

Kruskal-Wallis Rank-Sum Test

Kruskal-Wallis Rank-Sum Test
Test-specific data preparation and execution

```
>Warning # 4492 on line 13056 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.
```

Kruskal-Wallis test

Kruskal-Wallis test
Pooled midranks of G3 across guardian groups

NPar Tests

Notes

Output Created		16-JUL-2026 16:47:44
Comments		
Input	Data	D:\DATA ANALYSIS\J Nonparametric Tests\Kruskal Wallis Test\dataset.csv
	Active Dataset	KruskalWallisTestData
	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-W=G3 BY guardian_n(1,3) /STATISTICS=DESCRIPTIVES QUARTILES.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.05
	Number of Cases Allowed ^a	449389

a. Based on availability of workspace memory.

[KruskalWallisTestData]

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Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
G3	649	11.91	3.231	0	19	10.00	12.00
guardian_n	649	1.83	.519	1	3	2.00	2.00

Descriptive Statistics

	Percentiles
	75th
G3	14.00
guardian_n	2.00

Kruskal-Wallis Test

Ranks

	guardian_n	N	Mean Rank
G3	father	153	346.68
	mother	455	324.10
	other	41	254.12
	Total	649	

Test Statistics^{a,b}

	G3
Kruskal-Wallis H	8.018
df	2
Asymp. Sig.	.018

a. Kruskal Wallis Test

b. Grouping Variable: guardian_n

RANK

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	Active Dataset	KruskalWallisTestData
	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 VARIABLES=G3 (A) /RANK INTO kw_rank /TIES=MEAN.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.06
Variables Created or Modified	kw_rank	Rank of G3

Created Variables^a

Source Variable	Function	New Variable	Label
G3 ^b	Rank	kw_rank	Rank of G3

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

b. Ranks are in ascending order.

Means

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Notes

Output Created		16-JUL-2026 16:47:45
Comments		
Input	Data	D:\DATA ANALYSIS\J Nonparametric Tests\Kruskal Wallis Test\dataset.csv
	Active Dataset	KruskalWallisTestData
	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 TABLES=kwal_rank BY guardian_n /CELLS=COUNT MEAN ...
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.03

Case Processing Summary

	Included		Cases Excluded		Total	
	N	Percent	N	Percent	N	Percent
Rank of G3 * guardian_n	649	100.0%	0	0.0%	649	100.0%

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Report

Rank of G3

guardian_n	N	Mean	Sum
father	153	346.67974	53042.000
mother	455	324.09670	147464.000
other	41	254.12195	10419.000
Total	649	325.00000	210925.000

Graph

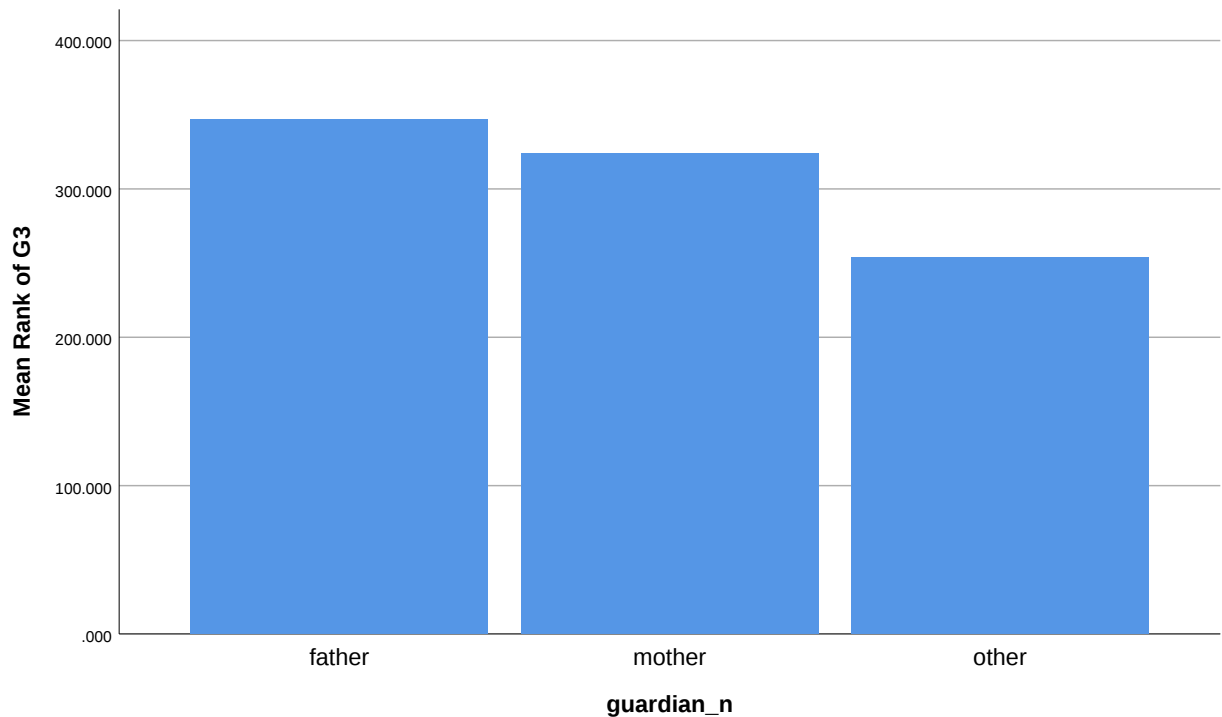
Notes

Output Created		16-JUL-2026 16:47:45
Comments		
Input	Data	D:\DATA ANALYSIS\J Nonparametric Tests\Kruskal Wallis Test\dataset.csv
	Active Dataset	KruskalWallisTestData
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	649
Syntax		GRAPH /BAR(GROUPED) =MEAN(kw_rank) BY guardian_n.
Resources	Processor Time	00:00:00.70
	Elapsed Time	00:00:01.47

>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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```
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KRUSKAL-WALLIS RANK-SUM TEST
Formula:  $H = [12/(N(N+1))] \sum_i R_i^2/n_i - 3(N+1)$ , divided by the tie correction.
Variables: G3, guardian
degrees_of_freedom = 2
epsilon_squared = 0.009315386364728138
p_value = 0.018153901261942596
statistic = 8.017739591614378
Cross-check status: pass
=====
```