



## U.S. Merit Systems Protection Board 2021 Merit Principles Survey Design and Methodology

This document describes the data (public use files and supporting documentation) and methodology for MSPB's 2021 Merit Principles Survey (MPS or MPS 2021).

### Background

The U.S. Merit Systems Protection Board (MSPB) has the statutory responsibility to assess the health of Federal merit systems and the authority to conduct special studies of the Federal civil service [see 5 U.S.C. 1204(a)(3) and 5 U.S.C. 1204(e)(3)]. MSPB administers a periodic Merit Principles Survey to help carry out those studies. Those studies, including summaries and analyses of data from the MPS, are officially submitted to the President and Congress and shared with Federal policymakers and agencies.

### Survey Design

Typically, the MPS contains a combination of core items that MSPB tracks over time and special-purpose items developed to support a particular study or provide information on a topic of research interest. This survey differs from the Federal Employee Viewpoint Survey administered by OPM in several respects, including: a focus on merit system principles and Governmentwide civil service issues; administration every few years instead of annually; and a smaller sample. Agency participation in the MPS was mandatory, but individual response to the survey was voluntary.

### Survey Content

The MPS2021 supports several lines of research in MSPB's research agenda. The survey comprised sections related to particular research topics and sections that support data validation and analysis. The major sections of the survey are listed below.

- Work Experience/Employee Engagement
- Adherence to Merit System Principles
- Experience of Prohibited Personnel Practices
- Experience of Sexual Harassment
- Respondent Demographics and Career Intentions

### Survey Sampling

MSPB developed a sampling strategy, using a stratified random sample, to provide a reliable measure of Governmentwide opinion among permanent, full-time civilian Federal employees. The sample was stratified by Federal agency (and agency bureau or component for selected agencies) and supervisory status (nonsupervisor, supervisor, or executive). To provide useful measures across agency and supervisory status, MSPB oversampled (i.e., surveyed a higher proportion of) some groups, including supervisors, executives, and employees in smaller agencies.

MSPB drew the survey samples from rosters provided by participating agencies. Those rosters contained data needed to administer the survey (such as the email address), confirm eligibility for the survey, and categorize employees for survey sampling. Rosters were provided by agencies in November 2020 and the sample was drawn in December 2020. For the two small agencies

participating, all eligible employees were surveyed. The final sample included just over 100,000 employees from the 27 Federal agencies listed below.

**Table: Federal Agencies Participating in the 2021 Merit Principles Survey**

<i>Departments</i>
Department of Agriculture
Department of the Air Force
Department of the Army
Department of Commerce
Department of Defense
Department of Education
Department of Energy
Department of Health and Human Services
Department of Homeland Security
Department of Housing and Urban Development
Department of the Interior
Department of Justice
Department of Labor
Department of the Navy
Department of State
Department of Transportation
Department of the Treasury
Department of Veterans Affairs
<i>Independent Agencies</i>
Environmental Protection Agency
Federal Deposit Insurance Corporation
General Services Administration
Merit Systems Protection Board
National Aeronautics and Space Administration
Office of Government Ethics
Office of Personnel Management
Securities and Exchange Commission
Social Security Administration

The agencies that participated in the 2021 MPS account for approximately 98 percent of the permanent full-time Federal workforce covered by the Enterprise HR Integration–Statistical Data Mart, a Governmentwide workforce data repository maintained by the U.S. Office of Personnel Management (OPM). Accordingly, the MPS population is functionally almost identical to the corresponding Governmentwide population, and the MPS can provide a useful measure of employee opinions Governmentwide.

### **Survey Administration**

MSPB notified participating Federal agencies and selected stakeholders (e.g., major Federal employee unions) of the survey to request their support. The survey was administered electronically

(over the Internet) using a Federal Government-specific implementation of a survey development and administration application that is used in the private, public, and academic/nonprofit sectors.

Employees were invited to complete the survey via an email message that contained a link unique to the individual employee. Those invitations and other publicly available documents (such as MSPB-developed fact sheets) informed employees that their participation was voluntary and their responses confidential. MSPB further assured participants that it would not disclose data that could be used to identify an individual employee.

The MPS was launched in January 2021, with periodic email reminders to complete the survey, and closed in April 2021. The survey was open to invited employees for six to eight weeks, allowing for a rolling start date and extensions to accommodate IT-related delays in distribution.

### **Response Acceptance, Rate, and Weighting**

After the survey closed, MSPB reviewed the response records to determine whether they would be accepted. Acceptance was based on completing a minimum number (approximately ten percent) of the non-demographic items asked of all respondents. MSPB then estimated a response rate, calculated by dividing the number of accepted responses by the estimated number of invited employees who were available to complete the survey.<sup>1</sup>

**Table: Response Rate for the MPS2021**

Selected	100,234
Available	99,369
Responded	33,138
Response Rate	33.3%

As discussed previously, sampling rates differed across survey strata. Response rates also varied. Accordingly, MSPB calculated response weights to produce results that are representative of the population surveyed. The initial weights were based on both the data elements used for sampling (agency or agency/subelement and supervisory status) and age group. As discussed below, some of those initial weights were subsequently adjusted based on analysis of response rates and patterns.

Generally, tabulations and analysis should use the weighting variable (MPS\_Weight) included in the survey datasets. Results presented in official MSPB publications are weighted unless stated otherwise.

### **Survey Representativeness**

For selected dimensions, MSPB compared the proportion of respondents from a particular demographic group (based on survey responses) with the estimated proportion of employees in that group in the survey population (based on September 2020 records from OPM's Enterprise HR Integration-Statistical Data Mart, a Governmentwide workforce data repository). That comparison indicated that younger employees had, on average, a lower response rate than older employees.

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<sup>1</sup> An employee was recorded as "unavailable" for reasons such as an invalid email address and receipt of an automated reply indicating that the employee had separated from the Federal service, transferred to another agency, or was otherwise absent for all or most of the survey period.

Accordingly, MSPB made a post-stratification adjustment to the initial weights based on age group. Weights were adjusted only for respondents who self-reported an age group (reporting was voluntary, and some respondents declined to provide demographic information), for strata in which two or more age subgroups had 30 or more responses. With this adjustment, MSPB concluded that representation of major demographic groups was acceptable and that the survey results are reasonably representative of the population from which they were drawn.

### Margin of Error

MSPB estimated margins of error at a specified confidence level for each item on the survey. For items that were asked of all respondents,<sup>2</sup> the margin of error at a 95 percent confidence level was at or below 1 percentage point.

**Table: Illustration of Applying the Margin of Error**

<p><b>Example:</b> An item has a margin of error of 0.50 percent and the percentage of respondents who agreed was 42 percent.</p> <p><b>Interpretation:</b> We are 95 percent confident that the true percentage of agreement lies between of 41.5 and 42.5 percent (= 42 percent, plus or minus 0.50 percentage points).<sup>3</sup></p>
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### Survey Access and Files

Data from merit system study surveys is available to the public through one or more of the following: MSPB’s public website, data.gov, and the National Archives and Records Administration (NARA). MSPB plans to submit the MPS 2021 data files and supporting materials to NARA. (NARA, rather than MSPB, determines whether to accept those records and whether the records are temporary or permanent.) If accepted, those files will be accessible at [www.archives.gov](http://www.archives.gov) as part of record group 479 (permanent records of MSPB) under the Merit Principles Survey file series. The public use files that MSPB has made available are listed below.

**Table: Public Use Files for the 2021 MPS**

Name(s)	Description
MSPB_MPS2021_Methodology.pdf	Overview of the MPS 2021 methodology and public use data (this document).
MSPB_MPS2021_ItemList.pdf MSPB_MPS2021_Instrument.pdf	A list of items appearing on the MPS 2021 and a representation of the survey for references purposes that contains variable names, response codes and outlines the survey flow and logic.
MSPB_MPS2021_Release.sav MSPB_MPS2021_Release.sas7bdat MSPB_MPS2021_Release.csv	Datasets in SPSS, SAS, and comma-delimited formats and SAS format files (numeric and character).

<sup>2</sup> Certain items were asked only of respondents who provided a particular response to a preceding item. For example, only employees who reported observing or experiencing a particular prohibited personnel practice were asked a question concerning the person(s) who had committed the practice. For such items, the number of respondents is smaller, and the margin of error correspondingly larger.

<sup>3</sup> This interpretation is simplified but not strictly correct; more accurately (but less intuitively), an interval calculated using this method will, *on average*, contain the true percentage 95 percent of the time.

MSPB_MPS2021_Dictionary_Release.pdf	Data dictionary.
MPS2021_Formats.sas7bdat MPS2021_Formats_C.sas7bdat	SAS format files
MPS2021_FactSheet_Agencies.pdf MPS2021_FactSheet_Agencies.pdf	Fact sheets provided to participating agencies and employees.

To protect the confidentiality of responses and individual privacy, in accordance with the Privacy Act of 1974 (Public Law 93-579), responses to some survey items have been eliminated or recoded (combined into larger categories or groups) in the public use dataset. Those items include certain demographic characteristics that are sensitive or, in combination, could be used to identify an individual and open-ended responses that might contain personally identifying or otherwise sensitive information.