

```

GET
  FILE='/Users/PauloGarcia/Desktop/blendingbox/Analysis/First Study/SPSS Files
/datasets/q14_anal_lab.sav'.
DATASET NAME DataSet5 WINDOW=FRONT.
DATASET ACTIVATE DataSet5.
DATASET CLOSE DataSet4.
EXAMINE VARIABLES=distance_expectedC1C2distance_HSV distance_LCh distance_CMY
K distance_RGB distance_Lab
  /PLOT BOXPLOT STEMLEAF NPLOT
  /COMPARE GROUPS
  /STATISTICS DESCRIPTIVES
  /CINTERVAL 95
  /MISSING LISTWISE
  /NOTOTAL.

```

## Explore

### Notes

|                               |                                       |   |
|-------------------------------|---------------------------------------|---|
| <b>Output Created</b>         |                                       | <b>21-SEP-2016 17:44:08</b>   |
| <b>Comments</b>               |                                       |   |
| <b>Input</b>                  | <b>Data</b>                           | <b>/Users/PauloGarcia/Desktop/blendingbox/Analysis/First Study/SPSS Files/datasets/q14_anal_lab.sav</b> |
|                               | <b>Active Dataset</b>                 | <b>DataSet5</b>   |
|                               | <b>Filter</b>                         | <b>&lt;none&gt;</b>   |
|                               | <b>Weight</b>                         | <b>&lt;none&gt;</b>   |
|                               | <b>Split File</b>                     | <b>&lt;none&gt;</b>   |
|                               | <b>N of Rows in Working Data File</b> | <b>22</b>   |
| <b>Missing Value Handling</b> | <b>Definition of Missing</b>          | <b>User-defined missing values for dependent variables are treated as missing.</b>                      |
|                               | <b>Cases Used</b>                     | <b>Statistics are based on cases with no missing values for any dependent variable or factor used.</b>  |

### Notes

|           |                |   |  |
|-----------|----------------|---|--|
| Syntax    |                | <b>EXAMINE</b><br><b>VARIABLES=distance_expectedC1C2</b><br><b>distance_HSV</b><br><b>distance_LCh</b><br><b>distance_CMYK</b><br><b>distance_RGB</b><br><b>distance_Lab</b><br><b>/PLOT BOXPLOT</b><br><b>STEMLEAF NPLOT</b><br><b>/COMPARE GROUPS</b><br><b>/STATISTICS</b><br><b>DESCRIPTIVES</b><br><b>/INTERVAL 95</b><br><b>/MISSING LISTWISE</b><br><b>/NOTOTAL.</b> |  |
| Resources | Processor Time | 00:00:03,08   |  |
|           | Elapsed Time   | 00:00:04,00   |  |

### Case Processing Summary

|                       | Cases |         |         |         |       |         |
|-----------------------|-------|---------|---------|---------|-------|---------|
|                       | Valid |         | Missing |         | Total |         |
|                       | N     | Percent | N       | Percent | N     | Percent |
| distance_expectedC1C2 | 22    | 100,0%  | 0       | 0,0%    | 22    | 100,0%  |
| distance_HSV          | 22    | 100,0%  | 0       | 0,0%    | 22    | 100,0%  |
| distance_LCh          | 22    | 100,0%  | 0       | 0,0%    | 22    | 100,0%  |
| distance_CMYK         | 22    | 100,0%  | 0       | 0,0%    | 22    | 100,0%  |
| distance_RGB          | 22    | 100,0%  | 0       | 0,0%    | 22    | 100,0%  |
| distance_Lab          | 22    | 100,0%  | 0       | 0,0%    | 22    | 100,0%  |

### Descriptives

|                           |                                  |                            | Statistic      | Std. Error |
|---------------------------|----------------------------------|----------------------------|----------------|------------|
| distance_expected<br>C1C2 | Mean                             |                            | .4609          | .05691     |
|                           | 95% Confidence Interval for Mean | Lower Bound<br>Upper Bound | .3426<br>.5793 |            |
|                           | 5% Trimmed Mean                  |                            | .4657          |            |
|                           | Median                           |                            | .4250          |            |
|                           | Variance                         |                            | .071           |            |
|                           | Std. Deviation                   |                            | .26694         |            |
|                           | Minimum                          |                            | .02            |            |
|                           | Maximum                          |                            | .82            |            |
|                           | Range                            |                            | .80            |            |
|                           | Interquartile Range              |                            | .45            |            |
|                           | Skewness                         |                            | -.326          | .491       |
|                           | Kurtosis                         |                            | -1.155         | .953       |
| distance_HSV              | Mean                             |                            | .1186          | .03075     |
|                           | 95% Confidence Interval for Mean | Lower Bound<br>Upper Bound | .0547<br>.1826 |            |
|                           | 5% Trimmed Mean                  |                            | .1069          |            |
|                           | Median                           |                            | .0500          |            |
|                           | Variance                         |                            | .021           |            |
|                           | Std. Deviation                   |                            | .14423         |            |
|                           | Minimum                          |                            | .00            |            |
|                           | Maximum                          |                            | .45            |            |
|                           | Range                            |                            | .45            |            |
|                           | Interquartile Range              |                            | .11            |            |
|                           | Skewness                         |                            | 1.501          | .491       |
|                           | Kurtosis                         |                            | .937           | .953       |
| distance_LCh              | Mean                             |                            | .2995          | .01905     |
|                           | 95% Confidence Interval for Mean | Lower Bound<br>Upper Bound | .2599<br>.3392 |            |
|                           | 5% Trimmed Mean                  |                            | .2996          |            |
|                           | Median                           |                            | .3150          |            |
|                           | Variance                         |                            | .008           |            |
|                           | Std. Deviation                   |                            | .08936         |            |
|                           | Minimum                          |                            | .13            |            |
|                           | Maximum                          |                            | .47            |            |
|                           | Range                            |                            | .34            |            |
|                           | Interquartile Range              |                            | .14            |            |
|                           | Skewness                         |                            | -.156          | .491       |
|                           | Kurtosis                         |                            | -.857          | .953       |
| distance_CMYK             | Mean                             |                            | .0973          | .01045     |
|                           | 95% Confidence Interval for Mean | Lower Bound<br>Upper Bound | .0755<br>.1190 |            |
|                           | 5% Trimmed Mean                  |                            | .0937          |            |
|                           | Median                           |                            | .0900          |            |

### Descriptives

|              |                                  |             | Statistic | Std. Error |
|--------------|----------------------------------|-------------|-----------|------------|
|              | Variance                         |             | ,002      |            |
|              | Std. Deviation                   |             | .04901    |            |
|              | Minimum                          |             | .03       |            |
|              | Maximum                          |             | .23       |            |
|              | Range                            |             | .20       |            |
|              | Interquartile Range              |             | .05       |            |
|              | Skewness                         |             | 1,345     | ,491       |
|              | Kurtosis                         |             | 1,682     | ,953       |
| distance_RGB | Mean                             |             | .1327     | .02858     |
|              | 95% Confidence Interval for Mean | Lower Bound | .0733     |            |
|              |                                  | Upper Bound | .1922     |            |
|              | 5% Trimmed Mean                  |             | .1233     |            |
|              | Median                           |             | .1250     |            |
|              | Variance                         |             | ,018      |            |
|              | Std. Deviation                   |             | .13406    |            |
|              | Minimum                          |             | .00       |            |
|              | Maximum                          |             | .44       |            |
|              | Range                            |             | .44       |            |
|              | Interquartile Range              |             | .18       |            |
|              | Skewness                         |             | 1,073     | ,491       |
|              | Kurtosis                         |             | ,380      | ,953       |
| distance_Lab | Mean                             |             | .1336     | .02014     |
|              | 95% Confidence Interval for Mean | Lower Bound | .0918     |            |
|              |                                  | Upper Bound | .1755     |            |
|              | 5% Trimmed Mean                  |             | .1265     |            |
|              | Median                           |             | .1300     |            |
|              | Variance                         |             | ,009      |            |
|              | Std. Deviation                   |             | .09444    |            |
|              | Minimum                          |             | .03       |            |
|              | Maximum                          |             | .37       |            |
|              | Range                            |             | .34       |            |
|              | Interquartile Range              |             | .11       |            |
|              | Skewness                         |             | 1,174     | ,491       |
|              | Kurtosis                         |             | ,946      | ,953       |

### Tests of Normality

|                       | Kolmogorov-Smirnov <sup>a</sup> |    |        | Shapiro-Wilk |    |      |
|-----------------------|---------------------------------|----|--------|--------------|----|------|
|                       | Statistic                       | df | Sig.   | Statistic    | df | Sig. |
| distance_expectedC1C2 | ,133                            | 22 | ,200 * | ,911         | 22 | ,049 |
| distance_HSV          | ,297                            | 22 | ,000   | ,742         | 22 | ,000 |
| distance_LCh          | ,175                            | 22 | ,079   | ,952         | 22 | ,351 |
| distance_CMYK         | ,205                            | 22 | ,017   | ,866         | 22 | ,007 |
| distance_RGB          | ,165                            | 22 | ,125   | ,856         | 22 | ,004 |
| distance_Lab          | ,175                            | 22 | ,077   | ,861         | 22 | ,005 |

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

```

NPAR TESTS
  /FRIEDMAN=distance_expectedC1C2distance_HSVdistance_LChdistance_CMYKdistance_RGBdistance_Lab
  /STATISTICS DESCRIPTIVES QUANTILES
  /MISSING LISTWISE.

```

## NPar Tests

### Notes

|                               |                                       |  |
|-------------------------------|---------------------------------------|--|
| <b>Output Created</b>         |                                       | <b>21-SEP-2016 17:44:23</b>  |
| <b>Comments</b>               |                                       |  |
| <b>Input</b>                  | <b>Data</b>                           | /Users/PauloGarcia/Desktop/blendingbox/Analysis/First Study/SPSS Files/datasets/q14_anal_lab.sav |
|                               | <b>Active Dataset</b>                 | DataSet5   |
|                               | <b>Filter</b>                         | <none>   |
|                               | <b>Weight</b>                         | <none>   |
|                               | <b>Split File</b>                     | <none>   |
|                               | <b>N of Rows in Working Data File</b> | 22   |
| <b>Missing Value Handling</b> | <b>Definition of Missing</b>          | User-defined missing values are treated as missing.  |
|                               | <b>Cases Used</b>                     | Statistics for all tests are based on cases with no missing data for any variables used.         |

### Notes

|           |   |  |  |
|-----------|---|--|--|
| Syntax    |   | NPAR TESTS   |  |
|           |   | /FRIEDMAN=distance_e<br>xpectedC1C2<br>distance_HSV<br>distance_LCh<br>distance_CMYK<br>distance_RGB<br>distance_Lab<br>/STATISTICS<br>DESCRIPTIVES<br>QUARTILES<br>/MISSING LISTWISE. |  |
| Resources | Processor Time                          | 00:00:00,01  |  |
|           | Elapsed Time                            | 00:00:00,00  |  |
|           | Number of Cases<br>Allowed <sup>a</sup> | 71493  |  |

a. Based on availability of workspace memory.

### Descriptive Statistics

|                           | N  | Mean  | Std. Deviation | Minimum | Maximum | Percentile |
|---------------------------|----|-------|----------------|---------|---------|------------|
|                           |    |       |                |         |         | 25th       |
| distance_expected<br>C1C2 | 22 | .4609 | .26694         | .02     | .82     | .2900      |
| distance_HSV              | 22 | .1186 | .14423         | .00     | .45     | .0200      |
| distance_LCh              | 22 | .2995 | .08936         | .13     | .47     | .2350      |
| distance_CMYK             | 22 | .0973 | .04901         | .03     | .23     | .0600      |
| distance_RGB              | 22 | .1327 | .13406         | .00     | .44     | .0175      |
| distance_Lab              | 22 | .1336 | .09444         | .03     | .37     | .0500      |

### Descriptive Statistics

|                           | Percentiles   |       |
|---------------------------|---------------|-------|
|                           | 50th (Median) | 75th  |
| distance_expected<br>C1C2 | .4250         | .7350 |
| distance_HSV              | .0500         | .1325 |
| distance_LCh              | .3150         | .3700 |
| distance_CMYK             | .0900         | .1125 |
| distance_RGB              | .1250         | .1950 |
| distance_Lab              | .1300         | .1625 |

## Friedman Test

### Ranks

|                           | Mean Rank |
|---------------------------|-----------|
| distance_expected<br>C1C2 | 5,50      |
| distance_HSV              | 2,39      |
| distance_LCh              | 4,64      |
| distance_CMYK             | 2,57      |
| distance_RGB              | 2,68      |
| distance_Lab              | 3,23      |

### Test Statistics<sup>a</sup>

|             |        |
|-------------|--------|
| N           | 22     |
| Chi-Square  | 51,726 |
| df          | 5      |
| Asymp. Sig. | ,000   |

a. Friedman Test

```

NPAR TESTS
  /WILCOXON=distance_HSV distance_HSV distance_HSV distance_HSV distance_LCh d
istance_LCh distance_LCh distance_LCh distance_CMYK distance_CMYK distance_RGB WITH distanc
e_LCh distance_CMYK distance_RGB distance_Lab distance_CMYK distance_RGB dista
nce_Lab distance_RGB distance_Lab distance_Lab (PAIRED)
  /STATISTICS DESCRIPTIVES QUANTILES
  /MISSING ANALYSIS.

```

## NPar Tests

# Notes

|                        |                                      |   |
|------------------------|--------------------------------------|---|
| Output Created         |                                      | 21-SEP-2016 17:45:00  |
| Comments               |                                      |   |
| Input                  | Data                                 | /Users/PauloGarcia/Desktop/blendingbox/Analysis/First Study/SPSS Files/datasets/q14_anal_lab.sav  |
|                        | Active Dataset                       | DataSet5  |
|                        | Filter                               | <none>  |
|                        | Weight                               | <none>  |
|                        | Split File                           | <none>  |
|                        | N of Rows in Working Data File       | 22  |
| Missing Value Handling | Definition of Missing                | User-defined missing values are treated as missing.   |
|                        | Cases Used                           | Statistics for each test are based on all cases with valid data for the variable(s) used in that test.  |
| Syntax                 |                                      | NPAR TESTS<br><br>/WILCOXON=distance_HSV distance_HSV distance_HSV distance_LCh distance_LCh distance_LCh distance_CMYK distance_CMYK distance_RGB WITH distance_LCh distance_CMYK distance_RGB distance_Lab distance_CMYK distance_RGB distance_Lab distance_RGB distance_Lab (PAIRED)<br>/STATISTICS DESCRIPTIVES QUANTILES<br>/MISSING ANALYSIS. |
| Resources              | Processor Time                       | 00:00:00,01   |
|                        | Elapsed Time                         | 00:00:00,00   |
|                        | Number of Cases Allowed <sup>a</sup> | 78643   |

a. Based on availability of workspace memory.



### Descriptive Statistics

|               | N  | Mean  | Std. Deviation | Minimum | Maximum | Percentile |
|---------------|----|-------|----------------|---------|---------|------------|
|               |    |       |                |         |         | 25th       |
| distance_HSV  | 22 | .1186 | .14423         | .00     | .45     | .0200      |
| distance_LCh  | 22 | .2995 | .08936         | .13     | .47     | .2350      |
| distance_CMYK | 22 | .0973 | .04901         | .03     | .23     | .0600      |
| distance_RGB  | 22 | .1327 | .13406         | .00     | .44     | .0175      |
| distance_Lab  | 22 | .1336 | .09444         | .03     | .37     | .0500      |

### Descriptive Statistics

|               | Percentiles   |       |
|---------------|---------------|-------|
|               | 50th (Median) | 75th  |
| distance_HSV  | .0500         | .1325 |
| distance_LCh  | .3150         | .3700 |
| distance_CMYK | .0900         | .1125 |
| distance_RGB  | .1250         | .1950 |
| distance_Lab  | .1300         | .1625 |

## Wilcoxon Signed Ranks Test

### Ranks

|                              |                | N               | Mean Rank | Sum of Ranks |
|------------------------------|----------------|-----------------|-----------|--------------|
| distance_LCh - distance_HSV  | Negative Ranks | 4 <sup>a</sup>  | 5,75      | 23,00        |
|                              | Positive Ranks | 18 <sup>b</sup> | 12,78     | 230,00       |
|                              | Ties           | 0 <sup>c</sup>  |           |              |
|                              | Total          | 22              |           |              |
| distance_CMYK - distance_HSV | Negative Ranks | 7 <sup>d</sup>  | 14,79     | 103,50       |
|                              | Positive Ranks | 14 <sup>e</sup> | 9,11      | 127,50       |
|                              | Ties           | 1 <sup>f</sup>  |           |              |
|                              | Total          | 22              |           |              |
| distance_RGB - distance_HSV  | Negative Ranks | 11 <sup>g</sup> | 7,91      | 87,00        |
|                              | Positive Ranks | 10 <sup>h</sup> | 14,40     | 144,00       |
|                              | Ties           | 1 <sup>i</sup>  |           |              |
|                              | Total          | 22              |           |              |
| distance_Lab - distance_HSV  | Negative Ranks | 7 <sup>j</sup>  | 13,57     | 95,00        |
|                              | Positive Ranks | 15 <sup>k</sup> | 10,53     | 158,00       |
|                              | Ties           | 0 <sup>l</sup>  |           |              |
|                              | Total          | 22              |           |              |
| distance_CMYK - distance_LCh | Negative Ranks | 21 <sup>m</sup> | 12,00     | 252,00       |
|                              | Positive Ranks | 1 <sup>n</sup>  | 1,00      | 1,00         |
|                              | Ties           | 0 <sup>o</sup>  |           |              |
|                              | Total          | 22              |           |              |
| distance_RGB - distance_LCh  | Negative Ranks | 17 <sup>p</sup> | 12,26     | 208,50       |
|                              | Positive Ranks | 4 <sup>q</sup>  | 5,63      | 22,50        |

# **Ranks**

|   |                       | <b>N</b>               | <b>Mean Rank</b> | <b>Sum of Ranks</b> |
|---|-----------------------|------------------------|------------------|---------------------|
|   | <b>Ties</b>           | <b>1<sup>r</sup></b>   |                  |                     |
|   | <b>Total</b>          | <b>22</b>              |                  |                     |
| <b>distance_Lab -<br/>distance_LCh</b>  | <b>Negative Ranks</b> | <b>18<sup>s</sup></b>  | <b>12,14</b>     | <b>218,50</b>       |
|   | <b>Positive Ranks</b> | <b>3<sup>t</sup></b>   | <b>4,17</b>      | <b>12,50</b>        |
|   | <b>Ties</b>           | <b>1<sup>u</sup></b>   |                  |                     |
|   | <b>Total</b>          | <b>22</b>              |                  |                     |
| <b>distance_RGB -<br/>distance_CMYK</b> | <b>Negative Ranks</b> | <b>8<sup>v</sup></b>   | <b>10,19</b>     | <b>81,50</b>        |
|   | <b>Positive Ranks</b> | <b>14<sup>w</sup></b>  | <b>12,25</b>     | <b>171,50</b>       |
|   | <b>Ties</b>           | <b>0<sup>x</sup></b>   |                  |                     |
|   | <b>Total</b>          | <b>22</b>              |                  |                     |
| <b>distance_Lab -<br/>distance_CMYK</b> | <b>Negative Ranks</b> | <b>7<sup>y</sup></b>   | <b>4,21</b>      | <b>29,50</b>        |
|   | <b>Positive Ranks</b> | <b>13<sup>z</sup></b>  | <b>13,88</b>     | <b>180,50</b>       |
|   | <b>Ties</b>           | <b>2<sup>aa</sup></b>  |                  |                     |
|   | <b>Total</b>          | <b>22</b>              |                  |                     |
| <b>distance_Lab -<br/>distance_RGB</b>  | <b>Negative Ranks</b> | <b>8<sup>ab</sup></b>  | <b>14,38</b>     | <b>115,00</b>       |
|   | <b>Positive Ranks</b> | <b>14<sup>ac</sup></b> | <b>9,86</b>      | <b>138,00</b>       |
|   | <b>Ties</b>           | <b>0<sup>ad</sup></b>  |                  |                     |
|   | <b>Total</b>          | <b>22</b>              |                  |                     |

**a. distance\_LCh < distance\_HSV**

**b. distance\_LCh > distance\_HSV**

**c. distance\_LCh = distance\_HSV**

d. distance\_CMYK < distance\_HSV  
e. distance\_CMYK > distance\_HSV  
f. distance\_CMYK = distance\_HSV  
g. distance\_RGB < distance\_HSV  
h. distance\_RGB > distance\_HSV  
i. distance\_RGB = distance\_HSV  
j. distance\_Lab < distance\_HSV  
k. distance\_Lab > distance\_HSV  
l. distance\_Lab = distance\_HSV  
m. distance\_CMYK < distance\_LCh  
n. distance\_CMYK > distance\_LCh  
o. distance\_CMYK = distance\_LCh  
p. distance\_RGB < distance\_LCh  
q. distance\_RGB > distance\_LCh  
r. distance\_RGB = distance\_LCh  
s. distance\_Lab < distance\_LCh  
t. distance\_Lab > distance\_LCh  
u. distance\_Lab = distance\_LCh  
v. distance\_RGB < distance\_CMYK  
w. distance\_RGB > distance\_CMYK  
x. distance\_RGB = distance\_CMYK  
y. distance\_Lab < distance\_CMYK  
z. distance\_Lab > distance\_CMYK  
aa. distance\_Lab = distance\_CMYK  
ab. distance\_Lab < distance\_RGB  
ac. distance\_Lab > distance\_RGB  
ad. distance\_Lab = distance\_RGB

**Test Statistics<sup>a</sup>**

|                               | distance_LCh<br>-<br>distance_HSV | distance_CMY<br>K -<br>distance_HSV | distance_RGB<br>-<br>distance_HSV | distance_Lab -<br>distance_HSV | distance_CMY<br>K -<br>distance_LCh |
|-------------------------------|-----------------------------------|-------------------------------------|-----------------------------------|--------------------------------|-------------------------------------|
| <b>Z</b>                      | -3,361 <sup>b</sup>               | -,418 <sup>b</sup>                  | -,993 <sup>b</sup>                | -1,024 <sup>b</sup>            | -4,075 <sup>c</sup>                 |
| <b>Asymp. Sig. (2-tailed)</b> | ,001                              | ,676                                | ,320                              | ,306                           | ,000                                |

**Test Statistics<sup>a</sup>**

|                               | distance_RGB<br>-<br>distance_LCh | distance_Lab -<br>distance_LCh | distance_RGB<br>-<br>distance_CMY<br>K | distance_Lab -<br>distance_CMY<br>K | distance_Lab -<br>distance_RGB |
|-------------------------------|-----------------------------------|--------------------------------|--|-------------------------------------|--------------------------------|
| <b>Z</b>                      | -3,235 <sup>c</sup>               | -3,582 <sup>c</sup>            | -1,465 <sup>b</sup>                    | -2,825 <sup>b</sup>                 | -,375 <sup>b</sup>             |
| <b>Asymp. Sig. (2-tailed)</b> | ,001                              | ,000                           | ,143                                   | ,005                                | ,708                           |

**a. Wilcoxon Signed Ranks Test**

**b. Based on negative ranks.**

**c. Based on positive ranks.**