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Partial Correlation
Import data

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

Partial Correlation Descriptive Statistics
Selected numeric variables used for correlation and partial

Descriptives

[PartialCorrelationData] D:\DATA ANALYSIS\G Correlation Tests\Partial Correlation\SPSS_Output\sav\Partial-Correlation-data.sav

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
First period grade / X variable	649	0	19	11.40	2.745	7.536
Second period grade / control variable	649	0	19	11.57	2.914	8.489
Final grade / Y variable	649	0	19	11.91	3.231	10.437
Student age	649	15	22	16.74	1.218	1.484
Weekly study time	649	1	4	1.93	.830	.688
Number of past class failures	649	0	3	.22	.593	.352
Number of school absences	649	0	32	3.66	4.641	21.537
Medu	649	0	4	2.51	1.135	1.287
Fedu	649	0	4	2.31	1.100	1.210
famrel	649	1	5	3.93	.956	.913
freetime	649	1	5	3.18	1.051	1.105
goout	649	1	5	3.18	1.176	1.382
health	649	1	5	3.54	1.446	2.092
Valid N (listwise)	649					

Zero-Order Pearson Correlations

Correlations

Warnings

There is an invalid keyword on the PRINT subcommand. Text found: FULL
Execution of this command stops.

Main Partial Correlation
Partial correlation between G1 and G3 while controlling G2

Partial Corr

Correlations

Control Variables			First period grade / X variable
Second period grade / control variable	First period grade / X variable	Correlation	1.000
		Significance (2-tailed)	.
		df	0
	Final grade / Y variable	Correlation	.161
		Significance (2-tailed)	.000
		df	646

Correlations

Control Variables			Final grade / Y variable
Second period grade / control variable	First period grade / X variable	Correlation	.161
		Significance (2-tailed)	.000
		df	646
	Final grade / Y variable	Correlation	1.000
		Significance (2-tailed)	.
		df	0

Partial Correlation Matrix

Partial Correlation Matrix
Selected variables after controlling G2

Partial Corr

Correlations

Control Variables			First period grade / X variable
Second period grade / control variable	First period grade / X variable	Correlation	1.000
		Significance (2-tailed)	.
		df	0
	Final grade / Y variable	Correlation	.161
		Significance (2-tailed)	.000
		df	646
	Student age	Correlation	-.164
		Significance (2-tailed)	.000
		df	646
	Weekly study time	Correlation	.109
		Significance (2-tailed)	.006
		df	646
	Number of past class failures	Correlation	-.109
		Significance (2-tailed)	.005
		df	646
	Number of school absences	Correlation	-.079
		Significance (2-tailed)	.045
		df	646

Partial Correlation Matrix
Selected variables after controlling G2

Correlations

Control Variables			Final grade / Y variable
Second period grade / control variable	First period grade / X variable	Correlation	.161
		Significance (2-tailed)	.000
		df	646
	Final grade / Y variable	Correlation	1.000
		Significance (2-tailed)	.
		df	0
	Student age	Correlation	-.021
		Significance (2-tailed)	.600
		df	646
	Weekly study time	Correlation	.075
		Significance (2-tailed)	.055
		df	646
	Number of past class failures	Correlation	-.107
		Significance (2-tailed)	.006
		df	646
	Number of school absences	Correlation	.059
		Significance (2-tailed)	.132
		df	646

Partial Correlation Matrix
Selected variables after controlling G2

Correlations

Control Variables			Student age
Second period grade / control variable	First period grade / X variable	Correlation	-.164
		Significance (2-tailed)	.000
		df	646
	Final grade / Y variable	Correlation	-.021
		Significance (2-tailed)	.600
		df	646
	Student age	Correlation	1.000
		Significance (2-tailed)	.
		df	0
	Weekly study time	Correlation	.018
		Significance (2-tailed)	.648
		df	646
	Number of past class failures	Correlation	.304
		Significance (2-tailed)	.000
		df	646
	Number of school absences	Correlation	.139
		Significance (2-tailed)	.000
		df	646

Partial Correlation Matrix
Selected variables after controlling G2

Correlations

Control Variables			Weekly study time
Second period grade / control variable	First period grade / X variable	Correlation	.109
		Significance (2-tailed)	.006
		df	646
	Final grade / Y variable	Correlation	.075
		Significance (2-tailed)	.055
		df	646
	Student age	Correlation	.018
		Significance (2-tailed)	.648
		df	646
	Weekly study time	Correlation	1.000
		Significance (2-tailed)	.
		df	0
	Number of past class failures	Correlation	-.061
		Significance (2-tailed)	.121
		df	646
	Number of school absences	Correlation	-.092
		Significance (2-tailed)	.019
		df	646

Partial Correlation Matrix
Selected variables after controlling G2

Correlations

Control Variables			Number of past class failures
Second period grade / control variable	First period grade / X variable	Correlation	-.109
		Significance (2-tailed)	.005
		df	646
	Final grade / Y variable	Correlation	-.107
		Significance (2-tailed)	.006
		df	646
	Student age	Correlation	.304
		Significance (2-tailed)	.000
		df	646
	Weekly study time	Correlation	-.061
		Significance (2-tailed)	.121
		df	646
	Number of past class failures	Correlation	1.000
		Significance (2-tailed)	.
		df	0
	Number of school absences	Correlation	.082
		Significance (2-tailed)	.038
		df	646

Partial Correlation Matrix
Selected variables after controlling G2

Correlations

Control Variables			Number of school absences
Second period grade / control variable	First period grade / X variable	Correlation	-.079
		Significance (2-tailed)	.045
		df	646
	Final grade / Y variable	Correlation	.059
		Significance (2-tailed)	.132
		df	646
	Student age	Correlation	.139
		Significance (2-tailed)	.000
		df	646
	Weekly study time	Correlation	-.092
		Significance (2-tailed)	.019
		df	646
	Number of past class failures	Correlation	.082
		Significance (2-tailed)	.038
		df	646
	Number of school absences	Correlation	1.000
		Significance (2-tailed)	.
		df	0

Regression Residuals for Visual Partial Correlation

Regression Residuals for Visual Partial Correlation
Residualize G1 and G3 on G2, then correlate residuals

Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Second period grade / control variable[b]	.	Enter

a. Dependent Variable: First period grade / X variable

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.865[a]	.748	.748	1.379

a. Predictors: (Constant), Second period grade / control variable

b. Dependent Variable: First period grade / X variable

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3653.906	1	3653.906	1922.430	.000[b]
	Residual	1229.734	647	1.901		
	Total	4883.639	648			

a. Dependent Variable: First period grade / X variable

b. Predictors: (Constant), Second period grade / control variable

Regression Residuals for Visual Partial Correlation
Residualize G1 and G3 on G2, then correlate residuals

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.969	.222		8.881	.000
	Second period grade / control variable	.815	.019	.865	43.846	.000

a. Dependent Variable: First period grade / X variable

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.97	17.45	11.40	2.375	649
Residual	-10.934	7.031	.000	1.378	649
Std. Predicted Value	-3.971	2.550	.000	1.000	649
Std. Residual	-7.931	5.100	.000	.999	649

a. Dependent Variable: First period grade / X variable

Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Second period grade / control variable[b]	.	Enter

a. Dependent Variable: Final grade / Y variable

b. All requested variables entered.

Regression Residuals for Visual Partial Correlation
Residualize G1 and G3 on G2, then correlate residuals

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.919[a]	.844	.843	1.278

a. Predictors: (Constant), Second period grade / control variable

b. Dependent Variable: Final grade / Y variable

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5706.374	1	5706.374	3493.282	.000[b]
	Residual	1056.893	647	1.634		
	Total	6763.267	648			

a. Dependent Variable: Final grade / Y variable

b. Predictors: (Constant), Second period grade / control variable

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.122	.206		.593	.553
	Second period grade / control variable	1.018	.017	.919	59.104	.000

a. Dependent Variable: Final grade / Y variable

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.12	19.47	11.91	2.968	649
Residual	-9.307	5.693	.000	1.277	649
Std. Predicted Value	-3.971	2.550	.000	1.000	649
Std. Residual	-7.282	4.454	.000	.999	649

a. Dependent Variable: Final grade / Y variable

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

Correlations

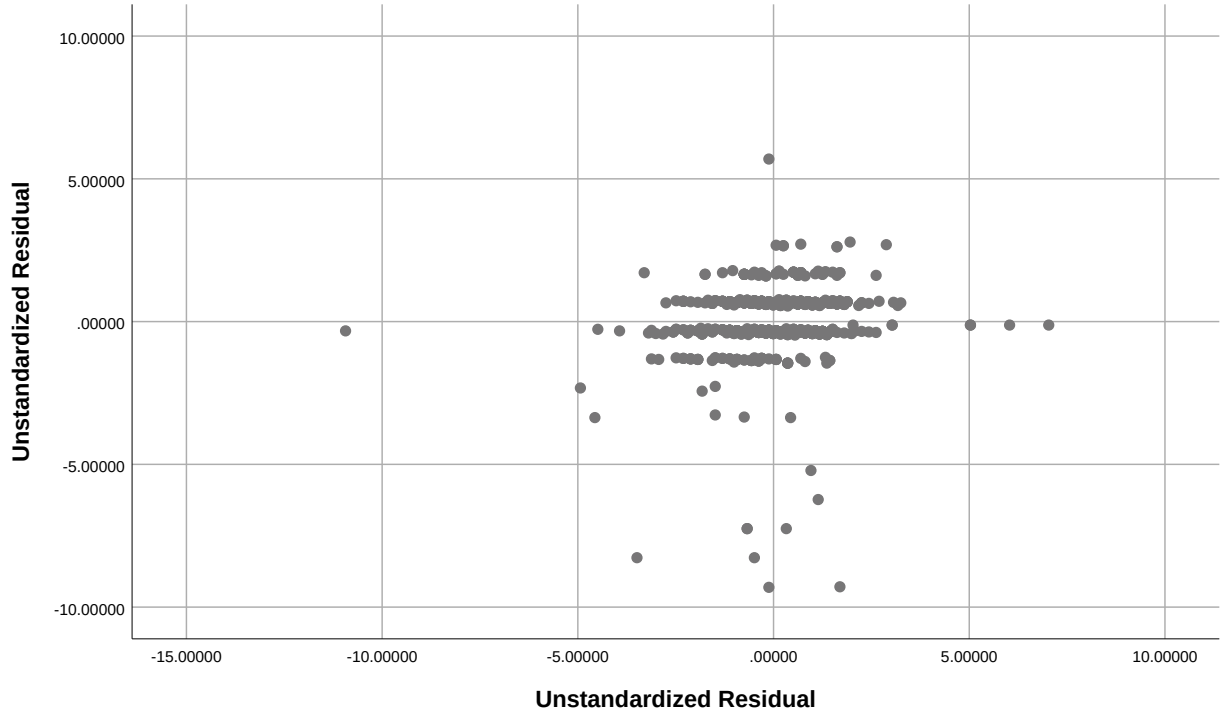
Warnings

There is an invalid keyword on the PRINT subcommand. Text found: FULL
Execution of this command stops.

Partial Correlation Residual Scatterplot

Partial Correlation Residual Scatterplot
Residual G1 by residual G3 after controlling G2

Graph



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

Scatterplot Matrix for Selected Variables
Use this to see whether raw linear relationships are reasona

Graph