

One Sample t Test Lab

Scenario 1. A professor wants to determine whether students who are members of religious organizations on campus have different GPAs than the average GPA of 2.4 for the university. Forty-nine students who are members of the religious organizations were surveyed and found to have an average GPA of 2.42 with a standard deviation of 0.8. Use an alpha of .01 to test the null hypothesis.

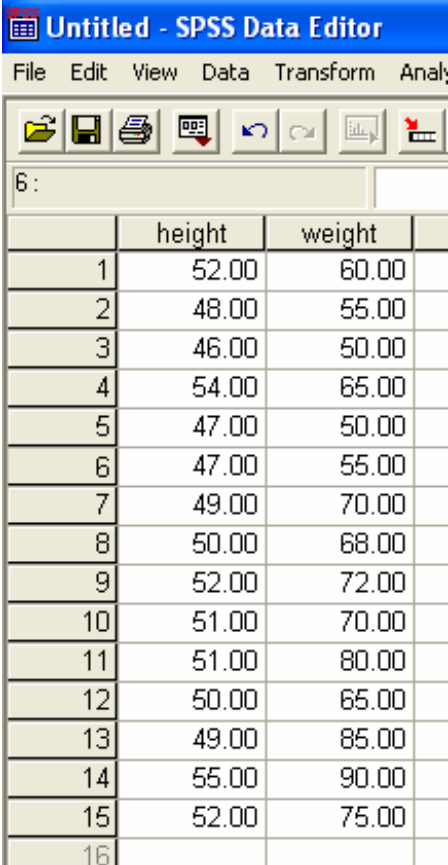
Scenario 2. A professor wants to determine whether students who are members of religious organizations on campus have different GPAs than the average GPA of 2.4 for the university. Forty-nine students who are members of the religious organizations were surveyed and found to have an average GPA of 2.42 with a standard deviation of 0.8. Calculate and interpret the 95% confidence interval for the mean.

Scenario 3. A professor wants to determine whether members of campus political organizations consume more alcohol than the general campus population. Prior research has shown college students consume an average of 2 drinks per week. The professor surveyed the political organizations; the following data were obtained. Use an alpha of .05 to test the null hypothesis.

<i>Drinks Per Week</i>
5
2
0
8
10
6
1
9
7
0

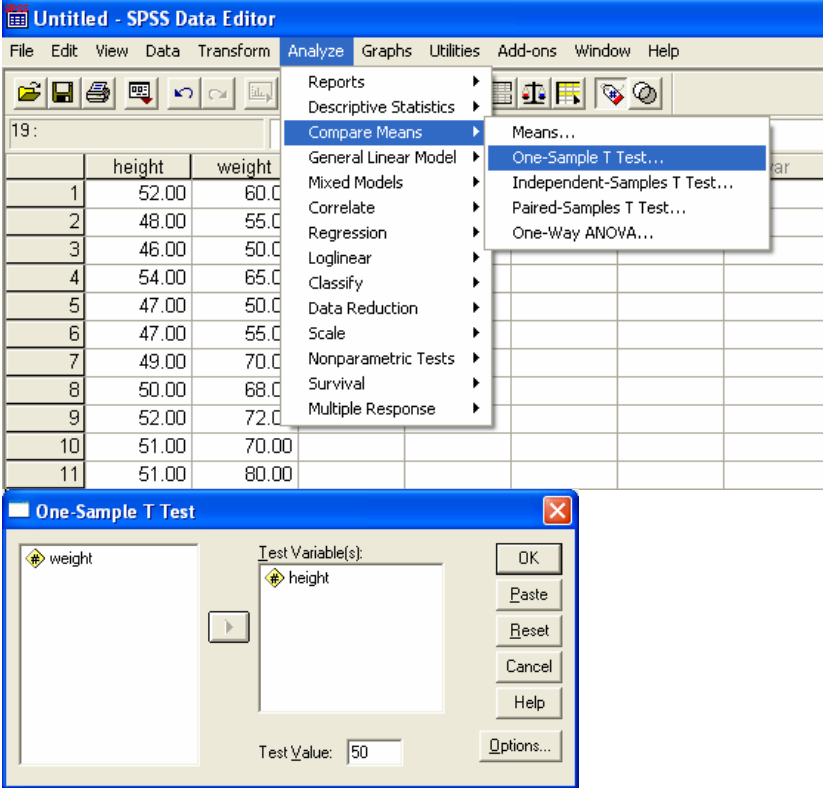
One Sample *t* Tests Using SPSS

A school nurse obtained the heights and weights of children in the 6th grade in a low-income neighborhood to determine whether the children in low-income neighborhoods were different in height or weight from the national averages for children their age. Nationally, 6th grade children weigh an average of 75 lbs. and have an average height of 50 inches. Conduct tests of the null hypothesis using an alpha of .05 for each test.



The screenshot shows the SPSS Data Editor window titled "Untitled - SPSS Data Editor". The menu bar includes "File", "Edit", "View", "Data", "Transform", and "Analy". Below the menu bar is a toolbar with icons for opening, saving, printing, and other functions. The main data area shows a table with 16 rows and 3 columns. The first column contains row numbers from 1 to 16. The second column is labeled "height" and the third column is labeled "weight". The data values are as follows:

	height	weight
1	52.00	60.00
2	48.00	55.00
3	46.00	50.00
4	54.00	65.00
5	47.00	50.00
6	47.00	55.00
7	49.00	70.00
8	50.00	68.00
9	52.00	72.00
10	51.00	70.00
11	51.00	80.00
12	50.00	65.00
13	49.00	85.00
14	55.00	90.00
15	52.00	75.00
16		



T-Test

One-Sample Statistics

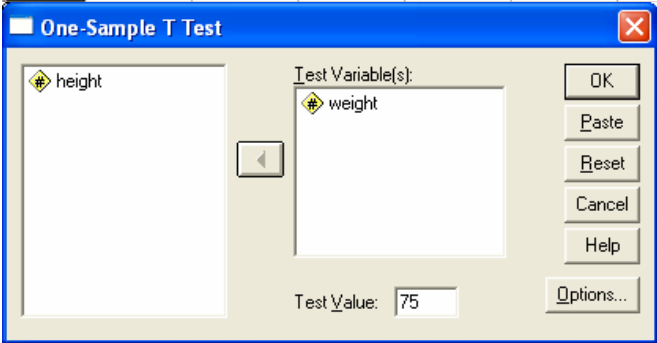
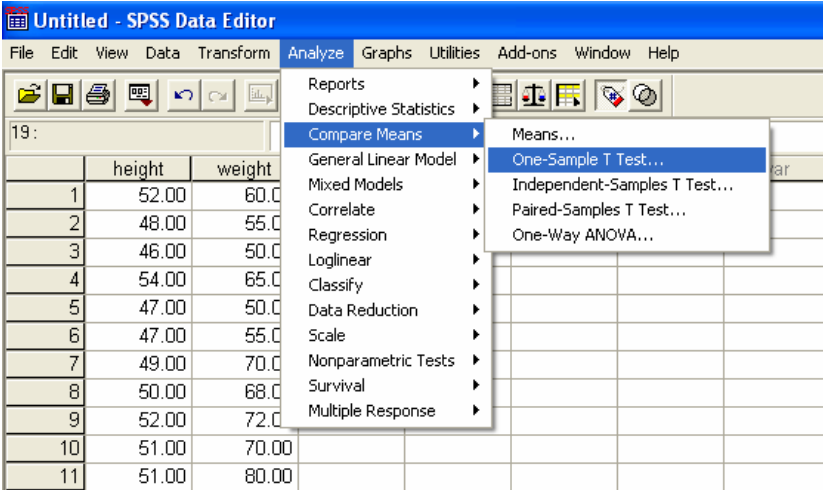
	N	Mean	Std. Deviation	Std. Error Mean
height	15	50.2000	2.59670	.67047

One-Sample Test

	Test Value = 50					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
height	.298	14	.770	.20000	-1.2380	1.6380

Hypothesis Testing Interpretation

Confidence Interval Interpretation



T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
weight	15	67.3333	12.10470	3.12542

One-Sample Test

	Test Value = 75					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
weight	-2.453	14	.028	-7.66667	-14.3700	-.9633

Hypothesis Testing Interpretation

Confidence Interval Interpretation