

# STATISTICS (SPSS FOR BEGINNER)

## Chapter 12 (1)

### Nonparametric Test (Runs Test & Wilcoxon Test)


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- The difference between nonparametric test and parametric test is that nonparametric test can be done without a specific parameter (mean, median, etc.)

#### TEST FOR ONE SAMPLE

- Runs Test
  - A. Case 1

\*nonpar1.sav

	 COLOR
1	light
2	dark
3	dark
4	light
5	dark
6	light
7	light
8	dark
9	dark
10	light
11	dark
12	dark
13	dark
14	light
15	dark
16	light
17	dark
18	light
19	dark
20	light

How to:

1. Open nonpar1.sav
2. Choose analyze
3. Choose nonparametric tests
4. Choose Legacy dialogs
5. Choose runs
6. Put Color on the test variable list
7. On the cut point, choose custom then fill 2 at the box
8. Click Ok

How to make decision (find the hypothesis):

- If probability (asyp. sig) > 0.05, Ho is accepted
- If probability (asyp. sig) < 0.05, Ho is not accepted

## B. Case 2

\*nonpar1\_asg.sav

	GENDER
1	male
2	female
3	female
4	male
5	female
6	female
7	male
8	male
9	male
10	female
11	female
12	male
13	female
14	female
15	male
16	male
17	female
18	female
19	female
20	male

How to:

1. Open nonpar1.sav
2. Choose analyze
3. Choose nonparametric tests
4. Choose Legacy dialogs
5. Choose runs
6. Put Gender on the test variable list
7. On the cut point, choose custom then fill 2 at the box
8. Click Ok

How to make decision (find the hypothesis):



- If probability (asyp. sig) > 0.05, Ho is accepted
- If probability (asyp. sig) < 0.05, Ho is not accepted

## TWO RELATED SAMPLES TEST

- Wilcoxon test

A. Case 1

\*nonpar2.sav

	 BEFORE	 AFTER
1	69.67	76.25
2	72.87	77.62
3	73.43	75.87
4	74.84	80.24
5	76.32	78.21
6	71.50	75.50
7	69.90	75.21
8	73.45	76.34
9	72.76	77.23
10	71.34	75.64

How to:



1. Open nonpar2.sav
2. Choose Analyze
3. Choose Nonparametric test
4. Choose Legacy dialogs
5. Choose 2 related samples
6. Follow tutorial to fill the test pair(s) box
7. Choose Wilcoxon on the test type
8. Click Ok

How to make decision for t-test

- If the number of  $Z > Z$  table number,  $H_0$  is accepted
- If the number of  $Z < Z$  table number,  $H_0$  is not accepted

## B. Case 2

\*nonpar2\_asg.sav

	 BEFORE	 AFTER
1	147.5	151.3
2	148.6	153.2
3	147.9	150.2
4	138.1	142.7
5	141.1	145.2
6	134.5	138.4
7	131.4	135.6
8	148.9	149.2
9	148.6	150.3
10	150.2	153.5

How to:

1. Open nonpar2.sav
2. Choose Analyze
3. Choose Nonparametric test
4. Choose Legacy dialogs
5. Choose 2 related samples
6. Follow tutorial to fill the test pair(s) box
7. Choose Wilcoxon on the test type
8. Click Ok

How to make decision for t-test

- If the number of  $Z > Z$  table number,  $H_0$  is accepted
- If the number of  $Z < Z$  table number,  $H_0$  is not accepted