1 Analysis

The main function which drives our analysis is `run_analysis` in the file `main.R`. This function takes a dataset and a number of bootstrap replicates, `B`, then runs each flavour of bootstrap sampling on the dataset with `B` replicates. These individual analyses use the `run_bootstrap` function from `Bootstrap_Logic.R`. The output of `run_analysis` is a list containing three sets of bootstrapped regression coefficients, as well as all the CIs.

The bootstrap analyses within `run_analysis` are performed by the `run_bootstrap` function in the `Bootstrap_Logic.R` file. This takes a number of bootstrap resamples, `B`, a dataset, and which type of resampling to use (parametric, non-parametric or semi-parametric). Each individual bootstrap sample is handled by `one_bootstrap`, also in `Bootstrap_Logic.R`. The `one_bootstrap` function calls `one_bootstrap_sample` to generate a bootstrap sample, and `boot_samp_2_coeffs` to compute regression coefficients for the M and Y models.

The `boot_samp_2_coeffs` function (in `boot_samp_2_coeffs.R`) fits regression models for M and Y, then extracts the appropriate coefficients by calling `reg_coeffs_for_mediation`. This latter function returns a data frame containing fixed and mixed effects. The former are obtained by `fix_coeffs_for_mediation`, and the latter come from `mix_coeffs_for_mediation`. The fixed effects are obtained pretty easily from fitted `lme4` objects. The mixed effects are extracted from the fitted models, then re-formatted using `mix_coeffs_2_data`.

2 Bootstrap Samplers