

## USE AND MISUSE OF PROC GLM

R. J. Freund, Texas A&M University

According to the SAS User's Guide, PROC GLM can be used for many different analyses, including:

- simple linear regression
- multiple linear regression
- analysis of variance (ANOVA)
- analysis of covariance
- response surface models
- weighted regression
- partial correlation
- multivariate analysis of variance (MANOVA)
- repeated measures analysis of variance.

So, why use anything else?

Because PROC GLM is so very general, it is, in fact, quite inefficient for many analyses. Also, because of its broad scope, it is easy to misuse.

It is the purpose of this tutorial to outline those analyses for which PROC GLM is and is not suitable and to illustrate some pitfalls in the use of this procedure.

Specifically it is shown that:

- PROC GLM should not be used for regression
- PROC GLM should not be used for balanced data analysis of variance
- PROC GLM must be used for unbalanced data analysis of variance
- PROC GLM can be used, but carefully, for the analysis of variance with missing cells
- PROC GLM must be used for the analysis of covariance.

The presentation is in the form of a set of transparencies, which are not suitable for reproduction in the proceedings. Full size copies of the paper are available from the author.

R. J. Freund  
Department of Statistics  
Texas A&M University  
College Station, TX 77843  
(409) 845-3141

