

Multiple Regression Analysis

A fashion student was interested in factors that predicted the salaries of catwalk models. She collected data from 231 models. For each model she asked them their salary per day on days when they were working (salary), their age (age), how many years they had worked as a model (years), and then got a panel of experts from modeling agencies to rate the attractiveness of each model as a percentage with 100% being perfectly attractive (beauty). The data is in the file Supermodel.sav. Unfortunately, this fashion student bought some substandard statistics text and so doesn't know how to analyze her data. Can you help her out by conducting a multiple regression to see which variables predict a model's salary? How valid is the regression model?

I need an explanation of the assumptions if there are not met; also, ensure you follow the guidelines below (especially the table of results and a pertinent data analysis; also, need description on the sample size computation for achieving data power).

1. State the underlying assumptions for the statistical test.
2. State whether the assumptions have been met. If the assumptions were not met (either in actuality or hypothetically), state what alternatives you have available to you.
3. State the null and alternative (research) hypotheses.
4. Copy your syntax file and paste it into your MS Word Document.
5. For your output file: Select all → Copy all objects → Paste into your MS word document. This will ensure that your output is in a form that your instructor can read.
6. Create a results table consistent with requirements from the APA style manual.
7. (Report the results using correct APA format.
 - a. For ANOVA, ANCOVA, and Repeated Measures ANOVA models, ensure that you provide interpretations for the main effects and interactions as well as any post-hoc tests.
 - b. For Multiple and Logistic Regression models, ensure that you include appropriate measures of model fit as well as the specific procedure used (e.g., Hierarchical, Enter, Stepwise, Forward, Backward).
8. Describe how you would compute the sample size to achieve 80% power, $\alpha = .05$, and the appropriate effect size.