



## How To Normalize Respondent Data

### Problem

Respondents have used a scale in different ways. Some respondents may have given mainly high answers. Some mainly low answers. Some may have given a broad range of answers. Others may have given a narrow range of answers. You want to normalize the data, so that each respondent's data has an average of 0.0 and a standard deviation of 1.0.

### Steps to solve

1. Ensure that the question that you wish to scale is **Multiple Response – Numeric**. The *Q Reference Manual* contains details on how to change set **Question Type**.
2. Select all the variables in the question in the **Variable and Questions** tab.
3. Click your right mouse button and select: **Insert Ready-Made Formula(s), Mathematical Functions (by Case) and Average**.
4. Click **Yes**.
5. Click your right mouse button and select: **Insert Ready-Made Formula(s), Mathematical Functions (by Case) and Standard Deviation**.
6. Click your right mouse button in the newly created variable containing the average and select **Insert Variable(s), JavaScript Formula and Numeric...**
7. Fill in all the fields in the dialog box as follows:
  - a. **Name:** Any name you want
  - b. **Label:** Ensure that the new label contains the unique part of the first label of the variables that you want to standardize. For example, if the label is *Satisfaction: Qantas*, your new label may be *Standardized Satisfaction Qantas*
  - c. **Expression:** Fill in the expression as:  
 $(firstName - average) / standardDeviation$   
replacing the *firstName* with the name of the first variable, and each of *average* and *standardDeviation* with the names of the newly created variables. For example:  
 $(q23a - avgIHIQN) / stdevOXZLO$
8. Press **OK**
9. Right-click on the newly created variable and select: **Insert Ready-Made Formula(s) and Use as Template for Replication**.
10. Examine the preview screen and, if it seems to make sense, press **OK**.

### Additional reading

Terms shown in italics and bold can be found in the index of the *Q Reference Manual*, the *Quick Start Manual* and via the **Help** menu within Q.

### What to do if the problem is not solved

If these instructions are insufficient, please email us (**Help | Email Support...**) with a detailed description of what in the instructions is not working for you and we will either provide you with more comprehensive instructions, or, upon your request, we can do the analysis for you in your file (fees apply).