

Page's Ordered Alternatives Test

Page's Ordered Alternatives Test
Test-specific data preparation and execution

>Warning # 4492 on line 13739 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.

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>Warning # 2004 on line 13743. Command name: SUBTITLE

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

NPar Tests

Notes

Output Created		16-JUL-2026 16:50:09
Comments		
Input	Data	D:\DATA ANALYSIS\J Nonparametric Tests\Pages Trend Test\dataset.csv
	Active Dataset	PagesTrendTestData
	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 /FRIEDMAN=G1 G2 G3 /SIGN=G1 G2 WITH G2 G3 (PAIRED) /WILCOXON=G1 G2 WITH G2 G3 (PAIRED) /STATISTICS=DESCRIPTIVES QUARTILES.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.05
	Number of Cases Allowed ^a	393216

a. Based on availability of workspace memory.

[PagesTrendTestData]

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A priori G1 less than G2 less than G3 ordering within studen

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles	
						25th	50th (Median)
G1	649	11.40	2.745	0	19	10.00	11.00
G2	649	11.57	2.914	0	19	10.00	11.00
G3	649	11.91	3.231	0	19	10.00	12.00

Descriptive Statistics

	Percentiles
	75th
G1	13.00
G2	13.00
G3	14.00

Friedman Test

Ranks

	Mean Rank
G1	1.76
G2	1.90
G3	2.34

Test Statistics^a

N	649
Chi-Square	167.328
df	2
Asymp. Sig.	.000

a. Friedman Test

Sign Test

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Frequencies

		N
G2 - G1	Negative Differences ^{a,d}	187
	Positive Differences ^{b,e}	273
	Ties ^{c,f}	189
	Total	649
G3 - G2	Negative Differences ^{a,d}	72
	Positive Differences ^{b,e}	290
	Ties ^{c,f}	287
	Total	649

a. $G2 < G1$

b. $G2 > G1$

c. $G2 = G1$

d. $G3 < G2$

e. $G3 > G2$

f. $G3 = G2$

Test Statistics^a

	G2 - G1	G3 - G2
Z	-3.963	-11.405
Asymp. Sig. (2-tailed)	.000	.000

a. Sign Test

Wilcoxon Signed Ranks Test

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Ranks

		N	Mean Rank	Sum of Ranks
G2 - G1	Negative Ranks	187 ^a	231.70	43328.00
	Positive Ranks	273 ^b	229.68	62702.00
	Ties	189 ^c		
	Total	649		
G3 - G2	Negative Ranks	72 ^d	190.29	13701.00
	Positive Ranks	290 ^e	179.32	52002.00
	Ties	287 ^f		
	Total	649		

a. G2 < G1

b. G2 > G1

c. G2 = G1

d. G3 < G2

e. G3 > G2

f. G3 = G2

Test Statistics^a

	G2 - G1	G3 - G2
Z	-3.577 ^b	-10.297 ^b
Asymp. Sig. (2-tailed)	.000	.000

a. Wilcoxon Signed Ranks Test

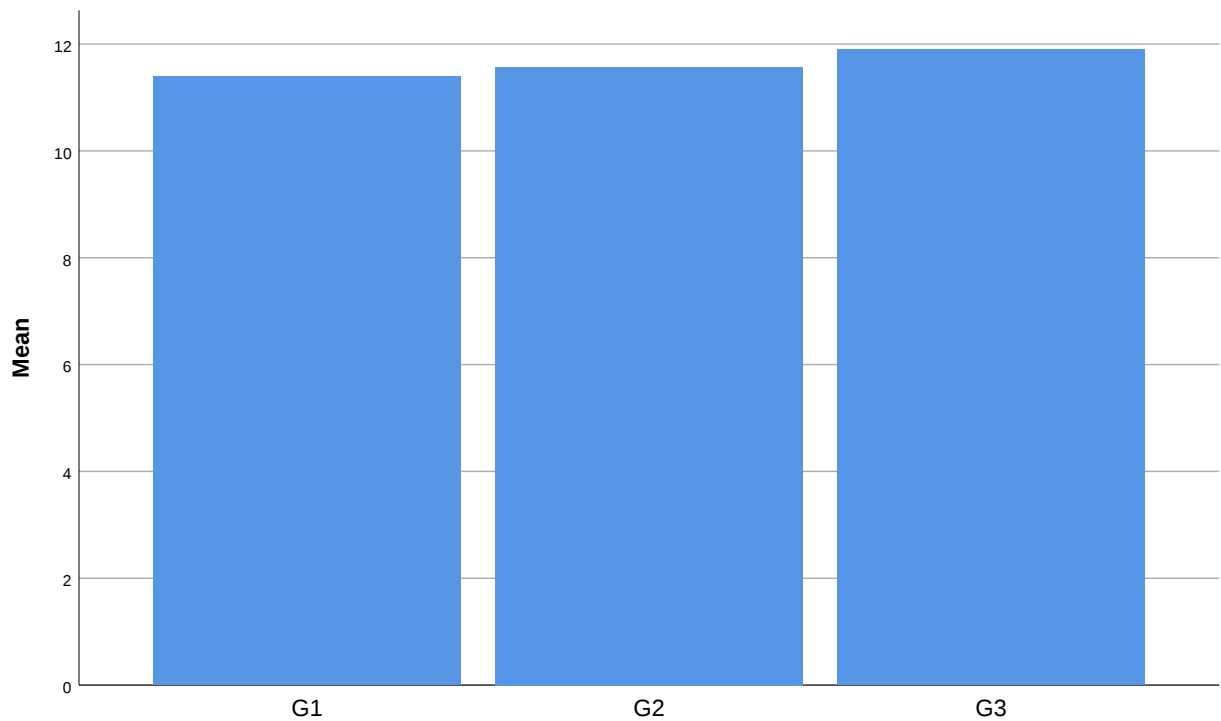
b. Based on negative ranks.

Graph

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	Active Dataset	PagesTrendTestData
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	649
Syntax		GRAPH /BAR(SIMPLE) =MEAN(G1) MEAN(G2) MEAN(G3).
Resources	Processor Time	00:00:00.66
	Elapsed Time	00:00:00.89



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=====
PAGE'S ORDERED ALTERNATIVES TEST
Formula:  $L = \sum_j j R_j$  for prespecified treatment order; the upper tail is e
valuated under blockwise exchangeability.
Variables: G1, G2, G3 ordered occasions
k_occasions = 3
l_statistic = 8164.0
method = asymptotic
n_blocks = 649
p_value = 8.455586252897959e-26
Cross-check status: pass
=====
```