
☐ Non-Supervisor: You do not supervise other employees.								
Team Leader: You are not a have supervisory responsib					lay-to-day gu	idance in wo	ork projects, bu	ıt do not
Supervisor: You are a first-line supervisor who is responsible for employees' performance appraisals and leave approval.								
Manager: You are in a man	☐ Manager: You are in a management position and supervise one or more supervisors.							
Senior Leader: You are the head of a department/agency or a member of the immediate leadership team responsible for directing the policies and priorities of the department/agency. May hold either a political or career appointment, and typically is a member of the Senior Executive Service or equivalent.								



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Appendix B: 2018 Federal Employee Viewpoint Survey Instrument (continued)

81. Are you:
☐ Male
☐ Female
82. Are you Hispanic or Latino?
☐ Yes
□ No
83. Please select the racial category or categories with which you most closely identify (mark as many as apply).
American Indian or Alaska Native
☐ Asian
☐ Black or African American
☐ Native Hawaiian or Other Pacific Islander
☐ White
84. What is the highest degree or level of education you have completed?
Less than High School
High School Diploma/GED or equivalent
☐ Trade or Technical Certificate
Some College (no degree)
Associate's Degree (e.g., AA, AS)
☐ Bachelor's Degree (e.g., BA, BS)
Master's Degree (e.g., MA, MS, MBA)
☐ Doctoral/Professional Degree (e.g., Ph.D., MD, JD)
85. What is your pay category/grade?
Federal Wage System (for example, WB, WD, WG, WL, WM, WS, WY)
☐ GS 1-6
☐ GS 7-12
☐ GS 13-15
Senior Executive Service
Senior Level (SL) or Scientific or Professional (ST)
☐ Other



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Appendix B: 2018 Federal Employee Viewpoint Survey Instrument (continued)

86. How long have you been with the Federal Government (excluding military service)?
Less than 1 year
1 to 3 years
4 to 5 years
☐ 6 to 10 years
11 to 14 years
☐ 15 to 20 years
☐ More than 20 years
87. How long have you been with your current agency (for example, Department of Justice, Environmental Protection Agency)?
Less than 1 year
☐ 1 to 3 years
4 to 5 years
☐ 6 to 10 years
☐ 11 to 20 years
☐ More than 20 years
88. Are you considering leaving your organization within the next year, and if so, why?
□ No
Yes, to retire
Yes, to take another job within the Federal Government
Yes, to take another job outside the Federal Government
Yes, other
89. I am planning to retire:
☐ Within one year
☐ Between one and three years
☐ Between three and five years
☐ Five or more years
90. Are you transgender?
Yes
□ No



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Appendix B: 2018 Federal Employee Viewpoint Survey Instrument (continued)

91. Which one of the following do you consider yourself to be?
Straight, that is not gay or lesbian
Gay or Lesbian
Bisexual
Something else
92. What is your US military service status?
☐ No Prior Military Service
Currently in National Guard or Reserves
Retired
Separated or Discharged
93. Are you an individual with a disability?
Yes
□ No
94. What is your age group?
25 and under
26–29 years old
30–39 years old
40–49 years old
50–59 years old
☐ 60 years or older



Appendix C: Sample Emails

Sample Invitation Email

Subject: 2018 Federal Employee Viewpoint Survey

Let leadership hear your opinions about your agency, your supervisor and your job! Be your agency's driving force. Change starts with you. Today, the 2018 Federal Employee Viewpoint Survey (FEVS) kicks off, providing you a safe and confidential way to voice your opinions.

Here is your personalized link: Click here to access your survey

Please do not forward your email. Otherwise, someone else will be your voice! If the link does not take you directly to your survey, copy and paste the following into a browser window:

[UNIQUE LINK]

Please take 20 to 30 minutes to complete the FEVS. Participation is voluntary and you may use official time. OPM has conducted the survey since 2002, and each year agencies take action after hearing from everyone.

Need help?

We are committed to providing everyone a voice. If the survey format interferes with your ability to respond due to a disability, such as assistive technology incompatibility, or if you are experiencing other difficulties accessing your survey or have questions about the FEVS, please contact our Survey Support Center toll free at: 1-855-OPM-FEVS (1-855-676-3387) or reply to this message.

The FEVS team thanks you!

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Sample Reminder Email

Your opinions on the Federal Employee Viewpoint Survey matter. Take this important opportunity to help guide your agency's focus in the coming years.

Click here to access your survey

XXXXXXXXXXXX

If the link does not take you directly to the survey, copy and paste the following into a browser window: XXXXXXXXXXXX

Please DO NOT forward this e-mail, as it contains your personalized link to the survey. Answering the questions will take about 25 minutes, and you may use official time. While participation is voluntary, your feedback is important.

This is an official survey from OPM, to see all current surveys from OPM click here.

Reply to this message if you have any questions or difficulties accessing the survey, or call our Survey Support Center toll free at: 1-855-OPM-FEVS (1-855-676-3387).

OPM is committed to collecting the viewpoints of all Federal employees participating in the FEVS. With that in mind, we commit ourselves to providing meaningful access to our survey for individuals with disabilities. If the format of any material in the survey interferes with your ability to complete it due to an issue with accessibility caused by a disability, such as assistive technology-compatibility, please contact evs@opm.gov for additional assistance.

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Appendix D: AAPOR Response Rate

The following presents the calculation of the FEVS response rate using the AAPOR Response Rate 3 formula.

Table D1. Case Assignment Allocation to Response Rate Groups, by the AAPOR RR3 Method

Response Rate (RR) Group	AAPOR RR3 Method Allocation	AAPOR RR3 Method Counts
Eligible Respondents (ER)	СО	598,003
Eligible Non-respondents (ENR)	UA, RF, IN	11,399
Unknown Eligibility (UNK)	UD, NR, NE	889,084
Ineligible (IE)	IE	38,653
Total		1,537,139

AAPOR Response Rate 3 formula

Number of eligible employees returning completed surveys / (Number of known eligible employees + estimated number of eligible employees among cases of unknown eligibility):

$$RR3_{AAPOR} = ER / (ER + ENR + UNK_{elig}) * 100,$$

where UNK_{elig} = the estimated number of eligible cases

among cases of unknown eligibility. It was calculated as follows:

$$P_{\text{elig}} = (\text{ER} + \text{ENR}) \, / \, (\text{ER} + \text{ENR} + \text{IE}) = \text{proportion of eligible cases among cases of known eligibility}$$

$$P_{elig} = (598,003 + 11,399) / (598,003 + 11,399 + 38,653)$$

$$P_{elig} = 0.940355371$$

$$UNK_{elig} = P_{elig} * UNK = 0.940355371 * 889,084 = 836,055$$

Thus,

$$RR3_{AAPOR} = 598,003 / (598,003 + 11,399 + 836,055) * 100$$

$$RR3_{_{\rm AAPOR}} = 598,003 \; / \; 1,445,457 \; ^* \; 100$$

$$RR3_{AAPOR} = 41.4 percent$$

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Appendix E: Weighting of the Survey Data

Base Weights

The base weight for a sampled employee is equal to the reciprocal of an individual's selection probability. The calculated base weights were then assigned to all employees. Since 2018 FEVS is a census of all eligible employees, the base weight is simply 1 for each sampled employee.

Survey Nonresponse Adjustment

Some sample members did not respond to the survey, usually because they chose not to participate, they considered themselves ineligible, or their surveys were undeliverable. The base weights were adjusted to reduce the bias in survey estimates that can occur when the respondent population and the survey population no longer match on important characteristics. In other words, the adjustments are generally used to increase the base weights of respondents to account for non-respondents.

Nonresponse adjustments were calculated separately for individual agencies or sets of subagencies. Prior to 2015, NR adjustments were calculated separately for each agency. For 2015, nonresponse adjustments were calculated separately for subagencies that have 2,500 or more employees and for an agency's set of subagencies that each has fewer than 2,500 employees. Within each agency, weighting cells were constructed to group respondents and nonrespondents with similar characteristics into the same cells for adjustment. The variables used to form the weighting cells included a sub-agency identifier, supervisory status, sex, minority status, age group, tenure as a Federal employee, full- or part-time status, and location (headquarters vs. field office). Large subgroups were divided into smaller weighting cells to increase variation across the cells. A categorical search algorithm was used to divide the data into smaller cells, with the goal of having response rates differ as much as possible across the cells. Cells with similar response rates were combined when necessary to achieve a minimum cell size of 30 respondents.

For the 2006 survey administration, the algorithm called CHAID (Chi-squared Automatic Interaction Detector; Kass, 1980) was used to divide the data into smaller cells. Since that time (i.e., for the 2008, 2010, 2011, 2012, 2013, 2014, 2015, and 2016 survey administrations), the chi algorithm in the Search software developed and maintained by the University of Michigan was used. The chi algorithm is an ancestor of CHAID. For the 2017 and 2018 survey administration, the CHAID option of SAS's PROC HPSPLIT procedure was used to divide the data into smaller cells.

After the weighting cells were formed, statisticians calculated two nonresponse adjustment factors. The following formula was used to compute the first nonresponse adjustment factor for each weighting cell:

$$f_c^{1,nr} = \frac{\sum_{i \in ER_c} w_i + \sum_{i \in ENR_c} w_i + \sum_{i \in I_c} w_i + \sum_{i \in U_c} w_i}{\sum_{i \in ER_c} w_i + \sum_{i \in ENR_c} w_i + \sum_{i \in I_c} w_i}$$

where $\sum_{i \in ER_c} w_i$ is the sum of base weights for eligible respondents in weighting cell c, $\sum_{i \in ENR_c} w_i$ is the sum of base weights for eligible non-respondents in weighting cell c, $\sum_{i \in I_c} w_i$ is the sum of base weights for known ineligibles in weighting cell c, and $\sum_{i \in U_c} w_i$ is the sum of base weights for non-respondents of unknown eligibility in weighting

cell c. The first adjustment factor was used to distribute the base weights of non-respondents of unknown eligibility to units of known eligibility. The statisticians refer to this type of weight adjustment as a Type 1A weight adjustment (see Appendix F). This was achieved by multiplying the base weights of eligible respondents, known ineligibles, and non-respondents known to be eligible by the first adjustment factor and setting the final weight of the non-respondents of unknown eligibility to zero.



The following formula was used to compute the second nonresponse adjustment factor for each weighting cell:

$$f_c^{2,nr} = \frac{\sum_{i \in ER_c} w_i' + \sum_{i \in ENR_c} w_i'}{\sum_{i \in ER_c} w_i'}$$

where w_i' is the adjusted weight resulting from multiplying the base weight for unit i by the first adjustment factor. The second adjustment factor was used to distribute the adjusted weights of non-respondents of known eligibility to the eligible respondents. The statisticians refer to this type of adjustment as a Type 1B adjustment. (See Appendix F.) The final weights were calculated by multiplying the base weights of the eligible respondents by both adjustment factors and by setting the final weight of the non-respondents of known eligibility to zero. Thus, the nonresponse adjusted weights were $w_i^{nr} = f_c^{l,nr} w_i$ for known ineligibles and $w_i^{nr} = f_c^{l,nr} f_c^{l,nr} w_i$ for eligible respondents.

Raking

The precision of survey estimates is improved if known information about the total population is used during the weighting process. For the final stage of weighting, statisticians used a method called raking that incorporated available information on the demographic characteristics of the FEVS sample population. For this third adjustment step, the sample file was subset to include only eligible respondents and known ineligibles. Then, the adjusted base weights were further adjusted so they sum to control totals computed from the sampling-frame variables. The known ineligibles are included in raking because the control totals computed from the sampling frame variables also include ineligibles. At the conclusion of raking, however, only the final weights of the eligible respondents are used with the collected survey data to compute weighted estimates.

The raking procedure was carried out in a sequence of alternating adjustments. Weighted counts for eligible respondents plus known ineligibles were arrayed into two dimensions. The first dimension was formed by the crossing of agency, sex, and minority status. The second dimension was formed by truncating the stratum identifier to five characters, and in some cases further collapsing the resulting stratum-based cells. The actual population count was known for each cell in those two dimensions. Weighted counts of eligible respondents plus known ineligibles were produced for the first dimension, and then the weights were adjusted to reproduce the population counts. Those adjusted weights were then used to produce counts for the second dimension. The weighted counts of eligible respondents plus known ineligibles were compared with population counts for the second dimension, and the weights were adjusted again to reproduce population counts. This process of alternately adjusting for one, then the other, dimension was repeated until the survey distributions for the two dimensions equaled the population control counts for both dimensions, within a specified level of precision. That is, the sum of the weights for each raking dimension was acceptably close to the corresponding population total.

The final raked weight for the i^{th} respondent was computed as:

$$\widetilde{w}_{i}^{R} = \widetilde{f}_{i}^{R} w_{i}^{nr}, i \in S_{g}$$

where f_i^R is the product of the iterative adjustments (in each dimension group, s_g) applied to the i^{th} sample

employee. The final weight equals the number of people in the survey population the i^{th} respondent represents. The weights for the eligible respondents were added to the data file. When the weights are used in data analysis, they improve the precision and accuracy of survey estimates.

Full-sample versus Replicate Weights

For the 2004, 2006, and 2008 FHCS, *full-sample weights* were used to calculate standard errors and to perform statistical tests when the Taylor linearization method is used. For the 2010–2016 administrations, full-sample weights and Taylor linearization were still used for all analyses, except *replicate weights* were used for agency and Governmentwide trend analyses. Replicate weights were used because these trend analyses were also available on demand in WesDaX, Westat's online query and analysis system.

WesDaX uses the jackknife method to determine standard errors and to perform statistical tests, which requires the calculation of sets of replicate weights. The *replicate weights* were calculated by the JKn method, which randomly assigns cases to groups, referred to as *variance units*, within sets of sampling strata, referred to as *variance strata*. The sampling strata for a particular agency were assigned to variance strata based on stratum response rates. Each set of replicate weights corresponds to deleting one variance unit and then recalculating the weights based on the remaining variance units. The nonresponse and calibration adjustments for the 2010–2018 FEVS were replicated in each set of replicate weights. Consequently, standard errors calculated by using the jackknife method correctly accounts for the effects of weight adjustment on sampling variability.

Example

The remainder of this appendix presents a numerical example of the three-step weighting procedure. For this example, we assume that all the units in the sampling frame are eligible cases. Consequently, this example does not include any adjustments for cases of unknown eligibility.

Table E1 shows how the population is partitioned into five strata, and strata 4 and 5 are combined. In each of the resulting four strata, the target number of completed cases is 950. The rightmost column of Table E1 contains the base weights by stratum. For example the base weight for stratum 1 is 13,470 / 950=14.179.





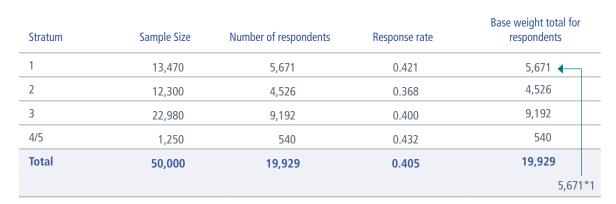
Table E1. Population Counts, Sample Sizes, Selection Probabilities, and Base Weights

Stratum	Population Count	Sample Size	Selection Probability	Base Weight
1	13,470	13,470	1	1 🕕
2	12,300	12,300	1	1
3	22,980	22,980	1	1
4	450	450		
4/5	1,250)	1	1
5	800	800		
Total	50,000	50,000		
			13,470/13,470	13,470/13,470

Table E2 contains the number of respondents by strata and the associated response rates. The rightmost column of Table E2 contains the sum of the base weights for all the respondents in each stratum. For example, for stratum 1 the sum of the base weights is. However, this is not close to the stratum population size of 13,470 for stratum 1 shown in Table E1. If the response rate were 100 percent in stratum 1, then the sum of the base weights for all respondents in a stratum would equal the stratum's population size. Because the response rate is not 100%, adjustments to the weights to compensate for nonresponse will be calculated.



Table E2. Sample, Respondents, Response Rates, and Base Weighted Totals



One of the sampling-frame variables contains location information—that is, headquarters or field—about each case. Table E3 shows how respondents can be assigned to nonresponse-adjustment cells on the basis of location and then associated response rates and nonresponse adjustment factors calculated. For example, for the Field location, the nonresponse adjustment factor would be the reciprocal of the response rate of 0.310 for a 3.226 nonresponse adjustment factor. By using the reciprocal of the response rate, the nonresponse adjustment factor will be greater than or equal to one, so multiplying the base weight for a respondent by a nonresponse adjustment factor increases it so it represents both the respondent and associated non-respondents. The base weights are then multiplied by the adjustment factors, yielding the nonresponse-adjusted weights shown in Table E4.

Table E3. Response Rates By Location

Location	Number of respondents	Response Rate	Nonresponse adjustment factor
Headquarters	12,320	0.500	2.000
Field	7,609	0.310	3.226
Total	19,929	0.405	
			1/0.310



Table E4. Nonresponse Adjusted Weights

Stratum		Adjustment factor		Adjusted weight	
	Base Weight	HQ	Field	HQ	Field
1	1	2.000	3.226	2.000	3.226
2	1	2.000	3.226	2.000	3.226
3	1	2.000	3.226	2.000	3.226
4/5	1	2.000	3.226	2.000	3.226



In Table E5, the second column from the right contains the sum of the nonresponse-adjusted weights for all the respondents in the eight cells defined by stratum and location. The rightmost column of Table E5 contains the cell's population size. The corresponding entries for the stratum totals in the two columns are not equal because of the variability in response rates across the four strata within each nonresponse adjustment cell, defined by location. If there had been no cross-stratum variability of responses rates within a nonresponse adjustment cell, the corresponding stratum totals in the two columns would have been equal to each other.

Table E5. Unweighted and Weighted Counts for Respondents and Population Counts By Stratum and Location

Stratum	Location	Unweighted count for respondents	Weighted count for respondents	Population count
1	HQ	4,324	8,648	7,880
1	Field	1,347	4,345	5,590
Total for 1		5,671	12,993	13,470
2	HQ	1,681	3,362	3,752
2	Field	2,845	9,178	8,548
Total for 2		4,526	12,540	12,300
3	HQ	5,249	10,498	10,915
3	Field	3,943	12,720	12,065
Total for 3		9,192	23,218	22,980
4/5	HQ	394	788	800
4/5	Field	146	471	450
Total for 4/5		540	1,259	1,250
Grand Totals		19,929	50,011	50,000



Table E6 illustrates two iterations of raking of the weights using stratum and sex as raking dimensions. The objective of such raking is to adjust the weights so that the sum of the weights for all the respondents in each stratum equals the stratum's population control total and also the sum of the weights for all the respondents of each sex equals the sex's population control total.



Table E6. Raking of Weights Using Stratum and Sex as Ranking Dimensions

Iteration 1

Stratum	Weighted Count	Population Count	Raking Factor	
1	12,993	13,470	1.037	13,470/12,993
2	12,540	12,300	0.981	Multiply weights by
3	23,218	22,980	0.990	raking factors to get
4/5	1,259	1,250	0.993	new weights and
Total	50,011	50,000		produce distribution by sex.

Sex	Weighted Count	Population Count	Raking Factor	
Male	21,900	23,500	1.073	Calculate new
Female	27,000	26,500	0.981	weights using raking
Total	48,900	50,000		factors and produce , distribution by group.
				- distribution by group.

Iteration 2

Stratum	Weighted Count	Population Count	Raking Factor
1	13,416	13,470	0.996
2	12,325	12,300	1.002
3	23,003	22,980	1.001
4/5	1,253	1,250	1.002
Total	49,996	50,000	

Sex	Weighted Count	Population Count	Raking Factor
Male	23.400	23.500	1.004
Female	26,400	26,500	1.004
Total	49,800	50,000	

Iterations continue until weighted counts are close or equal to population counts.



Appendix F: Illustration of Weight Adjustment Operations



Table F1. Values of Status Variables

Status	Description
0	Case where the initial weight should not be changed
1	Eligible respondents
2	Eligible non-respondents
3	Ineligible
4	Unknown eligibility status



Table F2. Sums of Weights used to Define Type 1A and Type 1B Nonresponse Adjustments



Sums of Weights	
$S_1 = \sum wgt_{status = 1}$	Eligible Respondents
$S_2 = \sum wgt_{status = 2}$	Eligible Non-respondents
$S_3 = \sum wgt_{status = 3}$	Ineligible
$S_4 = \sum wgt_{status = 4}$	Unknown (non-respondents)



Figure F1. Type 1A Nonresponse Adjustment





Figure F2. Type 1B Nonresponse Adjustment



Appendix F 67



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