

Quantitative Data Analysis

After you have collected all of your numerical data, you will now need to find the meaning in the numbers. What can you determine to affirm or discredit your original hypothesis?

- (1) **Validate** the data
- (2) **Edit** the data
- (3) **Group** the data
- (4) **Analyze** the data
- (5) **Interpret** the data

Step-by-Step

Validate the Data

Before doing anything with your raw data, it is important to first determine the validity of what you have collected. You want to ensure that there is no bias or deviations from your initial research plan. (Please note: You want to ensure that there is validity to your instruments pre-use with participants as well).

Complete: Check your list. Did you (1) actually collect data from each participant you have listed (ensure the number is correct) and (2) get all information required from each participant.

Edit the Data

It is near impossible for your data to be entirely error free. So, it is crucial to go through your data to find any mistakes (missing information, incorrect entries, and more). In order to go through this information, consider using our [data check checklist](#). Remember to document how your data was edited.

What if there are problems?

Inaccurate information. In this case, you can make the changes manually.

Outliers. To learn more about what an outlier is, how to identify one, and what to do with them, see [here](#).

Missing information. If you notice you have missing information, please see [here](#).

Group the Data

After you are sure your data is clean (error free and valid), you can then start to group the data and assign values to each group. Groupings, if appropriate, should be related to your research question and chosen analysis; if possible, see if “standard groupings” exist for your variable.

Example. An example of this would be, let’s say I collected data through a survey of 3,000 people. I want to know the average amount of money they spend on groceries every month. Instead of using the range that would be present if I took the individual answers of every participant, I could create brackets.

Code 1: \$0-30



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Code 2: \$31-50

Code 3: \$51-70

Analyze the Data

Now you get to analyze the data. There are a few methods you have to choose from and will need to choose what software you use to analyze that data. Let's start by looking at [the methods](#).