

Table 27-6 Sign Test and Wilcoxon Signed-Ranks Test: Effect of Drug and Placebo on an Attention Deficit Task

*Nonparametric Tests: Related Samples.

NPTESTS

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/RELATED TEST(Drug Placebo) SIGN WILCOXON
/MISSING SCOPE=ANALYSIS USERMISSING=EXCLUDE
/CRITERIA ALPHA=0.05 CILEVEL=95.
```

Nonparametric Tests

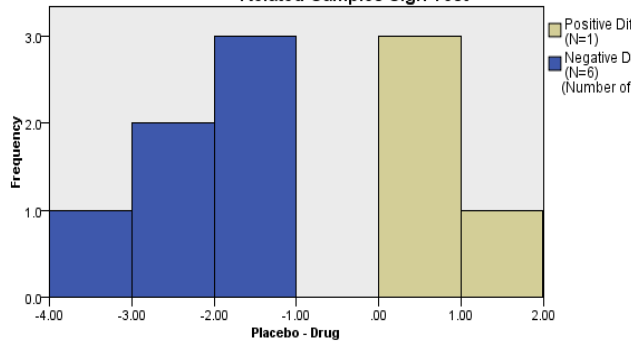
This test was run using Nonparametric Tests > Related Samples. In SPSS, double-clicking on the Hypothesis Test Summary box will bring up results for the sign test and Wilcoxon Signed-Ranks Test. These are included in the output below.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Drug and Placebo equals 0.	Related-Samples Sign Test	.125 ¹	Retain the null hypothesis.
2	The median of differences between Drug and Placebo equals 0.	Related-Samples Wilcoxon Signed Rank Test	.027	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

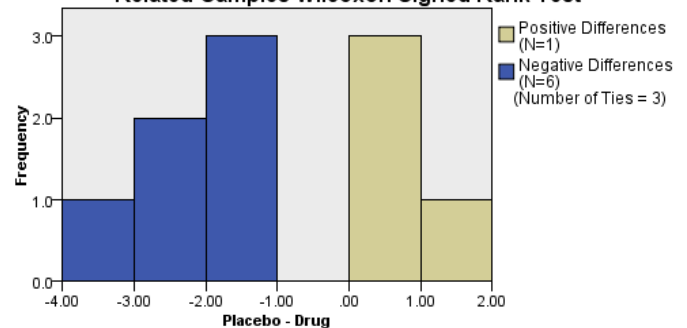
Related-Samples Sign Test



Total N	10
Test Statistic	1.000
Standard Error	1.323
Standardized Test Statistic	-1.512
Asymptotic Sig. (2-sided test)	.131
Exact Sig. (2-sided test)	.125

1. The exact p-value is computed based on the binomial distribution because there are 25 or fewer cases.

Related-Samples Wilcoxon Signed Rank Test



Total N	10
Test Statistic	1.000
Standard Error	5.863
Standardized Test Statistic	-2.217
Asymptotic Sig. (2-sided test)	.027

NPART TESTS

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/WILCOXON=Drug WITH Placebo (PAIRED)
/SIGN=Drug WITH Placebo (PAIRED)
/STATISTICS DESCRIPTIVES
/MISSING ANALYSIS.

```

NPar Tests

This test was run using Nonparametric Statistics> Legacy Dialogs > 2 Related Samples

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Drug	10	9.3000	1.25167	7.00	11.00
Placebo	10	7.8000	1.22927	7.00	11.00

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Placebo - Drug	Negative Ranks	6 ^a	4.50	27.00
	Positive Ranks	1 ^b	1.00	1.00
	Ties	3 ^c		
	Total	10		

- a. Placebo < Drug
- b. Placebo > Drug
- c. Placebo = Drug

Test Statistics^a

	Placebo - Drug
Z	-2.217 ^b
Asymp. Sig. (2-tailed)	.027

- a. Wilcoxon Signed Ranks Test
- b. Based on positive ranks.

Sign Test

Frequencies

		N
Placebo - Drug	Negative Differences ^a	6
	Positive Differences ^b	1
	Ties ^c	3
	Total	10

a. Placebo < Drug

b. Placebo > Drug

c. Placebo = Drug

Test Statistics^a

Placebo - Drug	
Exact Sig. (2-tailed)	.125 ^b

a. Sign Test

b. Binomial distribution used.