

Host

Notes

Output Created		22-JUN-2026 23:46:48
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
Syntax	HOST COMMAND=['cmd /c if not exist "D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output" mkdir "D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output"'].	
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.16

Host

Notes

Output Created		22-JUN-2026 23:46:48
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
Syntax	HOST COMMAND=['cmd /c if not exist "D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output\s av" mkdir "D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output\s av"'].	
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.23

Host

Notes

Output Created		22-JUN-2026 23:46:48
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
Syntax	HOST COMMAND=['cmd /c if not exist "D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output\s pv" mkdir "D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output\s pv"'].	
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.18

Host

Notes

Output Created		22-JUN-2026 23:46:48
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
Syntax	HOST COMMAND=['cmd /c if not exist "D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output\pdf" mkdir "D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output\pdf"'].	
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.25

Host

Notes

Output Created		22-JUN-2026 23:46:49
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
Syntax	HOST COMMAND=['cmd /c if not exist "D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output\png" mkdir "D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output\png"'].	
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.15

Host

Notes

Output Created		22-JUN-2026 23:46:49
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
Syntax	HOST COMMAND=['cmd /c if not exist "D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output\csv" mkdir "D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output\csv"'].	
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.20

Host

Notes

Output Created		22-JUN-2026 23:46:49
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
Syntax	HOST COMMAND=['cmd /c if not exist "D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output\tx t" mkdir "D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output\tx t"'].	
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.15

Host

Notes

Output Created		22-JUN-2026 23:46:49
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
Syntax		HOST COMMAND=['cmd /c echo SPSS One Way ANCOVA script started > "D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output\txt\SPSS_SCRIPT_START ED.txt"'].
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.14

One Way ANCOVA: G3 by Studytime controlling for Absences

File Information

Notes

Output Created		22-JUN-2026 23:46:51
Comments		
Input	Data	D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output\sav\one_way_ancova_spss_ready_data.sav
	Active Dataset	OneWayANCOVADData
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	649
Syntax		DISPLAY DICTIONARY.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01

[OneWayANCOVADData] D:\DATA ANALYSIS\E ANOVA Family\One Way ANCOVA\SPSS_Output\sav\one_way_ancova_spss_ready_data.sav

One Way ANCOVA: G3 by Studytime controlling for Absences

Variable Information

Variable	Position	Label	Measurement Level	Role	Column Width	Alignment
school	1	<none>	Nominal	Input	10	Left
sex	2	<none>	Nominal	Input	10	Left
age	3	<none>	Scale	Input	8	Right
address	4	<none>	Nominal	Input	10	Left
famsize	5	<none>	Nominal	Input	10	Left
Pstatus	6	<none>	Nominal	Input	10	Left
Medu	7	<none>	Nominal	Input	8	Right
Fedu	8	<none>	Nominal	Input	8	Right
Mjob	9	<none>	Nominal	Input	20	Left
Fjob	10	<none>	Nominal	Input	20	Left
reason	11	<none>	Nominal	Input	20	Left
guardian	12	<none>	Nominal	Input	20	Left
traveltime	13	<none>	Nominal	Input	8	Right
studytime	14	Weekly study time group	Nominal	Input	8	Right
failures	15	<none>	Nominal	Input	8	Right
schoolsup	16	<none>	Nominal	Input	10	Left
famsup	17	<none>	Nominal	Input	10	Left
paid	18	<none>	Nominal	Input	10	Left
activities	19	<none>	Nominal	Input	10	Left
nursery	20	<none>	Nominal	Input	10	Left
higher	21	<none>	Nominal	Input	10	Left
internet	22	<none>	Nominal	Input	10	Left
romantic	23	<none>	Nominal	Input	10	Left
famrel	24	<none>	Nominal	Input	8	Right
freetime	25	<none>	Nominal	Input	8	Right
goout	26	<none>	Nominal	Input	8	Right
Dalc	27	<none>	Nominal	Input	8	Right
Walc	28	<none>	Nominal	Input	8	Right
health	29	<none>	Nominal	Input	8	Right
absences	30	Number of school absences	Scale	Input	8	Right

One Way ANCOVA: G3 by Studytime controlling for Absences

Variable Information

Variable	Print Format	Write Format
school	A10	A10
sex	A10	A10
age	F8.2	F8.2
address	A10	A10
famsize	A10	A10
Pstatus	A10	A10
Medu	F8.2	F8.2
Fedu	F8.2	F8.2
Mjob	A20	A20
Fjob	A20	A20
reason	A20	A20
guardian	A20	A20
traveltime	F8.2	F8.2
studytime	F8.2	F8.2
failures	F8.2	F8.2
schoolsup	A10	A10
famsup	A10	A10
paid	A10	A10
activities	A10	A10
nursery	A10	A10
higher	A10	A10
internet	A10	A10
romantic	A10	A10
famrel	F8.2	F8.2
freetime	F8.2	F8.2
goout	F8.2	F8.2
Dalc	F8.2	F8.2
Walc	F8.2	F8.2
health	F8.2	F8.2
absences	F8.2	F8.2

One Way ANCOVA: G3 by Studytime controlling for Absences

Variable Information

Variable	Position	Label	Measurement Level	Role	Column Width	Alignment
G1	31	<none>	Nominal	Input	8	Right
G2	32	<none>	Nominal	Input	8	Right
G3	33	Final grade score	Nominal	Input	8	Right

Variable Information

Variable	Print Format	Write Format
G1	F8.2	F8.2
G2	F8.2	F8.2
G3	F8.2	F8.2

Variables in the working file

Variable Values

Value	Label
studytime 1.00	Studytime 1
2.00	Studytime 2
3.00	Studytime 3
4.00	Studytime 4

Descriptives

One Way ANCOVA: G3 by Studytime controlling for Absences

Notes

Output Created		22-JUN-2026 23:46:52
Comments		
Input	Data	D:\DATA ANALYSIS\ANOVA Family\One Way ANCOVA\SPSS_Output\save\one_way_ancova_spss_ready_data.sav
	Active Dataset	OneWayANCOVADData
	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		DESCRIPTIVES VARIABLES=G3 absences /STATISTICS=MEAN STDDEV MIN MAX.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.01

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
G3	649	.00	19.00	11.9060	3.23066
absences	649	.00	32.00	3.6595	4.64076
Valid N (listwise)	649				

Frequencies

One Way ANCOVA: G3 by Studytime controlling for Absences

Notes

Output Created		22-JUN-2026 23:46:52
Comments		
Input	Data	D:\DATA ANALYSIS\ANOVA Family\One Way ANCOVA\SPSS_Output\sa\one_way_ancova_spss_ready_data.sav
	Active Dataset	OneWayANCOVADData
	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 are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=studytime /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.05

Statistics

studytime

N	Valid	649
	Missing	0

studytime

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	212	32.7	32.7	32.7
	2.00	305	47.0	47.0	79.7
	3.00	97	14.9	14.9	94.6
	4.00	35	5.4	5.4	100.0
	Total	649	100.0	100.0	

One Way ANCOVA: G3 by Studytime controlling for Absences

Means

Notes

Output Created		22-JUN-2026 23:46:52
Comments		
Input	Data	D:\DATA ANALYSIS\IE ANOVA Family\One Way ANCOVA\SPSS_Output\sav\one_way_ancova_spss_ready_data.sav
	Active Dataset	OneWayANCOVADData
	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 BY studytime /CELLS=COUNT MEAN STDDEV MEDIAN MIN MAX.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.05

Case Processing Summary

	Included		Cases Excluded		Total	
	N	Percent	N	Percent	N	Percent
G3 * studytime	649	100.0%	0	0.0%	649	100.0%

One Way ANCOVA: G3 by Studytime controlling for Absences

Report

G3

studytime	N	Mean	Std. Deviation	Median	Minimum	Maximum
1.00	212	10.8443	3.21862	11.0000	.00	18.00
2.00	305	12.0918	3.24313	12.0000	.00	19.00
3.00	97	13.2268	2.50210	13.0000	8.00	18.00
4.00	35	13.0571	3.03841	13.0000	6.00	19.00
Total	649	11.9060	3.23066	12.0000	.00	19.00

Correlations

Notes

Output Created	22-JUN-2026 23:46:53	
Comments		
Input	Data	D:\DATA ANALYSIS\ANCOVA Family\One Way ANCOVA\SPSS_Output\save\one_way_ancova_spss_ready_data.sav
	Active Dataset	OneWayANCOVADData
	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 pair of variables are based on all the cases with valid data for that pair.
Syntax	CORRELATIONS /VARIABLES=G3 absences /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE.	
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.05

One Way ANCOVA: G3 by Studytime controlling for Absences

Correlations

		G3	absences
G3	Pearson Correlation	1	-.091*
	Sig. (2-tailed)		.020
	N	649	649
absences	Pearson Correlation	-.091*	1
	Sig. (2-tailed)	.020	
	N	649	649

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

General Linear Model

Notes

Output Created		22-JUN-2026 23:46:53
Comments		
Input	Data	D:\DATA ANALYSIS\IE ANOVA Family\One Way ANCOVA\SPSS_Output\save\one_way_ancova_spss_ready_data.sav
	Active Dataset	OneWayANCOVADData
	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 are based on all cases with valid data for all variables in the model.

One Way ANCOVA: G3 by Studytime controlling for Absences

Notes

Syntax		GLM G3 BY studytime WITH absences /METHOD=SSTYPE(3) /INTERCEPT=INCLUDE /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY PARAMETER /EMMEANS=TABLES (studytime) WITH (absences=MEAN) /CRITERIA=ALPHA(.05) /DESIGN=absences studytime.
Resources	Processor Time	00:00:00.06
	Elapsed Time	00:00:00.22

Between-Subjects Factors

	Value	Label	N
studytime	1.00	Studytime 1	212
	2.00	Studytime 2	305
	3.00	Studytime 3	97
	4.00	Studytime 4	35

Descriptive Statistics

Dependent Variable: G3

studytime	Mean	Std. Deviation	N
1.00	10.8443	3.21862	212
2.00	12.0918	3.24313	305
3.00	13.2268	2.50210	97
4.00	13.0571	3.03841	35
Total	11.9060	3.23066	649

One Way ANCOVA: G3 by Studytime controlling for Absences

Levene's Test of Equality of Error Variances^a

Dependent Variable: G3

F	df1	df2	Sig.
.913	3	645	.434

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + absences + studytime

Tests of Between-Subjects Effects

Dependent Variable: G3

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	488.659 ^a	4	122.165	12.539	.000	.072
Intercept	41197.832	1	41197.832	4228.377	.000	.868
absences	23.582	1	23.582	2.420	.120	.004
studytime	432.185	3	144.062	14.786	.000	.064
Error	6274.607	644	9.743			
Total	98761.000	649				
Corrected Total	6763.267	648				

a. R Squared = .072 (Adjusted R Squared = .066)

Parameter Estimates

Dependent Variable: G3

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	13.179	.533	24.707	.000	12.132	14.227
absences	-.041	.027	-1.556	.120	-.094	.011
[studytime=1.00]	-2.155	.571	-3.776	.000	-3.276	-1.034
[studytime=2.00]	-.938	.557	-1.683	.093	-2.033	.156
[studytime=3.00]	.156	.616	.254	.800	-1.052	1.365
[studytime=4.00]	0 ^a

One Way ANCOVA: G3 by Studytime controlling for Absences

Parameter Estimates

Dependent Variable: G3

Parameter	Partial Eta Squared
Intercept	.487
absences	.004
[studytime=1.00]	.022
[studytime=2.00]	.004
[studytime=3.00]	.000
[studytime=4.00]	.

a. This parameter is set to zero because it is redundant.

Estimated Marginal Means

Weekly study time group

Dependent Variable: G3

Weekly study time group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1.00	10.873 ^a	.215	10.450	11.295
2.00	12.089 ^a	.179	11.738	12.440
3.00	13.184 ^a	.318	12.559	13.808
4.00	13.027 ^a	.528	11.991	14.064

a. Covariates appearing in the model are evaluated at the following values: absences = 3.6595.