

## 20Spring PSY302 Lab4 Jamovi tutorial: One-sample t-tests

Use lonely.csv for data.

### One-sample t-tests

*Example:* In college many students tend to be away from their families for the first time. You hypothesize that this may make students feel lonelier than the general population. In order to answer the question of whether students are lonelier than the general population, you randomly select 20 students at the UO and ask them to report how lonely they are using a 1-10 Likert scale with 1 representing low loneliness and 10 representing high loneliness. You choose a commonly employed scale. Years of data collection with this scale in other populations have shown that mean loneliness in the general population is 3.7.

The standard deviation for loneliness in the general population is unknown.

*What is the research question?*

*Which test should we use?*

*What are the null and alternative hypotheses?*

*What is the critical t value(s)? Use an alpha level of .05.*

**Table 3: Critical Values of t**

df	$\alpha = .05$ , one-tailed	$\alpha = .025$ , one-tailed	$\alpha = .01$ , one-tailed	$\alpha = .005$ , one-tailed
	-or- $\alpha = .10$ , two-tailed	-or- $\alpha = .05$ , two-tailed	-or- $\alpha = .02$ , two-tailed	-or- $\alpha = .01$ , two-tailed
1	6.314	12.706	31.821	63.657
2	2.920	4.303	6.965	9.925
3	2.353	3.182	4.541	5.841
4	2.132	2.776	3.747	4.604
5	2.015	2.571	3.365	4.032
6	1.943	2.447	3.143	3.707
7	1.895	2.365	2.998	3.499
8	1.860	2.306	2.896	3.355
9	1.833	2.262	2.821	3.250
10	1.812	2.228	2.764	3.169
11	1.796	2.201	2.718	3.106
12	1.782	2.179	2.681	3.055
13	1.771	2.160	2.650	3.012
14	1.761	2.145	2.624	2.977
15	1.753	2.131	2.602	2.947
16	1.746	2.120	2.583	2.921
17	1.740	2.110	2.567	2.898
18	1.734	2.101	2.552	2.878
19	1.729	2.093	2.539	2.861
20	1.725	2.086	2.528	2.845
21	1.721	2.080	2.518	2.831
22	1.717	2.074	2.508	2.819
23	1.714	2.069	2.500	2.807
24	1.711	2.065	2.493	2.796
25	1.708	2.061	2.486	2.786
26	1.705	2.058	2.480	2.777
27	1.703	2.055	2.475	2.769
28	1.701	2.052	2.470	2.762
29	1.699	2.050	2.466	2.756
30	1.697	2.048	2.463	2.751
35	1.694	2.045	2.458	2.745
40	1.691	2.043	2.454	2.740
45	1.689	2.041	2.451	2.736
50	1.688	2.040	2.448	2.733
60	1.687	2.039	2.446	2.731
70	1.686	2.038	2.445	2.730
80	1.686	2.038	2.444	2.729
90	1.685	2.037	2.443	2.728
100	1.685	2.037	2.443	2.728

## 20Spring PSY302 Lab4 Jamovi tutorial: One-sample t-tests

### RUNNING ONE-SAMPLE T-TEST IN JAMOVI

1. Start by entering the data into jamovi. Be sure to select the correct variable type (*Figure 1*)

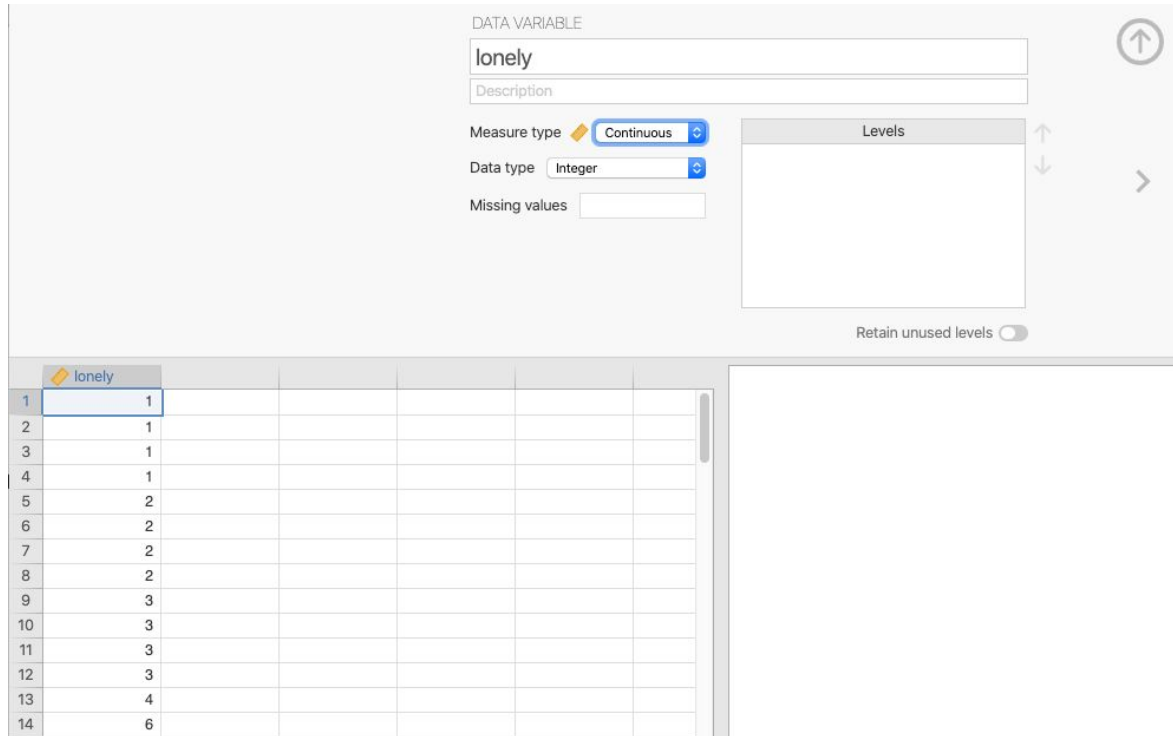


Figure 1.

2. Switch to the Analyses Tab and click on **T-Tests**. Select the one-sample t-test.
3. Move your loneliness variable (or whatever you called it) to the dependent variable section.
4. Specify your hypothesis in the hypothesis section. Select the correct directionality and write in the population mean.

**20Spring PSY302 Lab4 Jamovi tutorial:  
One-sample t-tests**

5. Select the following additional statistics (*Figure 2*):
- o Mean difference
  - o Effect size
  - o Confidence interval
  - o Descriptives
  - o Descriptives Plot

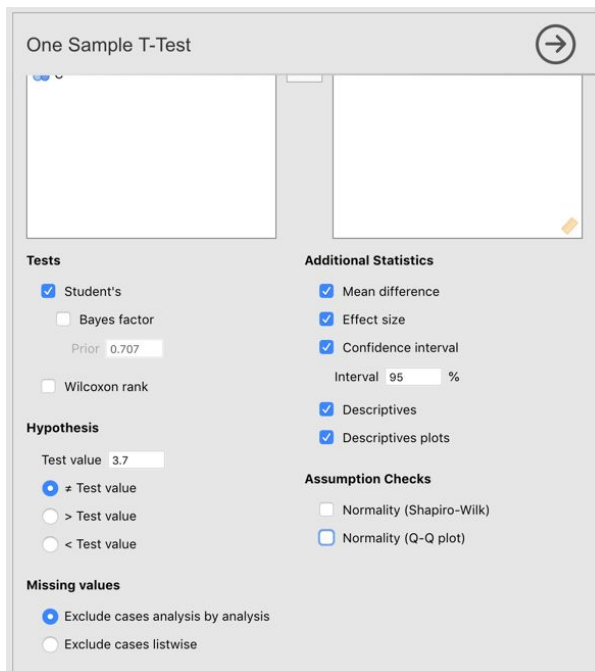


Figure 2.

*Do we reject or fail to reject the null hypothesis?*

*What is the effect size? Is it small, medium or large?*

*What is the 95% CI around the difference in means?*

*Look at the plot that is produced. What is this plot depicting?*

*There is only one mean shown on the plot. Where would the other mean fall in relation to this mean and the confidence interval?*

20Spring PSY302 Lab4 Jamovi tutorial:  
One-sample t-tests

PRACTICE JAMOVI HOMEWORK PROBLEM

**\* ATTENTION \***

**THE QUESTION BELOW IS ONLY AN EXAMPLE. PLEASE DO NOT ENTER THESE VALUES INTO JAMOVI HOMEWORK 4; THEY WILL BE INCORRECT.**

For jamovi homework assignments and/or quizzes, you may be asked to fill in the blanks to an APA-formatted statement, like the example below:

Question 1 1 pts

The loneliness of UO students (M = , SD = ) is  than the general population ( $\mu =$  ,  $t($   ) = ,  $p =$  ).

To earn full credit, you will need to fill in all the blanks. Refer to the jamovi output from the one-sample t-test.

Question 1 1 pts

The loneliness of UO students (M = , SD = ) is  than the general population ( $\mu =$  ,  $t($   ) = ,  $p =$  ).

**Do not be worried if Canvas marks a question as incorrect when you first submit. Wait until your final score is uploaded to see which answers were correct. We're in the process of creating the answer key banks for these questions, but most of the keys are incomplete. The fill-in-the-blank answers will be marked as incorrect if you have a spelling error or capitalize on the wrong letter or use a slightly different phrase. Dr. Weston and Dr. Chavez will be manually correcting all the assignments and so you will not lose any points for these differences. But we can't stop Canvas from marking "incorrect" answers at this point.**