

1. An appropriate random sample of 65 students drawn from a graduating class of 640 students at Arcadia High School. (near LA CA; upper middle class suburban community.)

SAT	combined SAT score for i th student (math plus verbal)
GPA	the weighted GPA of the i th student
APMATH	1 if student has taken AP Math, 0 otherwise
APENG	1 if student has taken AP English, 0 otherwise
ESL	“Yes” if English is not the student’s first language, “No” otherwise
GEND	“M” if student is male, “F” if female
PREP	1 if student has attended an SAT preparation course, 0 otherwise
AP	1 if student has taken AP math and/or English, 0 if neither
RACE	2 if student is Asian, 1 if Caucasian

Use the sample information from Arcadia High school (File name: satarcadia.dta) to answer the following questions.

- Is there any statistical evidence that the average SAT for ESL students is different than that of non-ESL students? (clearly state the null and alternate hypotheses, test statistic selected level of significance, and decision)
- Is there any statistical evidence that the average SAT score for students that have taken either AP English or AP Math is different than that of students who did not take any AP courses? (clearly state the null and alternate hypotheses, test statistic selected level of significance, and decision)
- Based on the information of this sample attack or defend the following statement: “It turns out that taking an SAT preparation course is a total waste of time.”

2. Use the 2006 General Social Survey (GSS) data of exercise 1 (P:\QAC\SUMMER10\ASGN\ gss2006_subset.csv) to answer the following questions.

Variable gunsales : SHOULD BACKGROUND CHECK BE REQUIRED FOR PRIVATE GUN SALE

Variable gunlaw : FAVOR OR OPPOSE GUN PERMITS

Variable sex : RESPONDENTS SEX

Variable degree : RS HIGHEST DEGREE

- Using contingency tables and tests of independence (chi-square tests) explore the relationship between “gunlaw” and
 - sex
 - degree
 Discuss your findings
- Similarly for gunsales
 - sex
 - degree
- Compare the mean score for gunsales for men and women. Are your results consistent with those obtained under 2a? Is this an appropriate test given the nature of the gunsales variable?

Due Tuesday 6/22 by 5:30pm. Please email your .do and word files to ablas@wesleyan.edu and cc mkaparakis@wesleyan.edu