

# Statistical analysis 10



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Statistical Analysis Introduction This paper represents an analysis of the research paper entitled “ Low Self-Control, Rational Choice and Student Test Cheating” and written by Stephen G. Tibbetts and David L. Myers. The objective of the research was to determine the extent to which rational choice variables accounted for the association low self control and the propensity to cheat (Tibbetts and Myers 1999). It examines the effects of low self-control, rational choice variable, and control measures on intentions to cheat in a college exam. The sample consisted of a total of 330 undergraduate students who were enrolled in six Behavioral Science courses at a public university during the spring of 1995. Of the 330 students completing the self administered questionnaire 159 (48%) were male and 171 (52%) were female. Statistical methods used to analyze data A number of statistical methods were used to analyze the data collected. They include calculation of the mean (M) and standard deviation (SD). These measures were calculated for all thirteen (13) variables (both independent and dependent) used in the research. The mean (M) in Table 1 is a measure of central tendency which tells the average of the scores assigned to a particular variable by the respondents while the standard deviation is a measure of the variation of the scores from the mean. Calculating the mean and standard deviation of “ Gender” does not appear to make much sense as the absolute figures on their own serves the purpose of explaining how representative the sample is of the specific college population and college population in general. Tests for correlation of all the variables were also carried out and the results are shown in Table 2. Correlation is a measure of the relationship between variables. Measures of correlation range from -1 to +1. A negative 1 indicates that there is a negative or indirect correlation

between the variables while positive figures indicate a positive or direct correlation between the variables. A correlation coefficient of 0 indicates that there is no correlation. Figures close to 0 whether positive or negative suggest weak correlation while those closer to -1 and +1 suggest strong correlation. Additional statistical measures were shown in Table 3 shows the results of the bivariate regression of low self-control and each of the other independent variables on cheating intent.  $R^2$  which represents the coefficient of determination is a measure of percentage of the change in cheating intent that is explained by low self control by itself and when combined with one other variable in each of twelve regressions. The beta values represent the coefficient of the independent variables. The p value indicates the level of significance. The correlation analysis showed that there was some level of correlation between most of the variables and therefore this would have affected the results in the regression analysis. Computing twelve equations does not appear to make sense when all the variables could have been run in one multiple regression equation as done in table 4. The F statistic would then be used to carry out a global test of the significance of the beta values and a p statistic would then be used to determine whether each beta by itself is of statistical significance.

**Conclusion** The most important objective of the research was to examine the extent of which rational choice variables accounted for the association between low self-control and the propensity to cheat. The authors achieved this objective based on the results of the correlation analysis in Table 2.

However, the results in table 3 did not help much in achieving the overall aim of examining the effects of the independent variables on intentions to cheat in college exams. References Tibbetts, S. G and Myers, D. L. (1999).

Low Self-Control, Rational Choice, and Student Test Cheating. *American Journal of Criminal Justice*: 23(2). 179-200