



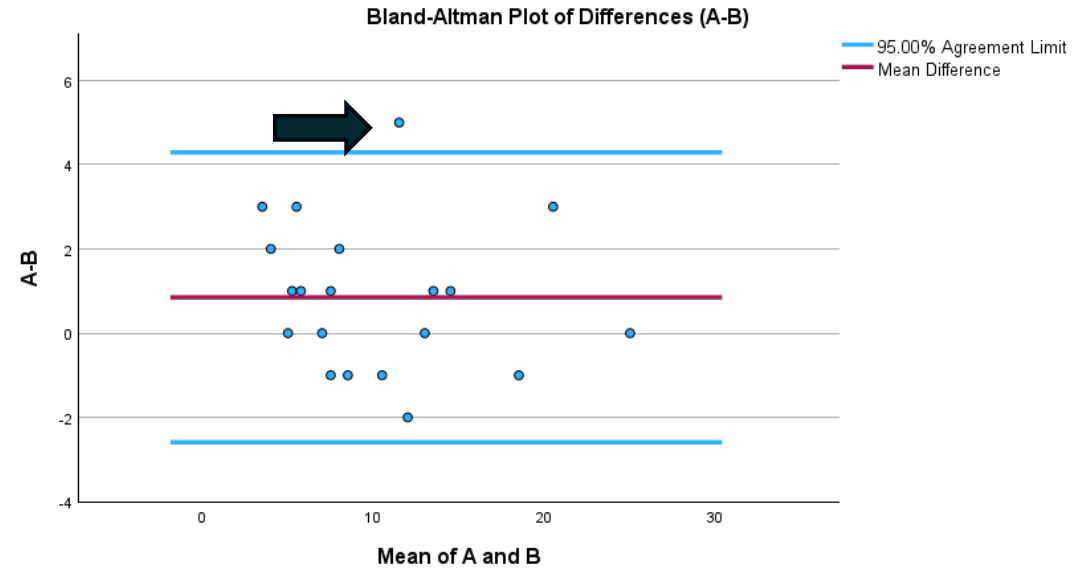
Bland-Altman Analysis

Version 1 SPSS Team

Bland-Altman Analysis

- ✓ New in IBM SPSS Statistics Version 30
- ✓ Evaluates the agreement among two different instruments or two measurement techniques.
- ✓ For example, you can assess how close a new measurement technique is to an existing technique.

	ID	A	B
1	1.00	5	3
2	2.00	5	2
3	3.00	5	5
4	4.00	6	5
5	5.00	6	5
6	6.00	7	7
7	7.00	7	8
8	8.00	7	4
9	9.00	8	9
10	10.00	8	7
11	11.00	9	7
12	12.00	10	11
13	13.00	11	13
14	14.00	13	13
15	15.00	14	9
16	16.00	14	13
17	17.00	15	14
18	18.00	18	19
19	19.00	22	19
20	20.00	25	25



Overlapping points are displayed using dodge to enhance visibility.

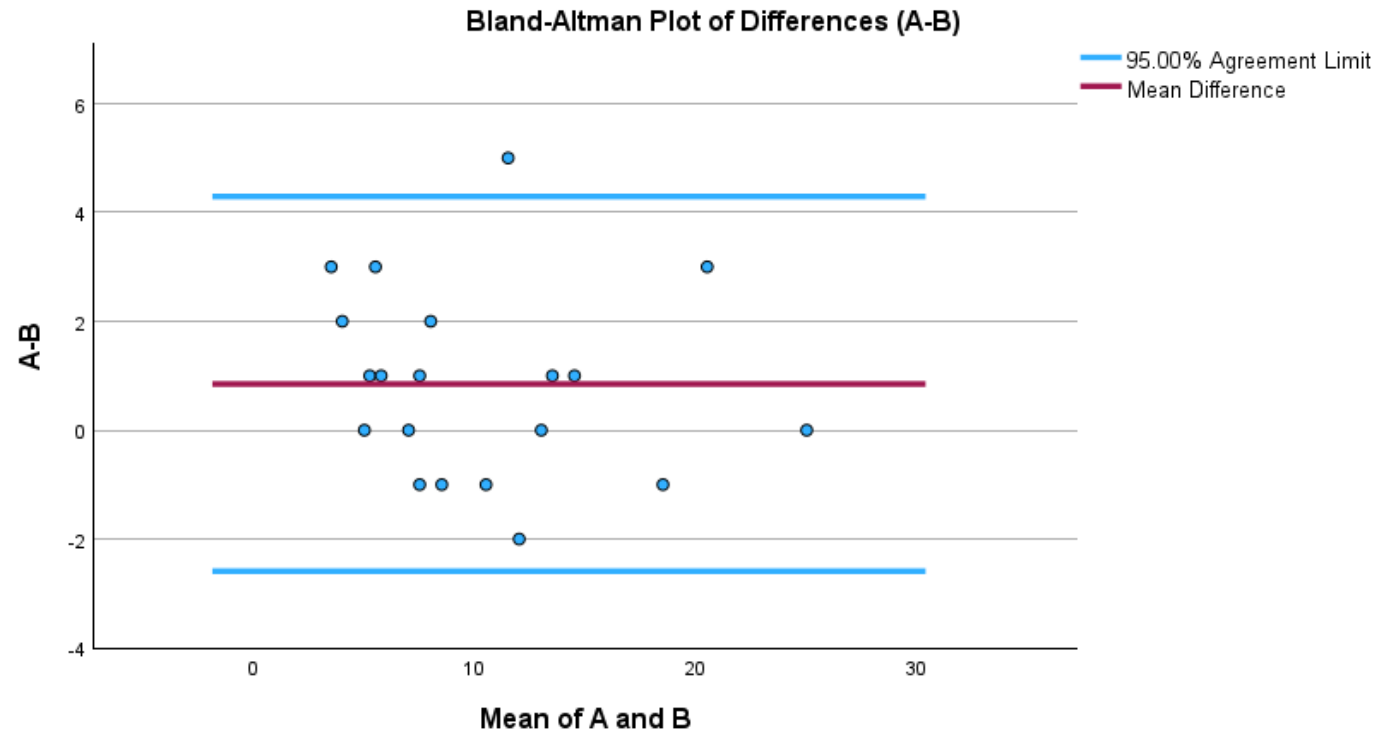
Mean = 11.5
Difference = 5

Bland-Altman Analysis

- A method to quantify agreement between two measurements by constructing limits of agreement.
- These statistical limits are calculated by using the mean and the standard deviation(s) of the differences between two measurements.
- This means that researchers can check the *assumptions of normality of the differences* in a visual format.
- In the resulting graph you can see the limits of agreement.

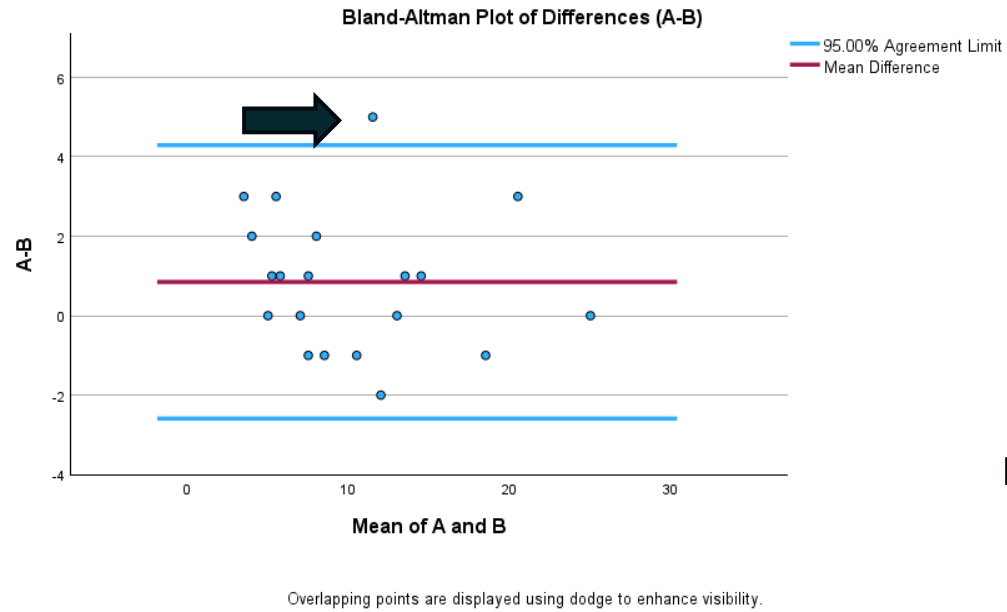
Agreement Limit

- ✓ Using the Bland-Altman plot, we can examine the scatter of points
- ✓ Any points beyond the 95% agreement limit?
- ✓ Check the assumptions of normality of the differences – random?
- ✓ Examine scatter of points – random?
- ✓ Suggests that the two measures provide similar readings.



Overlapping points are displayed using dodge to enhance visibility.

Output



Bland-Altman Analysis Details (A and B)^{a,b}

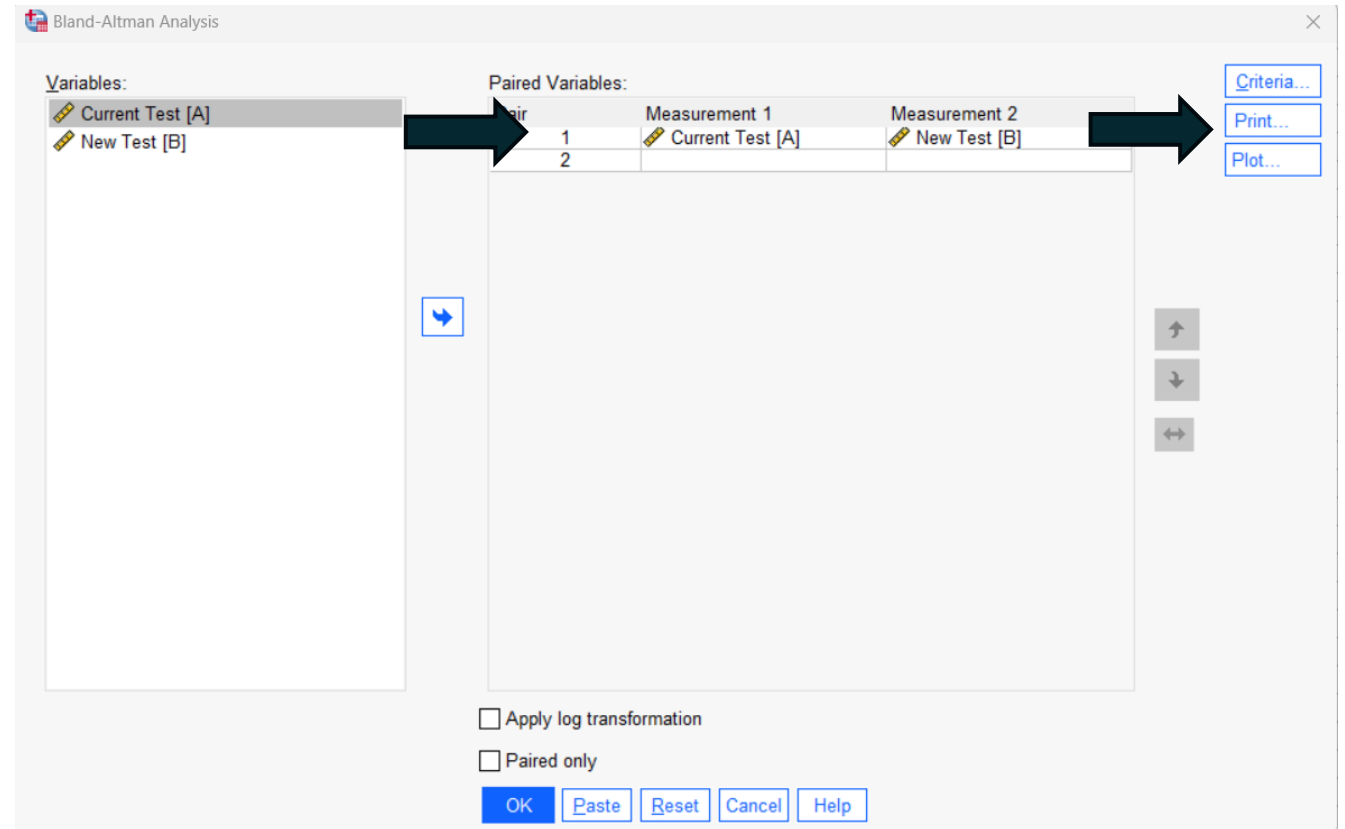
	A	B	Mean	Difference	Difference/Mean
1	5.000	3.000	4.000	2.000	.500
2	5.000	2.000	3.500	3.000	.857
3	5.000	5.000	5.000	.000	.000
4	6.000	5.000	5.500	1.000	.182
5	6.000	5.000	5.500	1.000	.182
6	7.000	7.000	7.000	.000	.000
7	7.000	8.000	7.500	-1.000	-.133
8	7.000	4.000	5.500	3.000	.545
9	8.000	9.000	8.500	-1.000	-.118
10	8.000	7.000	7.500	1.000	.133
11	9.000	7.000	8.000	2.000	.250
12	10.000	11.000	10.500	-1.000	-.095
13	11.000	13.000	12.000	-2.000	-.167
14	13.000	13.000	13.000	.000	.000
15	14.000	9.000	11.500	5.000	.435
16	14.000	13.000	13.500	1.000	.074
17	15.000	14.000	14.500	1.000	.069
18	18.000	19.000	18.500	-1.000	-.054
19	22.000	19.000	20.500	3.000	.146
20	25.000	25.000	25.000	.000	.000

a. First 20 records are printed.

b. For cases where the mean between the two measurements is zero, the ratio is set to zero, reflecting identical measurements and included in all plots.

The Dialog Box

- Go to **Analyze > Descriptive Statistics**
- Chose Paired Variables
- Select **Criteria** options
- Select **Print** options
- Select **Plot** options





Thank You