

## Appendix 3 - Building Bridges R Code

We provide three versions of R code for visualizing and analyzing data from the Building Bridges activity. For instructor reference, we also provide rendered PDFs of the R code. All Appendix 3 materials are viewable and downloadable from GitHub at:

[https://github.com/kacarscadden/BuildingBridgesJCST\\_Appendix3](https://github.com/kacarscadden/BuildingBridgesJCST_Appendix3)

All code versions contain all of the necessary R functions. Notes to instructors are written in CAPITAL LETTERS (e.g., to insert a link to the data collection Google Sheet where specified), and the column names included in the code matched our data sheet. Regardless of which version of code is ultimately administered, students should have the appropriate R packages installed and be familiar with R markdown prior to this lab.

**1\_building\_bridges\_code.Rmd** - This code is specifically written for the Building Bridges data and should be administered to students that have had little exposure to R.

**2\_building\_bridges\_example\_code.Rmd** - For an extra challenge, students can first complete this version of the code that draws on various example datasets to illustrate how to implement necessary functions in R. Students are then expected to adapt the relevant lines of code to analyze their own Building Bridges data. Instructors may wish to emphasize that the example data (available in R) does not start out looking identical to the Building Bridges data - thus, the code begins with some additional data manipulation steps to make it more comparable.

**3\_building\_bridges\_instructor\_key.Rmd** - This code is a filled-in version of the 1\_building\_bridges\_code.Rmd, intended as a resource for instructors less familiar with R.