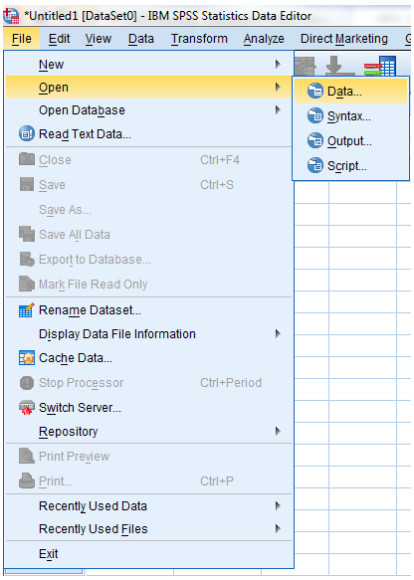
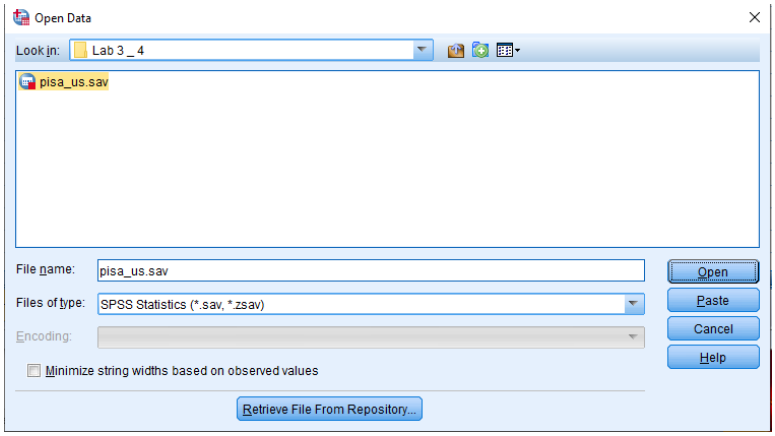
Single Sample t tests in SPSS

Dataset: pisa_us

1. Open/Import/Read Dataset: File -> Open -> Data. Select **All Files** from Files of type to show the file you're looking for. Select the correct file and click **Open**.





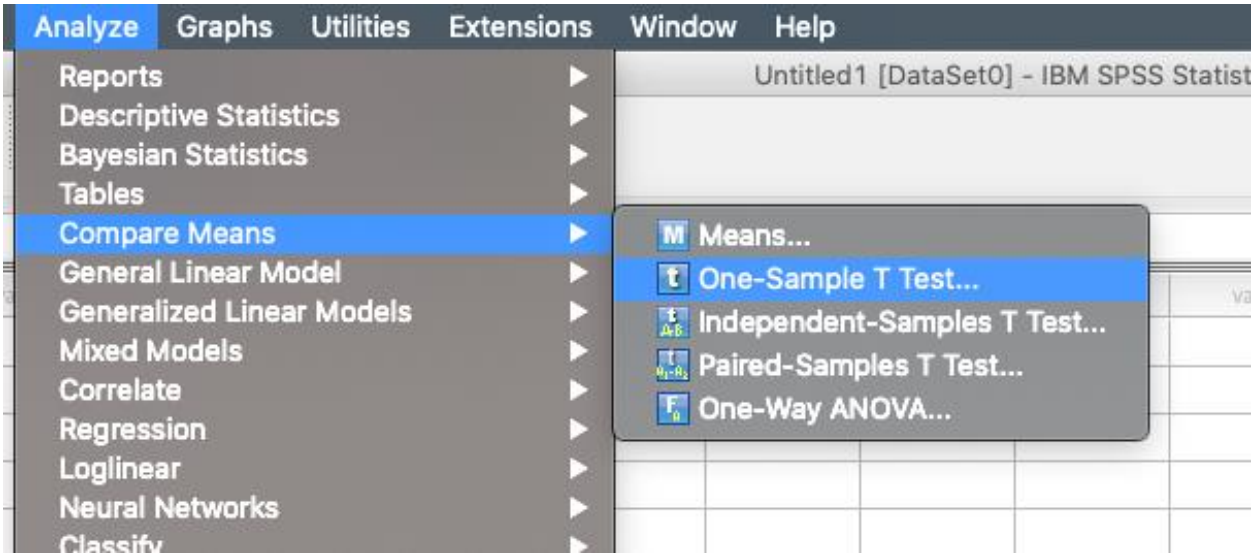
2. Conduct a one-sample t-test to show whether the sample of student scome from a population in which the average reading score (wleread3) is equal to the population mean of 490.

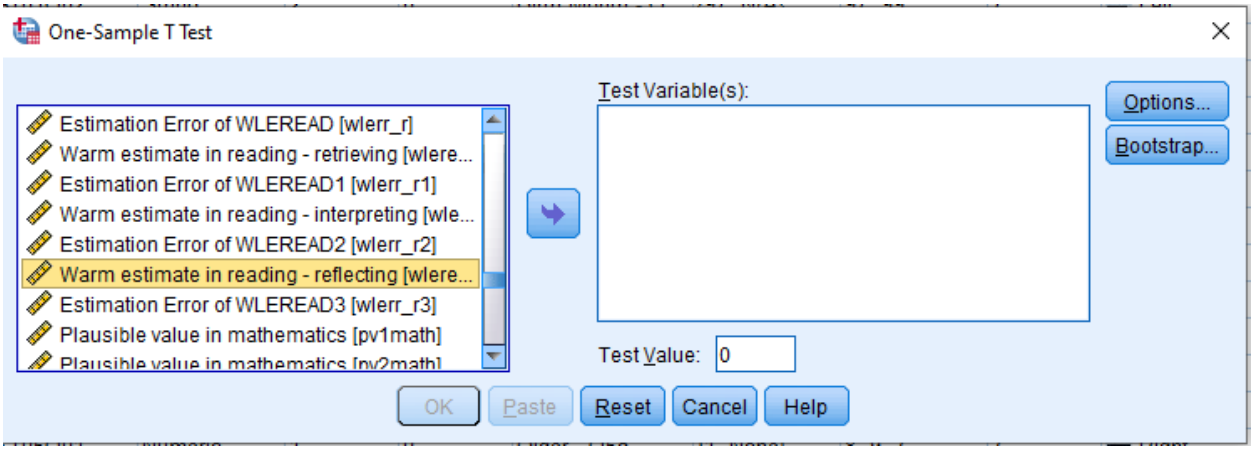
State the null and alternative hypotheses

H_0: The average reading score (wleread3) is equal to 490.

H_1: The average reading score (wleread3) is not equal to 490.

3. One-sample t-test: Analyze -> Compare Means -> One Sample T Test -> Find and move **wleread3** into Test Variable(s) -> In the Test Value box at the bottom of the window, enter the hypothesized value for the population mean -> Paste.





Take a screenshot of your syntax and paste it here:

```
T-TEST
  /TESTVAL=490
  /MISSING=ANALYSIS
  /VARIABLES=wleread3
  /CRITERIA=CI(.95).
```

Run the test (highlight the syntax and click the green triangle button). Take a screenshot of the output and paste it below:

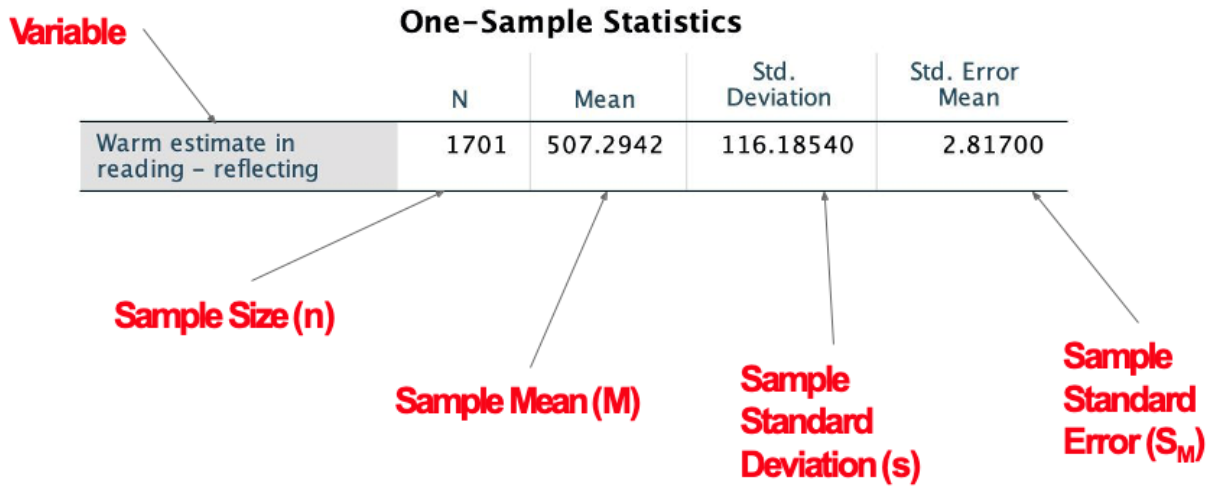
One-Sample Statistics

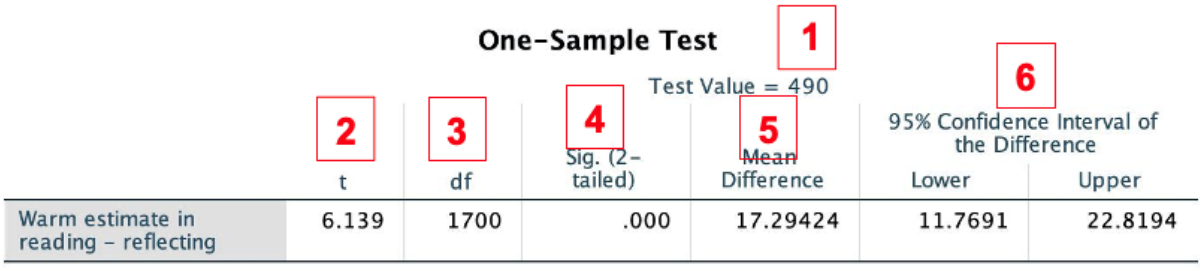
	N	Mean	Std. Deviation	Std. Error Mean
Warm estimate in reading - reflecting	1701	507.2942	116.18540	2.81700

One-Sample Test

	Test Value = 490					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Warm estimate in reading - reflecting	6.139	1700	.000	17.29424	11.7691	22.8194

4. Interpreting your results.





To formally write up your results, use the following format:

The mean reading score of the sample (*M* = 507.29, *SD* = 116.19, *n* = 1701) was significantly different from the hypothesized population mean of 490 (*t*(1700) = 6.14, *p* < .001, *95% CI* = [11.77, 22.82]).

Note: the confidence interval is referencing the mean difference.

5. Repeat the process – do an One Sample T-Test using the variable wlemath and a hypothesized population mean of 491. State your null and alternative hypotheses and then provide a formal write up for your results.

H_0: The average mathematics score (wlemath) is equal to 491

H_1: The average mathematics score (wlemath) is not equal to 491

Results: The mean mathematics score of the sample (M = 494.33, SD = 96.52, n = 1692) was not significantly different from the hypothesized population mean of 491 (t(1691) = 1.419, p >.05, 95% CI = [-1.27,7.93]).