Discuss at least two ways of correcting this problem via alternative modeling methods. In your discussion, please describe the advantages and disadvantages of the alternative methods in comparison to each other and to the Poisson regression model.

The definition of overdispersion is when the variance is greater than the mean of the data specific to a variable(s). When data is overdispersed, the standard errors and p-values are too small to warrant using Poisson regression model. The Poisson model can be adjusted in SAS with a Pearson modification that gives correct values through correcting the standard errors and p-values.

Negative Binomial Regression is a modeling technique that can be used for dealing with overdispersion. This method is very similar to Poisson regression in that the mean structure is the same. The difference lies in the fact that Negative Binomial Regression has an additional constraint to handle the overdispersion.

Ordinary Least Squares regression can be used to assess overdispersed variables. The variables are log-transformed. Data can be ambiguous through undefined values that the log zeroes approach. Also, the dispersion cannot be modeled.

A better technique than OLS is Zero-inflated regression. This technique delineates the excessive zeros from the count values. Form researching, this method is relatively new.

Works Cited

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