

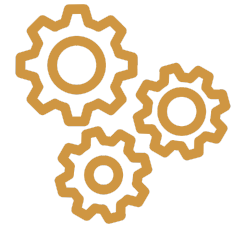


Analysis Plan

Project Name: Employee Voice Initiative Pulse 1 Survey Experiment

Project Code: 2203

Date Finalized: October 29, 2021



Project Description

In October 2020, the federal government will launch a pilot pulse survey initiative, which invites Federal employees to share their thoughts via 3-4 questions to help inform the Administration's actions on how best to support the Federal workforce. This six month pilot is a collaborative effort of the President's Management Council, together with the Office of Management and Budget, the Office of Personnel Management, and the General Services Administration. We will be piloting this survey by sending emails to the approximately two million civilian employees of the [24 CFO Act agencies](#).

Each survey is a short pulse check and contains 3-4 embedded questions that cover one of three themes: employee engagement, inclusion, and the reentry process. The email links to the survey questions, which should take only a few minutes to complete.

During this pilot, we plan to send three pulse surveys, each approximately two months apart. The timing of the pulses will allow time to analyze the aggregated data, evaluate government-wide trends, and then adapt future pulse surveys.

Experimental Design

This study involves two experiments embedded in the first round of the pilot pulse survey initiative. Prior to Pulse 1, we will randomize approximately 2 million civilian Federal employees of the 24 CFO Act Agencies as part of the following experiments:

1. *Survey messenger*: Each of the approximately 2 million federal employees will be randomly assigned to receive one of two email invitations to complete the survey: (1) an OMB-branded email signed by the OMB Deputy Director, or (2) an Agency-branded email signed by their Agency's PMC representative. The randomization will be stratified by agency.
2. *Survey theme*: All eligible Federal employees will also be randomly assigned to one of the three priority areas and will subsequently receive the pulse survey corresponding with their assigned area. Condition assignment will remain the same

for all employees for all three rounds of pulse surveys. The randomization will be stratified by agency.

The experiments will run for 7-10 days from the time of the first email to the time of the reminder email.

Preregistration Details

This Analysis Plan will be posted on the [Github repository](#) for oes.gsa.gov before outcome data are analyzed.

Hypotheses

This experiment will test two research questions. We do not have *a priori* hypotheses.

1. Does organizational affiliation (OMB vs. respondent's Agency's PMC representative) of the sender of the employee pulse survey affect response rates?
2. Does the theme of the survey affect response rates?

Data and Data Structure

Data Source(s):

OPM maintains an Enterprise Human Resources Integration (EHRI) database of approximately 2 million civilian Federal employees of the 24 CFO Act agencies (see Appendix A), which will comprise our sample universe. This sample does not include Agency staff employed through federal contractors. Outcome data will come from the survey itself, administered via Qualtrics, as well as from OPM.

Outcomes to Be Analyzed:

The primary outcome of interest is survey response. A response is defined as a Federal employee responding to at least one question in the survey to which they were assigned, and submitting the survey, between the survey launch date and the reminder date. All Federal employees will receive an email the day the survey launches that invites them to complete the survey. Employees who do not submit the survey will receive a reminder email 7-10 days later.

As a secondary outcome of interest, we will also examine survey engagement, defined as starting or submitting the survey between the launch date and the reminder date. In other

words, this outcome will include “partial completes” or individuals who open and begin the survey, but do not submit it.

Imported Variables:

Covariates will include the following:

- Agency
- Pay grade group

Depending on data availability, we will also include the following covariates from OPM data as a robustness check:

- Race
- Gender
- Sexual orientation
- Disability Status
- Veteran Status
- Tenure

Transformations of Variables:

The outcome variables will be constructed, but do not require transformation.

Covariate data may be transformed depending on the final format of data available.

Wherever possible, transformations will follow FEVS convention. For instance, tenure, if available, will be grouped following the convention included in the FEVS:

- <1 year
- 1-3 years
- 4-5 years
- 6-10 years
- 11-14 years
- 15-20 years
- >20 years

Data Exclusion:

The analytic universe will consist of all Federal employees who were emailed a survey.

Treatment of Missing Data:

For the primary analysis, there will not be any missing data given that the data will come from the data used for randomization.

For secondary analysis that make use of OPM data, we will check missingness of covariates. If any variables are missing for more than 10% of the population we will run two models: one that excludes that covariate, and one that controls for the missing values by using mean imputation by strata (agency and pay grade group) and including an additional covariate indicating whether the value is missing. If results differ between models, we will report all models.

Statistical Models & Hypothesis Tests**Statistical Models:**

In an intent-to-treat analysis, we will evaluate the average treatment effect of condition assignment on our primary and secondary outcomes (survey response and survey engagement). For each outcome and each experiment (survey theme and survey messenger), we will evaluate the following model:

$$(1) Y_i = \alpha + \beta_1 [\textit{condition}]_i + X + \varepsilon_i$$

Where Y_i reflects the outcome of interest for employee i ; X is a vector of available covariate data including, at a minimum, randomization strata; and *condition* is one of the following:

- a) *Survey theme condition assignment*: All eligible Federal employees will be assigned to receive one of three pulse survey themes: (1) reentry; (2) engagement; (3) inclusion. In this model, condition assignment will be a categorical indicator in which a 1 reflects assignment to the reentry pulse survey theme condition; 2 reflects assignment to the engagement survey theme condition; and 3 reflects assignment to the inclusion theme condition.
- b) *Messenger condition assignment*: All eligible Federal employees will be assigned to receive one of two email invitations to complete the survey: (1) an OMB-branded email signed by the OMB Deputy Director, or (2) an Agency-branded email signed by their Agency's PMC representative. In this model, condition assignment will be a binary indicator in which a 1 reflects assignment to the OMB-branded messenger condition.

The coefficient of interest, β_1 , will be interpreted as the effect of condition assignment on the outcome of interest. However, of note for experiment 1 (survey theme): because the equity and inclusion survey theme contains 4 questions, compared to 3 in the other two survey topics, we will not be able to separate the effect of survey length and theme on response rates for the equity and inclusion survey.

We will use HC2 standard errors for statistical inferences and reject the null hypothesis if $p < 0.05$ for a two-tailed test.

Primary analysis

The primary analysis will regress survey completion on the condition, agency, and pay grade group, alone. As a robustness check, we will also regress survey completion on the more complete list of OMB covariates when available and dependent on missing data as described above.

Secondary analysis

We will conduct two secondary analyses:

1. We will evaluate the average effect of condition assignment through an interaction model that is the same as equation (1), but that includes an interaction term for messenger experiment condition X survey theme experiment condition.
2. We will also explore heterogeneous effects by agency and, if possible, demographic groups such as race and gender.

Limitations:

The current coverage and accuracy of OPM EHRI demographic data is unknown; it is possible that data are missing, inaccurate, or out of date. This may limit our ability to include additional covariates and/or conduct heterogeneous effects by demographic groups.

Appendix A

The 24 CFO Act agencies participating in the survey experiments include:

- Department of Agriculture
- 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 Interior
- Department of Justice
- Department of Labor
- Department of State
- Department of Transportation
- Department of Treasury
- Department of Veterans Affairs
- Environmental Protection Agency
- National Aeronautics and Space Administration
- Agency for International Development
- Social Security Administration
- General Services Administration
- National Science Foundation
- Nuclear Regulatory Commission
- Office of Personnel Management
- Small Business Administration