

## Fligner-Killeen Test

Fligner-Killeen Test  
Test-specific data preparation and execution

>Warning # 4492 on line 79 in column 42. Text: internet\_bin  
>The (ADD) VALUE LABELS command included a symbol other than a value where a  
>value (either numeric or string) was expected. For compatibility with  
>previous systems, a parenthesized value would have been acceptable. All valu  
e  
>labels up to the next slash will be ignored.

Fligner-Killeen homogeneity-of-scale test

Fligner-Killeen homogeneity-of-scale test  
Ranked absolute deviations from reason-specific medians

## RANK

### Notes

|                               |                                |                                                                                  |
|-------------------------------|--------------------------------|----------------------------------------------------------------------------------|
| Output Created                |                                | 16-JUL-2026 17:14:22                                                             |
| Comments                      |                                |                                                                                  |
| Input                         | Data                           | D:\DATA ANALYSIS\J<br>Nonparametric<br>Tests\Fligner Killeen<br>Test\dataset.csv |
|                               | Active Dataset                 | FlignerKilleenTestData                                                           |
|                               | Filter                         | <none>                                                                           |
|                               | Weight                         | <none>                                                                           |
|                               | Split File                     | <none>                                                                           |
|                               | N of Rows in Working Data File | 649                                                                              |
| Missing Value Handling        | Definition of Missing          | User-defined missing values are treated as missing.                              |
|                               | Cases Used                     | All non-missing data are used.                                                   |
| Syntax                        |                                | RANK<br>VARIABLES=fk_abs_deviation (A) /RANK INTO<br>fk_rank /TIES=MEAN.         |
| Resources                     | Processor Time                 | 00:00:00.03                                                                      |
|                               | Elapsed Time                   | 00:00:00.03                                                                      |
| Variables Created or Modified | fk_rank                        | Rank of fk_abs_deviation                                                         |

[FlignerKilleenTestData]

### Created Variables<sup>a</sup>

| Source Variable               | Function | New Variable | Label                       |
|-------------------------------|----------|--------------|-----------------------------|
| fk_abs_deviation <sup>b</sup> | Rank     | fk_rank      | Rank of<br>fk_abs_deviation |

a. Mean rank of tied values is used for ties.

b. Ranks are in ascending order.

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## NPar Tests

### Notes

|                        |                                      |                                                                                                         |
|------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------|
| Output Created         |                                      | 16-JUL-2026 17:14:22                                                                                    |
| Comments               |                                      |                                                                                                         |
| Input                  | Data                                 | D:\DATA ANALYSIS\J<br>Nonparametric<br>Tests\Fligner Killeen<br>Test\dataset.csv                        |
|                        | Active Dataset                       | FlignerKilleenTestData                                                                                  |
|                        | Filter                               | <none>                                                                                                  |
|                        | Weight                               | <none>                                                                                                  |
|                        | Split File                           | <none>                                                                                                  |
|                        | N of Rows in Working Data File       | 649                                                                                                     |
| 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 /K-<br>W=fk_abs_deviation BY<br>reason_n(1,4)<br>/STATISTICS=DESCRIPT<br>IVES QUARTILES.     |
| Resources              | Processor Time                       | 00:00:00.05                                                                                             |
|                        | Elapsed Time                         | 00:00:00.07                                                                                             |
|                        | Number of Cases Allowed <sup>a</sup> | 449389                                                                                                  |

a. Based on availability of workspace memory.

### Descriptive Statistics

|                  | N   | Mean   | Std. Deviation | Minimum | Maximum | Percentile..<br>25th |
|------------------|-----|--------|----------------|---------|---------|----------------------|
| fk_abs_deviation | 649 | 3.2003 | 3.74660        | .00     | 30.00   | 2.0000               |
| reason_n         | 649 | 2.11   | 1.192          | 1       | 4       | 1.00                 |

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### Descriptive Statistics

|                  | Percentiles   |        |
|------------------|---------------|--------|
|                  | 50th (Median) | 75th   |
| fk_abs_deviation | 2.0000        | 4.0000 |
| reason_n         | 2.00          | 3.00   |

### Kruskal-Wallis Test

#### Ranks

|                  | reason_n   | N   | Mean Rank |
|------------------|------------|-----|-----------|
| fk_abs_deviation | course     | 285 | 310.12    |
|                  | home       | 149 | 343.40    |
|                  | other      | 72  | 311.39    |
|                  | reputation | 143 | 342.33    |
|                  | Total      | 649 |           |

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

|                  | fk_abs_deviation |
|------------------|------------------|
| Kruskal-Wallis H | 5.654            |
| df               | 3                |
| Asymp. Sig.      | .130             |

a. Kruskal Wallis Test

b. Grouping Variable: reason\_n

### Means

Fligner-Killeen homogeneity-of-scale test  
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**Notes**

|                        |                                |                                                                                                                                          |
|------------------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Output Created         |                                | 16-JUL-2026 17:14:22                                                                                                                     |
| Comments               |                                |                                                                                                                                          |
| Input                  | Data                           | D:\DATA ANALYSIS\J<br>Nonparametric<br>Tests\Fligner Killeen<br>Test\dataset.csv                                                         |
|                        | Active Dataset                 | FlignerKilleenTestData                                                                                                                   |
|                        | Filter                         | <none>                                                                                                                                   |
|                        | Weight                         | <none>                                                                                                                                   |
|                        | Split File                     | <none>                                                                                                                                   |
|                        | N of Rows in Working Data File | 649                                                                                                                                      |
| Missing Value Handling | Definition of Missing          | For each dependent variable in a table, user-defined missing values for the dependent and all grouping variables are treated as missing. |
|                        | Cases Used                     | Cases used for each table have no missing values in any independent variable, and not all dependent variables have missing values.       |
| Syntax                 |                                | MEANS<br>TABLES=fk_abs_deviation fk_rank BY reason_n<br>/CELLS=COUNT MEAN<br>MEDIAN STDDEV.                                              |
| Resources              | Processor Time                 | 00:00:00.00                                                                                                                              |
|                        | Elapsed Time                   | 00:00:00.03                                                                                                                              |

Fligner-Killeen homogeneity-of-scale test  
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**Case Processing Summary**

|                                        | Included |         | Cases Excluded |         | Total |         |
|----------------------------------------|----------|---------|----------------|---------|-------|---------|
|                                        | N        | Percent | N              | Percent | N     | Percent |
| fk_abs_deviation *<br>reason_n         | 649      | 100.0%  | 0              | 0.0%    | 649   | 100.0%  |
| Rank of fk_abs_deviation *<br>reason_n | 649      | 100.0%  | 0              | 0.0%    | 649   | 100.0%  |

**Report**

| reason_n   |                | fk_abs_deviation<br>n | Rank of<br>fk_abs_deviation<br>n |
|------------|----------------|-----------------------|----------------------------------|
| course     | N              | 285                   | 285                              |
|            | Mean           | 2.9123                | 310.12281                        |
|            | Median         | 2.0000                | 298.00000                        |
|            | Std. Deviation | 3.29789               | 173.354819                       |
| home       | N              | 149                   | 149                              |
|            | Mean           | 3.8255                | 343.40268                        |
|            | Median         | 2.0000                | 298.00000                        |
|            | Std. Deviation | 4.74018               | 181.433413                       |
| other      | N              | 72                    | 72                               |
|            | Mean           | 2.6389                | 311.38889                        |
|            | Median         | 2.0000                | 298.00000                        |
|            | Std. Deviation | 2.54152               | 161.518155                       |
| reputation | N              | 143                   | 143                              |
|            | Mean           | 3.4056                | 342.32867                        |
|            | Median         | 2.0000                | 298.00000                        |
|            | Std. Deviation | 3.85702               | 168.530748                       |
| Total      | N              | 649                   | 649                              |
|            | Mean           | 3.2003                | 325.00000                        |
|            | Median         | 2.0000                | 298.00000                        |
|            | Std. Deviation | 3.74660               | 173.302437                       |

**Graph**

Fligner-Killeen homogeneity-of-scale test  
Ranked absolute deviations from reason-specific medians

**Notes**

|                |                                   |                                                                                  |
|----------------|-----------------------------------|----------------------------------------------------------------------------------|
| Output Created |                                   | 16-JUL-2026 17:14:23                                                             |
| Comments       |                                   |                                                                                  |
| Input          | Data                              | D:\DATA ANALYSIS\J<br>Nonparametric<br>Tests\Fligner Killeen<br>Test\dataset.csv |
|                | Active Dataset                    | FlignerKilleenTestData                                                           |
|                | Filter                            | <none>                                                                           |
|                | Weight                            | <none>                                                                           |
|                | Split File                        | <none>                                                                           |
|                | N of Rows in Working Data<br>File | 649                                                                              |
| Syntax         |                                   | GRAPH /BAR(GROUPED)<br>=MEAN(fk_abs_deviation)<br>BY reason_n.                   |
| Resources      | Processor Time                    | 00:00:06.16                                                                      |
|                | Elapsed Time                      | 00:00:03.43                                                                      |

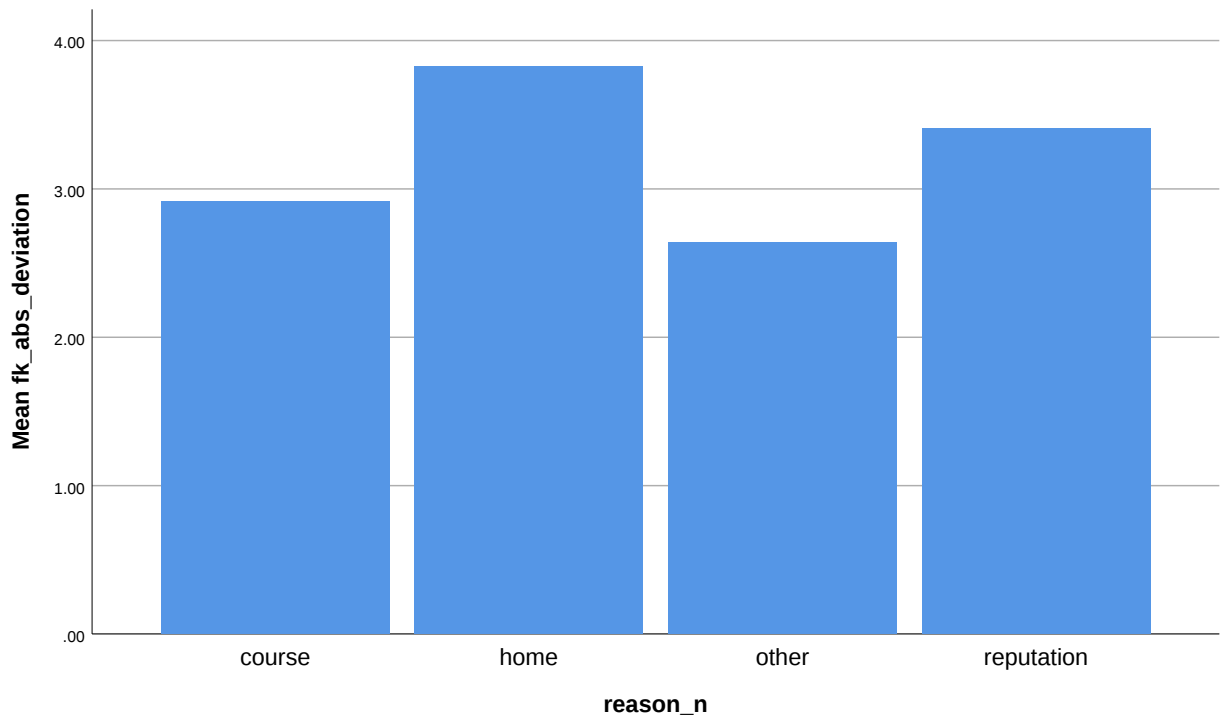
>Warning # 17848

>The requested bar chart type cannot be drawn with the provided data. Instead

,

>Graphics will attempt to draw a simple bar chart.

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```
>Warning # 5334 on line 91. Command name: SAVE
>The SAVE command has succeeded. However, due to contention for the specified
>file, the data have been saved to a file with a different name.
>Saved to D:\DATA ANALYSIS\J Nonparametric Tests\Fligner Killeen Test\SPSS_Out
put\sav\fligner-killeen-test_spss_ready_data_1.sav.
```

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FLIGNER-KILLEEN TEST

Formula:  $X^2_{FK}$  is a one-way ANOVA of normal scores assigned to ranked absolute median deviations.

Variables: absences, reason

degrees\_of\_freedom = 3

p\_value = 0.07000351971982395

statistic = 7.0602008486971535

Cross-check status: pass

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