# Phone calls made home by undergraduate students

Science, Social Science

Because this study has two independent variables and one dependent variable, a factorial ANOVA design is most appropriate. The gender factor has two levels: male and female, and the year factor has four levels (freshmen, sophomore, junior, or senior), meaning we have a 4x2 ANOVA design. Because we have a 4x2 ANOVA design, one interaction effect is possible (between the gender and year factors) and two main effects are possible. Univariate analysis of variance (factorial ANOVA) was conducted on SPSS 18. 0 to determine the significance of these three possible effects. The first thing to check when conducting a factorial ANOVA is Levene's Test of the equal variance assumption. This test had a p= 0. 624, indicating that the equal variance assumption has not been violated. Since we can assume equal variance, we can use the given F and p statistics given in the between-subjects table. The 4x2 ANOVA failed to demonstrate an interaction effect at the 0. 05 error level between class and gender $(F_{(3, 32)}= 0. 901, p= 0. 451)$, but did demonstrate a significant main effect for class $(F_{(3, 32)}= 18. 342, p <0. 001)$. Class had a partial eta-squared (effect size) or 0. 632 (large) and an observed power of 1. 000 (large). ANOVA results failed to demonstrate a significant main effect for gender $(F_{(1, 32)}= 0. 900, p= 0. 331)$. Descriptive statistics and the ANOVA table for the sample are available in the appendix of this document. Because a significant main effect for the class was demonstrated, a post hoc test testing the differences between levels of this factor is necessary. A Bonferroni post-hoc test was chosen and is included in the appendix of this document. The post-hoc test showed significant differences between freshmen and every other class, but no significant differences between sophomores, juniors, or seniors. The post-hoc table has

been included in the appendix of this document. To verify and display that no interaction effect could be demonstrated, a graph was created plotting cell means across class levels. Because the two lines appear to be close to parallel, an interaction effect cannot be demonstrated. Whether the freshmen are calling home because they feel isolated or they are isolated because they call home more often is impossible to tell by this study. This 4x2 ANOVA was not designed to show causality, but instead demonstrates interesting and pertinent findings of undergraduate freshmen and their relationship with home and peers.