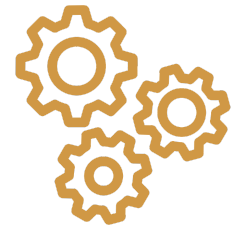


## Analysis Plan

Project Name: [Title]

Project Code: [Code]

Date Finalized: [Date]



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This document serves as a basis for distinguishing between planned confirmatory analyses and any exploratory analyses that might be conducted on project data. This is crucial to ensuring that results of statistical tests are properly interpreted and reported. For the Analysis Plan to fulfill this purpose, it is essential that it be finalized and date-stamped before we take possession of outcome data. Once this plan is finalized, a date is entered above, and the document is posted publicly on our team website.

### *Project Description*

[Brief description of the project, including the challenge, the intervention(s) to be tested, and the questions to be answered. This should be brief, but should provide context sufficient for the analysis plan that follows.]

### *Preregistration Details*

This Analysis Plan will be posted on the OES website at [oes.gsa.gov](https://oes.gsa.gov) before outcome data are analyzed. [IF APPLICABLE: In addition, this project will be preregistered in the [registry name] at [link to the registry, either main page or project-specific page].]

### *Hypotheses*

[Briefly state the primary and any secondary hypotheses to be tested. Aim for plain language. Statistical models and details of hypothesis tests will be covered later; the purpose here is to set the stage for the sections that follow.]

### *Data and Data Structure*

This section describes variables that will be analyzed, as well as changes that will be made to the raw data with respect to data structure and variables.

#### **Data Source(s):**

[Identify the source(s) of the data to be analyzed, if appropriate.]

#### **Outcomes to Be Analyzed:**

[List all outcome variables for which analysis is planned. If specific variable names are unavailable, describe the outcomes in sufficient detail to appropriately guide or constrain their calculation.]

Specify which outcomes will be submitted to confirmatory versus exploratory analysis (or do this later in the 'Statistical Models & Hypothesis Tests' section if it is more appropriate there).]

**Imported Variables:**

[Describe variables that will be added to the raw data. These may be variables used in the experimental design (e.g., blocking variables) or covariates merged in from a different dataset.]

**Transformations of Variables:**

[Describe new variables that will be created by transforming or combining variables in the raw data. If you plan on transforming, centering, or recoding the data, or will apply a coding scheme for categorical variables, please describe that process. If any measurements are going to be combined into an index (or even a mean), what measures will you use and how will they be combined? Include either a formula or a precise description of your method.]

**Transformations of Data Structure:**

[Describe any plans to transform the structure of your data (e.g., from cross-sectional to panel).]

**Data Exclusion:**

[Describe criteria you will use to determine whether any observations should be excluded from analysis (e.g., values that are likely data-recording errors, outliers, etc.).]

**Treatment of Missing Data:**

[Describe your plan to handle missing data. How will you deal with incomplete or missing data (e.g., pairwise or listwise deletion, imputation, interpolation)?]

***Descriptive Statistics, Tables, & Graphs***

[What descriptive statistics, tables, and graphs will be needed for reporting? If possible, provide table shells and/or mock graphs.]

***Statistical Models & Hypothesis Tests***

This section describes the statistical models and hypothesis tests that will make up the analysis – including any follow-ups on effects in the main statistical model and any exploratory analyses that can be anticipated prior to analysis.

**Statistical Models:**

[Specify the statistical model(s) that will be used for hypothesis tests. Please include the type of model and the specification of the model, including all variables that will be included as predictors, outcomes, or covariates. Explain the rationale for each covariate used. Please specify any interactions that will be tested and any planned checks on model assumptions.]

**Confirmatory Analyses:**

[Specify the hypothesis test(s) that will be reported as confirmatory. Which outcome and which of the above statistical models will you use to test each hypothesis? If you plan to test null hypotheses other than equality (zero effect), please specify the type of test and the margin. Remember that any test not included here must be noted as an exploratory test in any report of this research. Keep in mind that you can specify contingent or follow-up analyses that are still confirmatory. For example, if you find a main effect of the treatment, will you test for heterogeneous treatment effects? Will you look for specific pairwise differences between treatment arms if you find an overall effect of the pooled treatment? Exploratory analyses can be recorded in the next section.]

**Exploratory Analysis:**

[OPTIONAL: If you plan to explore your data set to look for unexpected differences or relationships, you may describe those tests here. An exploratory test is any test where a prediction is not made up front, or where there are multiple possible tests that you are going to use. A statistically significant finding in an exploratory test is a great way to form a new confirmatory hypothesis, which could then be tested using a pre-specified analysis at a later time.]

**Inference Criteria, Including Any Adjustments for Multiple Comparisons:**

[What criteria will you use to make inferences? Please describe the information you will use (e.g., specify the  $p$ -values), as well as cut-off criteria, where appropriate. Will you be using one- or two-tailed tests for each of your analyses? If you are comparing multiple conditions or testing multiple hypotheses, what method will you use to correct for multiple tests? If you are taking into account practical significance, please specify a minimum effect size of interest.]

**Limitations:**

[Describe any anticipated limitations associated with this analysis, if not previously identified in the Project Design document.]

**Link to an Analysis Code/Script:**

[This OPTIONAL step is helpful in order to create a process that is completely transparent and increase the likelihood that your analysis can be replicated. We recommend that code include clear commenting that is interpretable without extensive prior knowledge of the project. We recommend that you run the code on a simulated dataset in order to check that it will run without errors.]