

Host

Host

Host

Host

Spearman Rank Correlation

Spearman Rank Correlation
Import data

Spearman Rank Correlation: Descriptive Statistics

>Warning # 2004. Command name: SUBTITLE

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

Spearman Rank Correlation : Descriptive Statistics
Review valid N, mean, standard deviation, minimum, and maximum

Descriptives

[SpearmanRankData] D:\DATA ANALYSIS\G Correlation Tests\Spearman Rank Correlation\SPSS_Output\sav\Spearman-Rank-Correlation-data.sav

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
First period grade / focus X variable	649	0	19	11.40	2.745
Second period grade	649	0	19	11.57	2.914
Final grade / focus Y variable	649	0	19	11.91	3.231
Student age	649	15	22	16.74	1.218
Weekly study time ordinal group	649	1	4	1.93	.830
Number of past class failures	649	0	3	.22	.593
School absences	649	0	32	3.66	4.641
Medu	649	0	4	2.51	1.135
Fedu	649	0	4	2.31	1.100
traveltime	649	1	4	1.57	.749
famrel	649	1	5	3.93	.956
freetime	649	1	5	3.18	1.051
goout	649	1	5	3.18	1.176
Dalc	649	1	5	1.50	.925
Walc	649	1	5	2.28	1.284
health	649	1	5	3.54	1.446
Valid N (listwise)	649				

Spearman Rank Correlation: Focus Pair

Spearman Rank Correlation: Focus Pair
Focus test: G1 and G3

Nonparametric Correlations

Correlations

			First period grade / focus X variable	Final grade / focus Y variable
Spearman's rho	First period grade / focus X variable	Correlation Coefficient	1.000	.883**
		Sig. (2-tailed)	.	.000
		N	649	649
	Final grade / focus Y variable	Correlation Coefficient	.883**	1.000
		Sig. (2-tailed)	.000	.
		N	649	649

** . Correlation is significant at the 0.01 level (2-tailed).

Spearman Rank Correlation Matrix

>Warning # 2004. Command name: SUBTITLE

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

Spearman Rank Correlation Matrix
Pairwise Spearman correlations among numeric and ordinal var

Nonparametric Correlations

Correlations

			First period grade / focus X variable	Second period grade
Spearman's rho	First period grade / focus X variable	Correlation Coefficient	1.000	.893**
		Sig. (2-tailed)	.	.000
		N	649	649
	Second period grade	Correlation Coefficient	.893**	1.000
		Sig. (2-tailed)	.000	.
		N	649	649
	Final grade / focus Y variable	Correlation Coefficient	.883**	.944**
		Sig. (2-tailed)	.000	.000
		N	649	649
	Student age	Correlation Coefficient	-.167**	-.106**
		Sig. (2-tailed)	.000	.007
		N	649	649
	Weekly study time ordinal group	Correlation Coefficient	.271**	.259**
		Sig. (2-tailed)	.000	.000
		N	649	649
	Number of past class failures	Correlation Coefficient	-.432**	-.436**
		Sig. (2-tailed)	.000	.000
		N	649	649
	School absences	Correlation Coefficient	-.170**	-.164**
		Sig. (2-tailed)	.000	.000
		N	649	649
	Medu	Correlation Coefficient	.276**	.286**
		Sig. (2-tailed)	.000	.000
		N	649	649
	Fedu	Correlation Coefficient	.235**	.246**
		Sig. (2-tailed)	.000	.000
		N	649	649

Spearman Rank Correlation Matrix
Pairwise Spearman correlations among numeric and ordinal var

Correlations

			Final grade / focus Y variable	Student age
Spearman's rho	First period grade / focus X variable	Correlation Coefficient	.883**	-.167**
		Sig. (2-tailed)	.000	.000
		N	649	649
	Second period grade	Correlation Coefficient	.944**	-.106**
		Sig. (2-tailed)	.000	.007
		N	649	649
	Final grade / focus Y variable	Correlation Coefficient	1.000	-.066
		Sig. (2-tailed)	.	.092
		N	649	649
	Student age	Correlation Coefficient	-.066	1.000
		Sig. (2-tailed)	.092	.
		N	649	649
	Weekly study time ordinal group	Correlation Coefficient	.275**	.017
		Sig. (2-tailed)	.000	.666
		N	649	649
	Number of past class failures	Correlation Coefficient	-.448**	.291**
		Sig. (2-tailed)	.000	.000
		N	649	649
	School absences	Correlation Coefficient	-.159**	.124**
		Sig. (2-tailed)	.000	.002
		N	649	649
	Medu	Correlation Coefficient	.284**	-.102**
		Sig. (2-tailed)	.000	.009
		N	649	649
	Fedu	Correlation Coefficient	.235**	-.110**
		Sig. (2-tailed)	.000	.005
		N	649	649

Spearman Rank Correlation Matrix
Pairwise Spearman correlations among numeric and ordinal var

Correlations

			Weekly study time ordinal group	Number of past class failures
Spearman's rho	First period grade / focus X variable	Correlation Coefficient	.271**	-.432**
		Sig. (2-tailed)	.000	.000
		N	649	649
	Second period grade	Correlation Coefficient	.259**	-.436**
		Sig. (2-tailed)	.000	.000
		N	649	649
	Final grade / focus Y variable	Correlation Coefficient	.275**	-.448**
		Sig. (2-tailed)	.000	.000
		N	649	649
	Student age	Correlation Coefficient	.017	.291**
		Sig. (2-tailed)	.666	.000
		N	649	649
	Weekly study time ordinal group	Correlation Coefficient	1.000	-.160**
		Sig. (2-tailed)	.	.000
		N	649	649
	Number of past class failures	Correlation Coefficient	-.160**	1.000
		Sig. (2-tailed)	.000	.
		N	649	649
	School absences	Correlation Coefficient	-.117**	.121**
		Sig. (2-tailed)	.003	.002
		N	649	649
	Medu	Correlation Coefficient	.098*	-.208**
		Sig. (2-tailed)	.012	.000
		N	649	649
	Fedu	Correlation Coefficient	.069	-.161**
		Sig. (2-tailed)	.079	.000
		N	649	649

Spearman Rank Correlation Matrix
Pairwise Spearman correlations among numeric and ordinal var

Correlations

			School absences	Medu
Spearman's rho	First period grade / focus X variable	Correlation Coefficient	-.170**	.276**
		Sig. (2-tailed)	.000	.000
		N	649	649
	Second period grade	Correlation Coefficient	-.164**	.286**
		Sig. (2-tailed)	.000	.000
		N	649	649
	Final grade / focus Y variable	Correlation Coefficient	-.159**	.284**
		Sig. (2-tailed)	.000	.000
		N	649	649
	Student age	Correlation Coefficient	.124**	-.102**
		Sig. (2-tailed)	.002	.009
		N	649	649
	Weekly study time ordinal group	Correlation Coefficient	-.117**	.098*
		Sig. (2-tailed)	.003	.012
		N	649	649
	Number of past class failures	Correlation Coefficient	.121**	-.208**
		Sig. (2-tailed)	.002	.000
		N	649	649
	School absences	Correlation Coefficient	1.000	-.006
		Sig. (2-tailed)	.	.879
		N	649	649
	Medu	Correlation Coefficient	-.006	1.000
		Sig. (2-tailed)	.879	.
		N	649	649
	Fedu	Correlation Coefficient	.032	.647**
		Sig. (2-tailed)	.415	.000
		N	649	649

Spearman Rank Correlation Matrix
Pairwise Spearman correlations among numeric and ordinal var

Correlations

			Fedu	traveltime	famrel
Spearman's rho	First period grade / focus X variable	Correlation Coefficient	.235**	-.166**	.026
		Sig. (2-tailed)	.000	.000	.503
		N	649	649	649
	Second period grade	Correlation Coefficient	.246**	-.167**	.059
		Sig. (2-tailed)	.000	.000	.135
		N	649	649	649
	Final grade / focus Y variable	Correlation Coefficient	.235**	-.147**	.048
		Sig. (2-tailed)	.000	.000	.224
		N	649	649	649
	Student age	Correlation Coefficient	-.110**	.067	-.019
		Sig. (2-tailed)	.005	.088	.622
		N	649	649	649
	Weekly study time ordinal group	Correlation Coefficient	.069	-.089*	.019
		Sig. (2-tailed)	.079	.023	.622
		N	649	649	649
	Number of past class failures	Correlation Coefficient	-.161**	.124**	-.059
		Sig. (2-tailed)	.000	.002	.135
		N	649	649	649
	School absences	Correlation Coefficient	.032	.023	-.104**
		Sig. (2-tailed)	.415	.560	.008
		N	649	649	649
	Medu	Correlation Coefficient	.647**	-.263**	.025
		Sig. (2-tailed)	.000	.000	.524
		N	649	649	649
	Fedu	Correlation Coefficient	1.000	-.222**	.021
		Sig. (2-tailed)	.	.000	.588
		N	649	649	649

Spearman Rank Correlation Matrix
Pairwise Spearman correlations among numeric and ordinal var

Correlations

			freetime	goout	Dalc
Spearman's rho	First period grade / focus X variable	Correlation Coefficient	-.105**	-.078*	-.198**
		Sig. (2-tailed)	.007	.046	.000
		N	649	649	649
	Second period grade	Correlation Coefficient	-.121**	-.112**	-.201**
		Sig. (2-tailed)	.002	.004	.000
		N	649	649	649
	Final grade / focus Y variable	Correlation Coefficient	-.128**	-.105**	-.208**
		Sig. (2-tailed)	.001	.007	.000
		N	649	649	649
	Student age	Correlation Coefficient	-.010	.131**	.081*
		Sig. (2-tailed)	.802	.001	.038
		N	649	649	649
	Weekly study time ordinal group	Correlation Coefficient	-.076	-.082*	-.171**
		Sig. (2-tailed)	.051	.036	.000
		N	649	649	649
	Number of past class failures	Correlation Coefficient	.100*	.042	.109**
		Sig. (2-tailed)	.010	.289	.005
		N	649	649	649
	School absences	Correlation Coefficient	-.028	.104**	.104**
		Sig. (2-tailed)	.469	.008	.008
		N	649	649	649
	Medu	Correlation Coefficient	-.028	.010	.002
		Sig. (2-tailed)	.478	.795	.960
		N	649	649	649
	Fedu	Correlation Coefficient	.000	.029	-.005
		Sig. (2-tailed)	.997	.464	.901
		N	649	649	649

Spearman Rank Correlation Matrix
Pairwise Spearman correlations among numeric and ordinal var

Correlations

			Walc	health
Spearman's rho	First period grade / focus X variable	Correlation Coefficient	-.158**	-.063
		Sig. (2-tailed)	.000	.108
		N	649	649
	Second period grade	Correlation Coefficient	-.170**	-.099*
		Sig. (2-tailed)	.000	.011
		N	649	649
	Final grade / focus Y variable	Correlation Coefficient	-.171**	-.106**
		Sig. (2-tailed)	.000	.007
		N	649	649
	Student age	Correlation Coefficient	.094*	-.018
		Sig. (2-tailed)	.016	.646
		N	649	649
	Weekly study time ordinal group	Correlation Coefficient	-.222**	-.077
		Sig. (2-tailed)	.000	.051
		N	649	649
	Number of past class failures	Correlation Coefficient	.065	.041
		Sig. (2-tailed)	.099	.295
		N	649	649
	School absences	Correlation Coefficient	.145**	-.011
		Sig. (2-tailed)	.000	.776
		N	649	649
	Medu	Correlation Coefficient	-.018	.016
		Sig. (2-tailed)	.643	.682
		N	649	649
	Fedu	Correlation Coefficient	.030	.046
		Sig. (2-tailed)	.450	.238
		N	649	649

Spearman Rank Correlation Matrix
Pairwise Spearman correlations among numeric and ordinal var

Correlations

		First period grade / focus X variable	Second period grade
traveltime	Correlation Coefficient	-.166**	-.167**
	Sig. (2-tailed)	.000	.000
	N	649	649
famrel	Correlation Coefficient	.026	.059
	Sig. (2-tailed)	.503	.135
	N	649	649
freetime	Correlation Coefficient	-.105**	-.121**
	Sig. (2-tailed)	.007	.002
	N	649	649
goout	Correlation Coefficient	-.078*	-.112**
	Sig. (2-tailed)	.046	.004
	N	649	649
Dalc	Correlation Coefficient	-.198**	-.201**
	Sig. (2-tailed)	.000	.000
	N	649	649
Walc	Correlation Coefficient	-.158**	-.170**
	Sig. (2-tailed)	.000	.000
	N	649	649
health	Correlation Coefficient	-.063	-.099*
	Sig. (2-tailed)	.108	.011
	N	649	649

Spearman Rank Correlation Matrix
Pairwise Spearman correlations among numeric and ordinal var

Correlations

		Final grade / focus Y variable	Student age
traveltime	Correlation Coefficient	-.147**	.067
	Sig. (2-tailed)	.000	.088
	N	649	649
famrel	Correlation Coefficient	.048	-.019
	Sig. (2-tailed)	.224	.622
	N	649	649
freetime	Correlation Coefficient	-.128**	-.010
	Sig. (2-tailed)	.001	.802
	N	649	649
goout	Correlation Coefficient	-.105**	.131**
	Sig. (2-tailed)	.007	.001
	N	649	649
Dalc	Correlation Coefficient	-.208**	.081*
	Sig. (2-tailed)	.000	.038
	N	649	649
Walc	Correlation Coefficient	-.171**	.094*
	Sig. (2-tailed)	.000	.016
	N	649	649
health	Correlation Coefficient	-.106**	-.018
	Sig. (2-tailed)	.007	.646
	N	649	649

Spearman Rank Correlation Matrix
Pairwise Spearman correlations among numeric and ordinal var

Correlations

		Weekly study time ordinal group	Number of past class failures
traveltime	Correlation Coefficient	-.089 [*]	.124 ^{**}
	Sig. (2-tailed)	.023	.002
	N	649	649
famrel	Correlation Coefficient	.019	-.059
	Sig. (2-tailed)	.622	.135
	N	649	649
freetime	Correlation Coefficient	-.076	.100 [*]
	Sig. (2-tailed)	.051	.010
	N	649	649
goout	Correlation Coefficient	-.082 [*]	.042
	Sig. (2-tailed)	.036	.289
	N	649	649
Dalc	Correlation Coefficient	-.171 ^{**}	.109 ^{**}
	Sig. (2-tailed)	.000	.005
	N	649	649
Walc	Correlation Coefficient	-.222 ^{**}	.065
	Sig. (2-tailed)	.000	.099
	N	649	649
health	Correlation Coefficient	-.077	.041
	Sig. (2-tailed)	.051	.295
	N	649	649

Spearman Rank Correlation Matrix
Pairwise Spearman correlations among numeric and ordinal var

Correlations

		School absences	Medu
traveltime	Correlation Coefficient	.023	-.263**
	Sig. (2-tailed)	.560	.000
	N	649	649
famrel	Correlation Coefficient	-.104**	.025
	Sig. (2-tailed)	.008	.524
	N	649	649
freetime	Correlation Coefficient	-.028	-.028
	Sig. (2-tailed)	.469	.478
	N	649	649
goout	Correlation Coefficient	.104**	.010
	Sig. (2-tailed)	.008	.795
	N	649	649
Dalc	Correlation Coefficient	.104**	.002
	Sig. (2-tailed)	.008	.960
	N	649	649
Walc	Correlation Coefficient	.145**	-.018
	Sig. (2-tailed)	.000	.643
	N	649	649
health	Correlation Coefficient	-.011	.016
	Sig. (2-tailed)	.776	.682
	N	649	649

Spearman Rank Correlation Matrix
Pairwise Spearman correlations among numeric and ordinal var

Correlations

		Fedu	traveltime	famrel
traveltime	Correlation Coefficient	-.222**	1.000	-.026
	Sig. (2-tailed)	.000	.	.514
	N	649	649	649
famrel	Correlation Coefficient	.021	-.026	1.000
	Sig. (2-tailed)	.588	.514	.
	N	649	649	649
freetime	Correlation Coefficient	.000	-.001	.144**
	Sig. (2-tailed)	.997	.979	.000
	N	649	649	649
goout	Correlation Coefficient	.029	.041	.088*
	Sig. (2-tailed)	.464	.300	.025
	N	649	649	649
Dalc	Correlation Coefficient	-.005	.068	-.098*
	Sig. (2-tailed)	.901	.081	.013
	N	649	649	649
Walc	Correlation Coefficient	.030	.032	-.102**
	Sig. (2-tailed)	.450	.423	.009
	N	649	649	649
health	Correlation Coefficient	.046	-.064	.093*
	Sig. (2-tailed)	.238	.104	.018
	N	649	649	649

Spearman Rank Correlation Matrix
Pairwise Spearman correlations among numeric and ordinal var

Correlations

		freetime	goout	Dalc
traveltime	Correlation Coefficient	-.001	.041	.068
	Sig. (2-tailed)	.979	.300	.081
	N	649	649	649
famrel	Correlation Coefficient	.144**	.088*	-.098*
	Sig. (2-tailed)	.000	.025	.013
	N	649	649	649
freetime	Correlation Coefficient	1.000	.354**	.127**
	Sig. (2-tailed)	.	.000	.001
	N	649	649	649
goout	Correlation Coefficient	.354**	1.000	.234**
	Sig. (2-tailed)	.000	.	.000
	N	649	649	649
Dalc	Correlation Coefficient	.127**	.234**	1.000
	Sig. (2-tailed)	.001	.000	.
	N	649	649	649
Walc	Correlation Coefficient	.120**	.372**	.613**
	Sig. (2-tailed)	.002	.000	.000
	N	649	649	649
health	Correlation Coefficient	.095*	-.012	.085*
	Sig. (2-tailed)	.015	.758	.030
	N	649	649	649

Spearman Rank Correlation Matrix
Pairwise Spearman correlations among numeric and ordinal var

Correlations

		Walc	health
traveltime	Correlation Coefficient	.032	-.064
	Sig. (2-tailed)	.423	.104
	N	649	649
famrel	Correlation Coefficient	-.102**	.093*
	Sig. (2-tailed)	.009	.018
	N	649	649
freetime	Correlation Coefficient	.120**	.095*
	Sig. (2-tailed)	.002	.015
	N	649	649
goout	Correlation Coefficient	.372**	-.012
	Sig. (2-tailed)	.000	.758
	N	649	649
Dalc	Correlation Coefficient	.613**	.085*
	Sig. (2-tailed)	.000	.030
	N	649	649
Walc	Correlation Coefficient	1.000	.114**
	Sig. (2-tailed)	.	.004
	N	649	649
health	Correlation Coefficient	.114**	1.000
	Sig. (2-tailed)	.004	.
	N	649	649

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Manual Rank Construction for Fully Worked Spearman Output

Manual Rank Construction for Fully Worked Spearman Output
SPSS ranks G1 and G3 with mean ranks for tied values

RANK

Created Variables^a

Source Variable	Function	New Variable	Label
G1 ^b	Rank	rank_G1	Rank of G1
G3 ^b	Rank	rank_G3	Rank of G3

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

b. Ranks are in ascending order.

Fully Worked Spearman Rank Table

>Warning # 2004. Command name: SUBTITLE

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

Fully Worked Spearman Rank Table
Original values, average ranks, rank difference, and squared

List

Fully Worked Spearman Rank Table
Original values, average ranks, rank difference, and squared

G1	G3	rank_G1	rank_G3	rank_difference	rank_difference_squared
0	11	1.000	249.500	-248.50	61752.25
9	11	125.000	249.500	-124.50	15500.25
12	12	384.500	337.500	47.00	2209.00
14	14	533.000	487.000	46.00	2116.00
11	13	298.000	414.500	-116.50	13572.25
12	13	384.500	414.500	-30.00	900.00
13	13	461.500	414.500	47.00	2209.00
10	13	205.000	414.500	-209.50	43890.25
15	17	586.000	618.000	-32.00	1024.00
12	13	384.500	414.500	-30.00	900.00
14	14	533.000	487.000	46.00	2116.00
10	13	205.000	414.500	-209.50	43890.25
12	12	384.500	337.500	47.00	2209.00
12	13	384.500	414.500	-30.00	900.00
14	15	533.000	543.000	-10.00	100.00
17	17	633.500	618.000	15.50	240.25
13	14	461.500	487.000	-25.50	650.25
13	14	461.500	487.000	-25.50	650.25
8	7	71.500	25.500	46.00	2116.00
12	12	384.500	337.500	47.00	2209.00
12	14	384.500	487.000	-102.50	10506.25
11	12	298.000	337.500	-39.50	1560.25
12	14	384.500	487.000	-102.50	10506.25
10	10	205.000	149.000	56.00	3136.00
10	10	205.000	149.000	56.00	3136.00
10	12	205.000	337.500	-132.50	17556.25
11	12	298.000	337.500	-39.50	1560.25
11	11	298.000	249.500	48.50	2352.25
12	13	384.500	414.500	-30.00	900.00
12	12	384.500	337.500	47.00	2209.00
10	11	205.000	249.500	-44.50	1980.25
15	15	586.000	543.000	43.00	1849.00
13	15	461.500	543.000	-81.50	6642.25
13	12	461.500	337.500	124.00	15376.00

Fully Worked Spearman Rank Table
Original values, average ranks, rank difference, and squared

12	12	384.500	337.500	47.00	2209.00
11	11	298.000	249.500	48.50	2352.25
14	14	533.000	487.000	46.00	2116.00
13	13	461.500	414.500	47.00	2209.00
11	12	298.000	337.500	-39.50	1560.25
14	12	533.000	337.500	195.50	38220.25
11	10	298.000	149.000	149.00	22201.00
10	11	205.000	249.500	-44.50	1980.25
14	15	533.000	543.000	-10.00	100.00
9	10	125.000	149.000	-24.00	576.00
10	11	205.000	249.500	-44.50	1980.25
10	11	205.000	249.500	-44.50	1980.25
13	13	461.500	414.500	47.00	2209.00
17	17	633.500	618.000	15.50	240.25
11	13	298.000	414.500	-116.50	13572.25
13	12	461.500	337.500	124.00	15376.00
14	13	533.000	414.500	118.50	14042.25
16	16	614.500	585.500	29.00	841.00
10	9	205.000	83.000	122.00	14884.00
13	12	461.500	337.500	124.00	15376.00
13	13	461.500	414.500	47.00	2209.00
12	12	384.500	337.500	47.00	2209.00
15	15	586.000	543.000	43.00	1849.00
15	16	586.000	585.500	.50	.25
14	14	533.000	487.000	46.00	2116.00
16	16	614.500	585.500	29.00	841.00
17	16	633.500	585.500	48.00	2304.00
10	16	205.000	585.500	-380.50	144780.3
13	10	461.500	149.000	312.50	97656.25
14	13	533.000	414.500	118.50	14042.25
13	12	461.500	337.500	124.00	15376.00
16	16	614.500	585.500	29.00	841.00
11	12	298.000	337.500	-39.50	1560.25
10	10	205.000	149.000	56.00	3136.00
11	11	298.000	249.500	48.50	2352.25
15	15	586.000	543.000	43.00	1849.00
13	11	461.500	249.500	212.00	44944.00
11	10	298.000	149.000	149.00	22201.00
13	11	461.500	249.500	212.00	44944.00

Fully Worked Spearman Rank Table
Original values, average ranks, rank difference, and squared

13	14	461.500	487.000	-25.50	650.25
11	11	298.000	249.500	48.50	2352.25
11	11	298.000	249.500	48.50	2352.25
12	11	384.500	249.500	135.00	18225.00
13	13	461.500	414.500	47.00	2209.00
9	10	125.000	149.000	-24.00	576.00
12	11	384.500	249.500	135.00	18225.00
11	12	298.000	337.500	-39.50	1560.25
10	9	205.000	83.000	122.00	14884.00
12	11	384.500	249.500	135.00	18225.00
13	13	461.500	414.500	47.00	2209.00
13	12	461.500	337.500	124.00	15376.00
12	12	384.500	337.500	47.00	2209.00
13	11	461.500	249.500	212.00	44944.00
15	15	586.000	543.000	43.00	1849.00
12	11	384.500	249.500	135.00	18225.00
9	10	125.000	149.000	-24.00	576.00
9	11	125.000	249.500	-124.50	15500.25
14	13	533.000	414.500	118.50	14042.25
12	12	384.500	337.500	47.00	2209.00
13	14	461.500	487.000	-25.50	650.25
11	12	298.000	337.500	-39.50	1560.25
13	13	461.500	414.500	47.00	2209.00
9	11	125.000	249.500	-124.50	15500.25
13	12	461.500	337.500	124.00	15376.00
12	13	384.500	414.500	-30.00	900.00
12	13	384.500	414.500	-30.00	900.00

Number of cases read: 100 Number of cases listed: 100

Spearman Rank Difference Summary

>Warning # 2004. Command name: SUBTITLE

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

Spearman Rank Difference Summary
Sum of squared rank differences is useful for checking the c

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean
Rank difference: rank_G1 minus rank_G3	649	-380.50	312.50	.00	.0000
Squared rank difference	649	.25	144780.25	5250964.00	8090.8536
Valid N (listwise)	649				

Descriptive Statistics

	Std. Deviation
Rank difference: rank_G1 minus rank_G3	90.01855
Squared rank difference	13765.84138
Valid N (listwise)	

Pearson Correlation of Ranks

>Warning # 2004. Command name: SUBTITLE

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

Pearson Correlation of Ranks
Spearman rho equals the Pearson correlation between the two

Correlations

Correlations

		Average rank of G1	Average rank of G3
Average rank of G1	Pearson Correlation	1	.883 ^{**}
	Sig. (2-tailed)		.000
	N	649	649
Average rank of G3	Pearson Correlation	.883 ^{**}	1
	Sig. (2-tailed)	.000	
	N	649	649

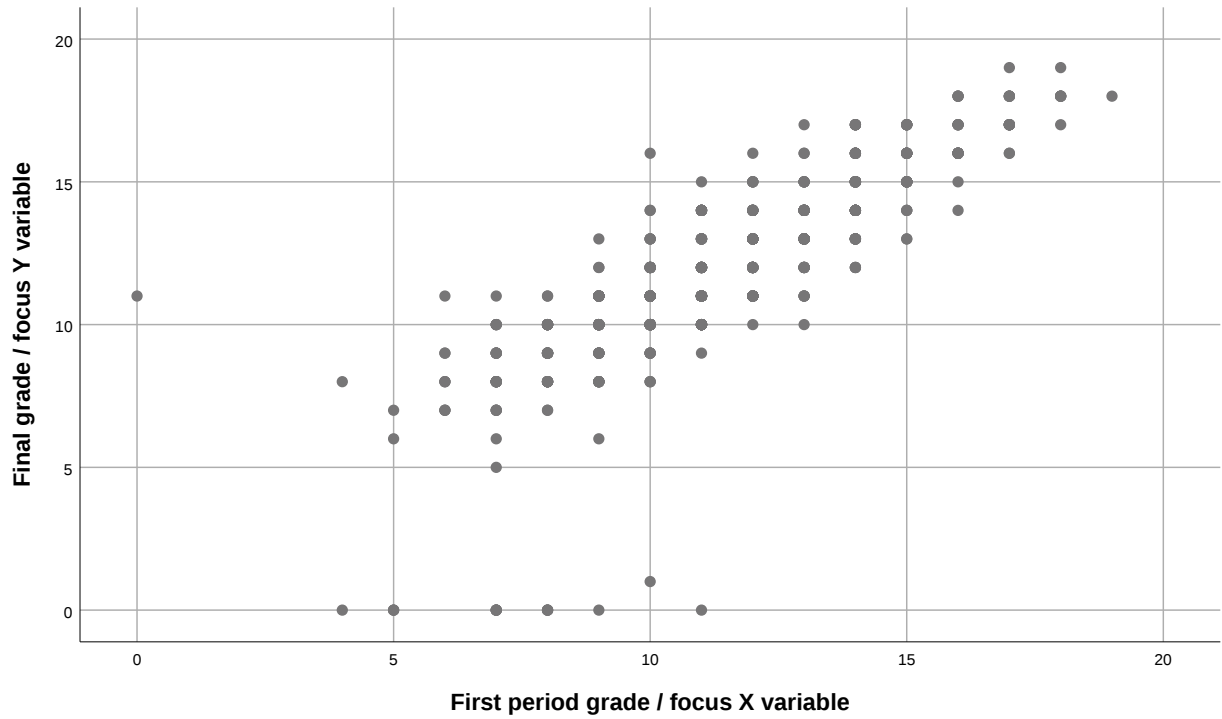
^{**}. Correlation is significant at the 0.01 level (2-tailed).

Scatterplot of Original Values

```
>Warning # 2004.  Command name: SUBTITLE  
>The subtitle given exceeds 60 characters in length.  The first 60 characters  
>will be used.
```

Scatterplot of Original Values
Spearman checks monotonic association, not necessarily linea

Graph



Scatterplot of Average Ranks

```
>Warning # 2004. Command name: SUBTITLE  
>The subtitle given exceeds 60 characters in length. The first 60 characters  
>will be used.
```

Scatterplot of Average Ranks
This plot visualizes the rank relationship used to compute S

Graph

