

Van der Waerden Normal-Scores Test

Van der Waerden Normal-Scores Test
Test-specific data preparation and execution

```
>Warning # 4492 on line 14284 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.
```

Van der Waerden normal-scores test

>Warning # 2004 on line 14288. Command name: SUBTITLE

>The subtitle given exceeds 60 characters in length. The first 60 characters
>will be used.

Van der Waerden normal-scores test
Pooled G3 midranks transformed to normal scores across mater

RANK

Notes

Output Created		16-JUL-2026 16:51:51
Comments		
Input	Data	D:\DATA ANALYSIS\J Nonparametric Tests\Van der Waerden Test\dataset.csv
	Active Dataset	VanderWaerdenTestData
	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) /NORMAL INTO g3_normal_score /FRACTION=RANKIT /TIES=MEAN.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02
Variables Created or Modified	g3_normal_score	Normal Score of G3 using Rankit's Formula

[VanderWaerdenTestData]

Created Variables^a

Source Variable	Function	New Variable	Label
G3 ^b	Normal Score	g3_normal_score	Normal Score of G3 using Rankit's Formula

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

b. Ranks are in ascending order.

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Oneway

Notes

Output Created		16-JUL-2026 16:51:51
Comments		
Input	Data	D:\DATA ANALYSIS\J Nonparametric Tests\Van der Waerden Test\dataset.csv
	Active Dataset	VanderWaerdenTestData
	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 analysis are based on cases with no missing data for any variable in the analysis.
Syntax		ONEWAY g3_normal_score BY Mjob_n /STATISTICS DESCRIPTIVES HOMOGENEITY.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.07

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Descriptives

Normal Score of G3 using Rankit's Formula

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
at_home	135	-.286119	.9415772	.0810381	-.446398	-.125839
health	48	.343078	1.0319724	.1489524	.043425	.642732
other	258	-.063641	.9509442	.0592032	-.180226	.052944
services	136	.054419	.9566327	.0820306	-.107813	.216650
teacher	72	.446053	.9655880	.1137956	.219151	.672955
Total	649	.001447	.9808920	.0385034	-.074159	.077053

Descriptives

Normal Score of G3 using Rankit's Formula

	Minimum	Maximum
at_home	-2.2716	2.1798
health	-1.4524	2.1798
other	-2.2716	2.1798
services	-2.2716	2.9595
teacher	-2.2716	2.9595
Total	-2.2716	2.9595

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Normal Score of G3 using Rankit's Formula	Based on Mean	.700	4	644	.592
	Based on Median	.671	4	644	.612
	Based on Median and with adjusted df	.671	4	639.642	.612
	Based on trimmed mean	.701	4	644	.592

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ANOVA

Normal Score of G3 using Rankit's Formula

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	32.473	4	8.118	8.846	.000
Within Groups	591.000	644	.918		
Total	623.473	648			

Means

Notes

Output Created		16-JUL-2026 16:51:52
Comments		
Input	Data	D:\DATA ANALYSIS\J Nonparametric Tests\Van der Waerden Test\dataset.csv
	Active Dataset	VanderWaerdenTestData
	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=g3_normal_score BY Mjob_n /CELLS=COUNT MEAN SUM STDDEV.

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Notes

Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.02

Case Processing Summary

	Included		Cases Excluded		Total	
	N	Percent	N	Percent	N	Percent
Normal Score of G3 using Rankit's Formula * Mjob_n	649	100.0%	0	0.0%	649	100.0%

Report

Normal Score of G3 using Rankit's Formula

Mjob_n	N	Mean	Sum	Std. Deviation
at_home	135	-.286119	-38.6260	.9415772
health	48	.343078	16.4678	1.0319724
other	258	-.063641	-16.4194	.9509442
services	136	.054419	7.4009	.9566327
teacher	72	.446053	32.1158	.9655880
Total	649	.001447	.9391	.9808920

Graph

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Notes

Output Created		16-JUL-2026 16:51:52
Comments		
Input	Data	D:\DATA ANALYSIS\J Nonparametric Tests\Van der Waerden Test\dataset. csv
	Active Dataset	VanderWaerdenTestData
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	649
Syntax		GRAPH /BAR(GROUPED) =MEAN(g3_normal_score) BY Mjob_n.
Resources	Processor Time	00:00:00.67
	Elapsed Time	00:00:00.65

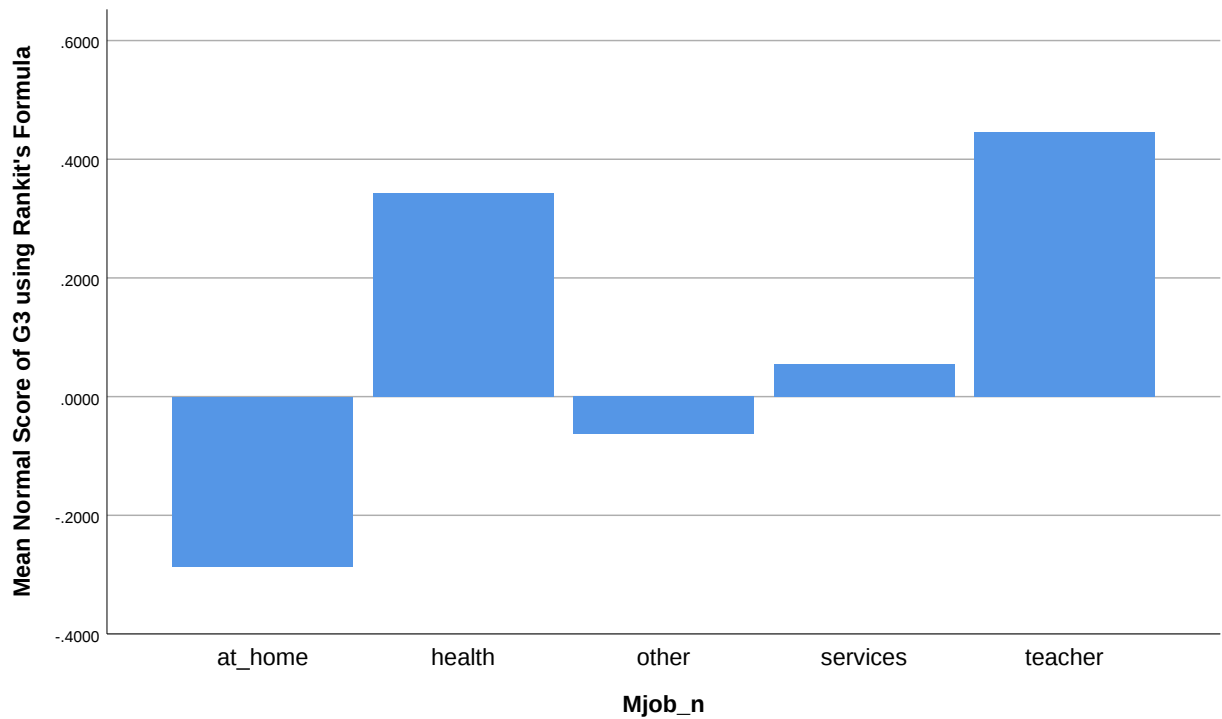
>Warning # 17848

>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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VAN DER WAERDEN NORMAL-SCORES TEST
Formula: A^2=[sum_j n_j zbar_j^2]/[sum_i z_i^2/(N-1)], z_i=Phi^-1(R_i/(N+1))
Variables: G3, Mjob
degrees_of_freedom = 4
normal_score_variance = 0.9511039610675783
p_value = 8.259763222603105e-07
statistic = 33.78199475162392
Cross-check status: pass
=====
```