

Practice 4.3 (Level 1): Performing Model Diagnostics

Task

In this practice, you continue to work with the ANCOVA model that is based on the **mydata.school** data set, which shows the effect of **Words1** and **Gender** on **Reading3** scores. Here, you perform model diagnostics. Note: For additional details about the model, see practices 4.1 and 4.2.

Reminder: Make sure you've defined the **mydata** library.

1. Check the model for multicollinearity. If multicollinearity seems to be a problem, center **Words1** and refit the model with the centered variable. Compare the results to the previous model.

```
ods select none;
proc glmselect data=mydata.school outdesign=design;
  class Gender;
  model Reading3=Gender|Words1 / selection=none;
run;
%put macro variable _glsmod=&_glsmod;

ods select ParameterEstimates;
proc reg data=design;
  model Reading3=&_glsmod / vif;
title 'Check Collinearity on ANCOVA Model';
run;
quit;
```

As shown in the results, multicollinearity does not appear to be a problem with this model on the original scale of the data. As shown in the Parameter Estimates table, all of the variance inflation factors are below 10. You can center **Words1**, because this gives the intercept the interpretation of the average **Reading3** score for boys with the average **Words1** score. The current interpretation of the intercept is the average **Reading3** score for boys with the **Words1** score of 0.

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