

An Introduction to SAS for Windows

Prepared by Gigi Luk

Exercise set four, 2007

Typing in the data:

```
data memory;
  input ID$ group$ age digit word IQ vocab;
cards;
1      1      23      5      4      116      92
2      1      20      5      6      120      105
3      1      25      6      7      105      117
4      1      28      4      9      130      122
5      2      24      8      8      108      101
6      2      26      9      4      100      90
7      2      21      6      6      103      98
8      2      22      8      6      114      109
;
```

- 1) Run a regression model to see if IQ determines the number of digits recalled. (i.e., IQ is the predictor variable while digit is the criterion variable). Using word as the criterion variable, run the model again using vocab as the predictor.
- 2) Create a variable called vm (stands for Verbal Memory) that is the sum of digit and word. This is the dependent variable for this study.
- 3) Plot vm against IQ and vocab. Overlay the two plots onto each other. Do you think there is a correlation between vm and the two background variables?
- 4) Create two new character variables:
 - a. The first variable is created to substitute the old variable group. Call this new variable time. If the value of group equals to 1, then it would be “am” in time. Otherwise, it would be “pm” in time.
 - b. The second variable aims to categorize the performance in vocab. Call this variable vocab2. If the score in vocab is higher than or equal to 100, assign the value “AbAvg” (Above Average). Otherwise, assign “BeAvg” (Below Average).
- 5) Run an ANOVA model to see if time, vocab2 and their interaction term have an effect on vm. What are the results?
- 6) As an extra exercise, you can try replicating all the analyses using SAS/INSIGHT and SAS/ANALYST.