OPTIONS FOR NOMINALLY SCALED DEPENDENT VARIABLES:

Multiple regression: regress 0-1 dichotomous variable on independent variables

Advantage: Simplicity

Disadvantages:

Predicted X_1 outside the range
Heteroscedasticity
Only applicable to dichotomous nominal scales

Discriminant analysis: ANOVA in reverse

Advantages:

Still linear model
Can easily accommodate polytomous scales

Disadvantages:

Assumption of continuous predictors
Assumption of homoscedastic errors
Assumption of multivariate normality within categories
Assumption of equal predictor covariances across categories

Logistic regression:

Advantages:

Can handle polytomous dependent variables
Yields predicted X_1 in terms of probabilities
Can accommodate both continuous and categorical independent variables

Disadvantages

Extremely complex interpretation of nonlinear coefficients
Coefficients not structural parameters in any linear model