

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\left(\frac{(N_1 - 1)s_1^2 + (N_2 - 1)s_2^2}{N_1 + N_2 - 2}\right)\left(\frac{1}{N_1} + \frac{1}{N_2}\right)}}$$

Social Science Statistics

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\left(\frac{(N_1 - 1)s_1^2 + (N_2 - 1)s_2^2}{N_1 + N_2 - 2}\right)\left(\frac{1}{N_1} + \frac{1}{N_2}\right)}}$$

[Home](#) | [Calculators](#) | [Descriptive Statistics](#) | [Merchandise](#) | [Tutorials](#) | [Quizzes](#) | [Which Statistics Test?](#) | [Contact](#)

Mann-Whitney U Test Calculator

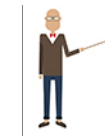
The value of U is 112.

Explanation of Results

As you can no doubt see, this calculator spits out quite a lot of information. Most of it is self-explanatory, but there are a couple of things worth noting.

First, there is no standard way for the Mann-Whitney U test to handle tied ranks, which means if your data has tied ranks, you're going to get a different result for U depending on the statistics package you use (for a discussion of some of the issues this raises, [see this article](#), for example).

Second, where the number of scores (i.e., the value of N) in each sample is 10 or more, you can assume that your sampling distribution is approximately normal. This means you can use a Z -ratio to calculate the value of p .



FREE SPSS TUTORIALS

EZSPSS.COM

Sample 1	Sample 2	S1 Values	S1 Ranks	S2 Values	S2 Ranks
0,016	0,361	0	8.5	0	8.5
0,039	0,361	0	8.5	0	8.5
0,047	0,278	0	8.5	0	8.5
0,054	0,041	0	8.5	0	8.5
0,158	0,528	0	8.5	0	8.5
0,267	0,250	0	8.5	0	8.5
0,325	0,250	0	8.5	0	8.5
0,506	0,556	0	8.5	0	8.5
		16	17	41	19
		39	18	250	23.5
		47	20	250	23.5
		54	21	278	26
		158	22	361	28.5
		267	25	361	28.5
		325	27	528	31
		506	30	556	32

Significance Level:

0.01

0.05

1 or 2-tailed hypothesis?:

One-tailed

Two-tailed

Result Details

Sample 1

Sum of ranks: 248

Mean of ranks: 15.5

Expected sum of ranks: 264

Expected mean of ranks: 16.5

U -value: 144

Expected U -value: 128

Sample 2

Sum of ranks: 280

Mean of ranks: 17.5

Expected sum of ranks: 264

Expected mean of ranks: 16.5

U -value: 112

Expected U -value: 128

Sample 1 & 2 Combined

Sum of ranks: 528

Mean of ranks: 16.5

Standard Deviation: 26.533

Result 1 - U -value

The **U-value** is 112. The critical value of U at $p < .05$ is 75. Therefore, the result is *not* significant at $p < .05$.

Result 2 - Z-ratio

The **Z-Score** is -0.58418. The p -value is .56192. The result is *not* significant at $p < .05$.

[Return to Home](#)

[Reset](#)