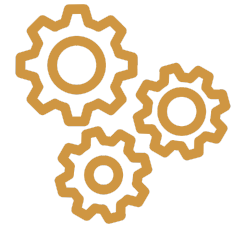## Analysis Plan

Project Name: Employee Voice Initiative Pulse 2 Survey Experiment
Project Code: 2203
Date Finalized: 2/2/22

Project Description

In October 2021, the federal government launched 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.

During this pilot, we plan to send three pulse surveys, each approximately two months apart. These surveys will be sent to approximately two million civilian employees of the 24 CFO Act agencies. The timing of the pulses will allow time to analyze the aggregated data, evaluate government-wide trends, and then adapt future pulse surveys.

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.

Experimental Design

This study involves one experiment embedded in the reentry survey that will be sent as part of the second round of the pilot pulse survey initiative. Pulse 2 will be sent to approximately 2 million civilian Federal employees of the 24 CFO Act Agencies.

Prior to Pulse 1, all employees were randomly assigned to one of the three survey themes: employee engagement, inclusion, or reentry (see pre-registered analysis plan for Pulse 1 here). All employees receive the same theme for each of the three pulse rounds. Thus, employees who were randomly assigned to the reentry survey theme prior to Pulse 1 also receive the reentry Pulse 2 and reentry Pulse 3 surveys. In total, 679,330 employees were assigned to the reentry survey theme.

The reentry Pulse 2 survey includes an embedded experiment. All respondents who start the survey will be randomized by the survey software (Qualtrics) to see one of the following two questions:

    A. If I found a job elsewhere with more workplace flexibilities or remote options, I would take it.
    B. If I found a job elsewhere with more pay or better benefits, I would take it.

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 one research question. We do not have an *a priori* hypothesis.

    1. Are current Federal employees more likely to express turnover intention for options with more work flexibilities or for options with more pay and benefits?

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. Covariate data will come from the EHRI and OPM.

Outcomes to Be Analyzed:

The primary outcome of interest is response to the following questions:

    A. If I found a job elsewhere with more workplace flexibilities or remote options, I would take it.
    B. If I found a job elsewhere with more pay or better benefits, I would take it.

Each question will be measured on a five-point Likert scale in which a 5 reflects strongly agree.

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 variable is a continuous measure of agreement with outcome questions A or B. Both questions are measured on the same 1-5 scale, which will be treated as continuous but will not require transformation.

We will then construct a "treatment" indicator that reflects which question each respondent saw. Since respondents will be randomly assigned to see only one question, we can then evaluate differences in agreement with the two questions.

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 assigned to the reentry survey theme prior to Pulse 1 and who answered the outcome question associated with their condition assignment.

Treatment of Missing Data:

For the primary analysis, there will not be any missing data given that the analytic sample will be comprised of respondents who answered the outcome question.

Statistical Models & Hypothesis Tests

Statistical Models:

We will evaluate differences in agreement between the two outcome questions via the following model:

$$(1)\ Y\_i = \alpha + \beta\_1 \llbracket question \rrbracket\_i + X + \varepsilon\_i$$

Where Y_i reflects the constructed measure of agreement with the outcome question for employee i; X is a vector of available covariate data including, at a minimum, randomization strata; and *question* is an indicator in which a 1 reflects random assignment to outcome question A.

The coefficient of interest, β_1, will be interpreted as the average difference in agreement between outcome question A and outcome question B.

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

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.

Additionally, it is possible that there will be differential non-response to the two questions (A and B). Non-response would arise from individuals completing the survey, but not answering the outcome question. Based on results from the first pulse survey round, this is unlikely–over 93% of respondents to the first pulse survey round answered all questions in their survey. However, we will check for differential non-response between outcome questions A and B. If the difference is greater than 5pp, we will report results of the experiment with a caveat about the differential response rates.

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