Seminar 4-SPSS Instructions for One Sample t test (Two Tailed)

Example from page 20 of notes:

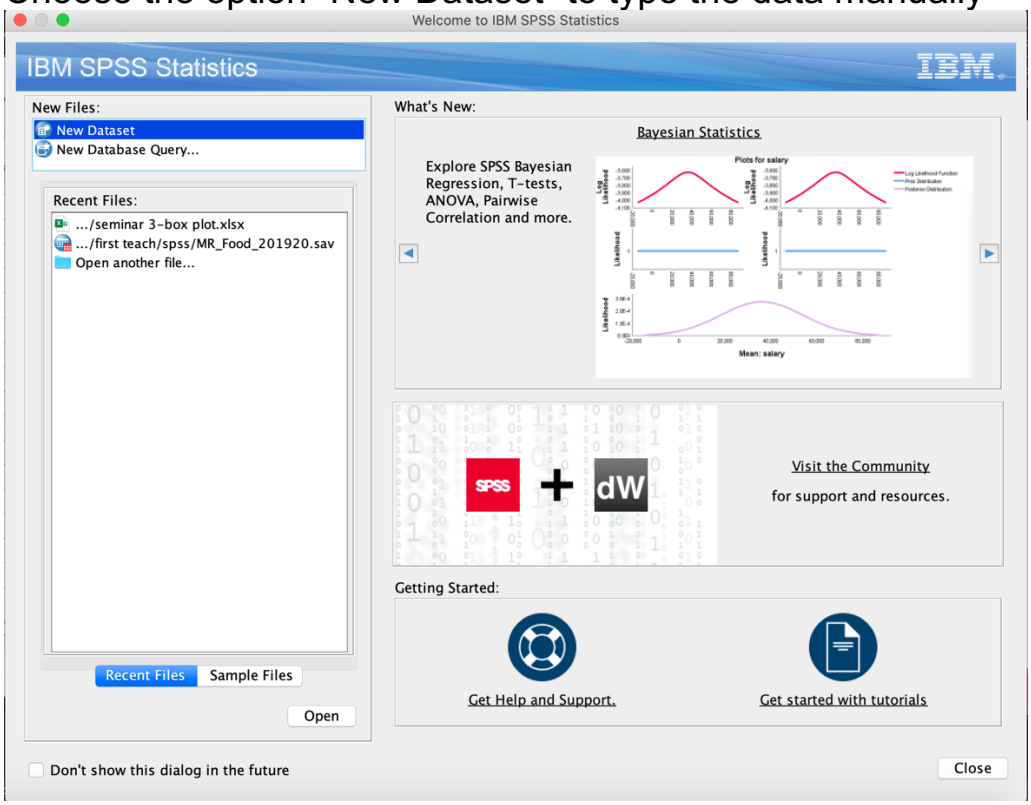
EXAMPLE 1:

An official of a union representing U.K. accountants is concerned about long working hours. A random sample of 15 full-time accountants was contacted and asked to record the number of hours worked in a randomly chosen week. Their responses are given below:

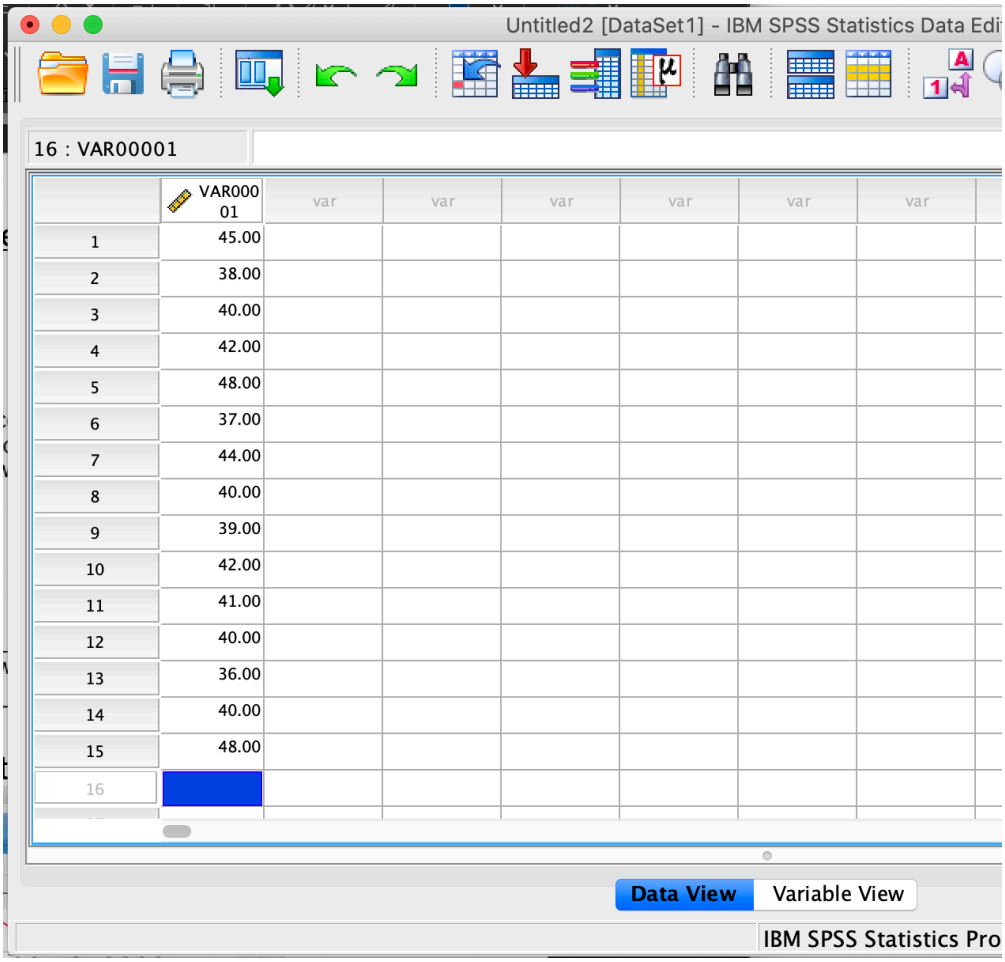
45	38	40	42	48	37	44	40
39	42	41	40	36	40	48	

Is there evidence to suggest that U.K. accountants do not work 40 hours per week on average?

Choose the option “New Dataset” to type the data manually



Copy and Paste the data into SPSS as follows:

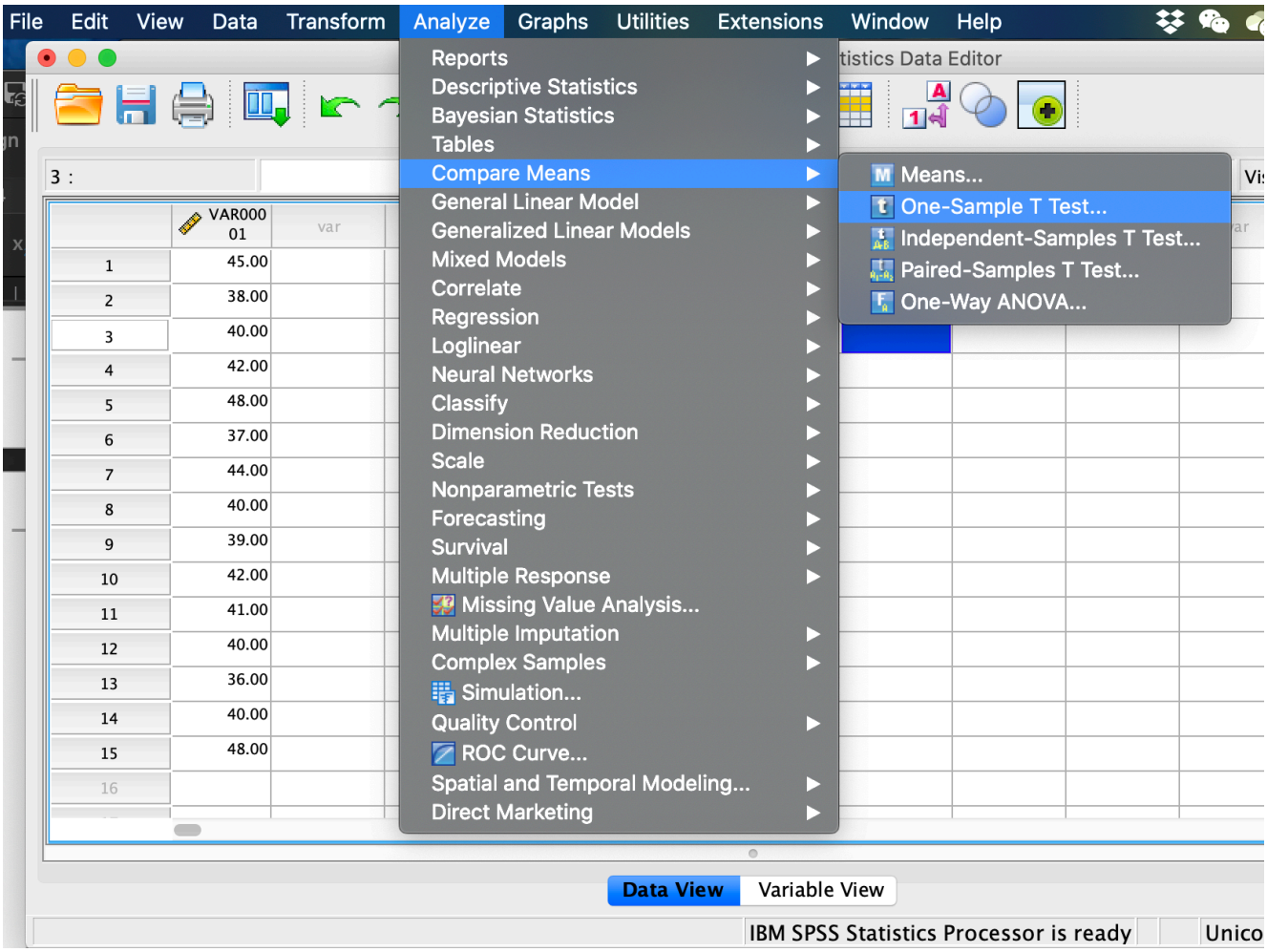


Note you are only allowed to type your data under Data View. You may find out your data with 2 decimal, then you can edit it in Variable View.

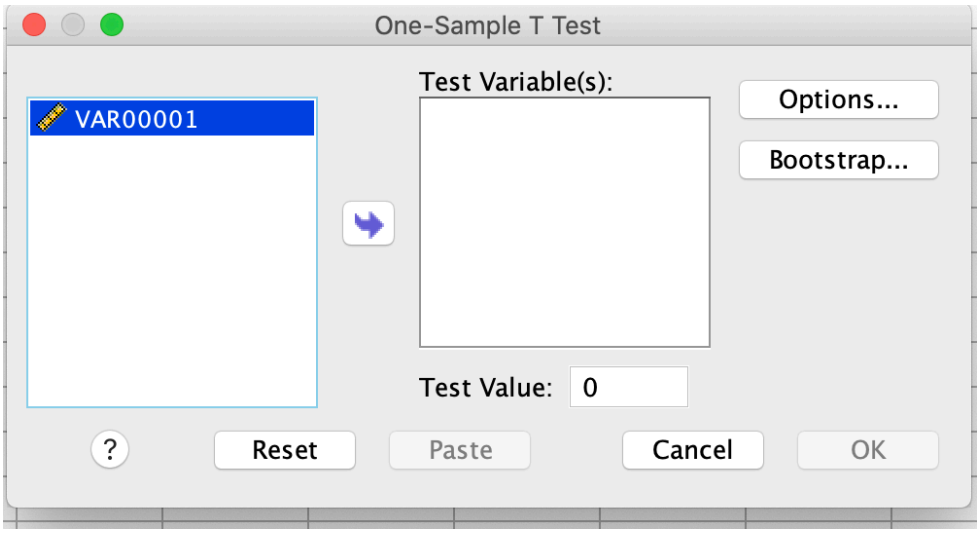
(PTO) Please Turn Over

Run the test as follows:

From the menus select Analyze-> Compare Means -> One-Sample T Test, as below:



Click on the variable and add it to Test Variable (s). Worked as below:



PTO

Click OK to run the test, results below:

T-Test

[DataSet1]

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
VAR00001	15	41.3333	3.59894	.92924

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
VAR00001	44.481	14	.000	41.33333	39.3403	43.3264

PTO

The test will run and should agree with the results you got from hand calculations:

Note that SPSS give you a ‘p value’
You don’t need to look up the critical values in tables when using SPSS, you can just interpret the p value:
If the ***p value is less than 0.05*** you ***Reject the Null Hypothesis***. (assuming we are using a significance level of 5%, which we commonly will be)

APPENDIX B: PARTIAL *t*-TABLES

	Area above (to the right of) critical value					
DEGREES OF FREEDOM (v)	**0.05**	**0.025**	**0.01**	**0.005**	**0.001**	**0.0005**
1	6.314	12.706	31.821	63.657	318.309	636.619
2	2.92	4.303	6.965	9.925	22.327	31.599
3	2.353	3.182	4.541	5.841	10.215	12.924
4	2.132	2.776	3.747	4.604	7.173	8.61
5	2.015	2.571	3.365	4.032	5.893	6.869
6	1.943	2.447	3.143	3.707	5.208	5.959
7	1.895	2.365	2.998	3.499	4.785	5.408
8	1.86	2.306	2.896	3.355	4.501	5.041
9	1.833	2.262	2.821	3.25	4.297	4.781
10	1.812	2.228	2.764	3.169	4.144	4.587
11	1.796	2.201	2.718	3.106	4.025	4.437
12	1.782	2.179	2.681	3.055	3.93	4.318
13	1.771	2.16	2.65	3.012	3.852	4.221
14	1.761	2.145	2.624	2.977	3.787	4.14
15	1.753	2.131	2.602	2.947	3.733	4.073
16	1.746	2.12	2.583	2.921	3.686	4.015
17	1.74	2.11	2.567	2.898	3.646	3.965
18	1.734	2.101	2.552	2.878	3.61	3.922
19	1.729	2.093	2.539	2.861	3.579	3.883
20	1.725	2.086	2.528	2.845	3.552	3.85

	Area above (to the right of) critical value					
DEGREES OF FREEDOM (v)	**0.05**	**0.025**	**0.01**	**0.005**	**0.001**	**0.0005**
21	1.721	2.08	2.518	2.831	3.527	3.819
22	1.717	2.074	2.508	2.819	3.505	3.792
23	1.714	2.069	2.5	2.807	3.485	3.768
24	1.711	2.064	2.492	2.797	3.467	3.745
25	1.708	2.06	2.485	2.787	3.45	3.725
26	1.706	2.056	2.479	2.779	3.435	3.707
27	1.703	2.052	2.473	2.771	3.421	3.69
28	1.701	2.048	2.467	2.763	3.408	3.674
29	1.699	2.045	2.462	2.756	3.396	3.659
30	1.697	2.042	2.457	2.75	3.385	3.646
35	1.69	2.03	2.438	2.724	3.34	3.591
40	1.684	2.021	2.423	2.704	3.307	3.551
Infinity	1.645	1.96	2.326	2.576	3.09	3.291