

Host

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Variance Inflation Factor

Dataset Name

Warnings

The active dataset will replace the existing dataset named
VarianceInflationFactorData.

```
>Warning # 2003.  Command name: TITLE  
>The title given exceeds 60 characters in length.  The first 60 characters wil  
l  
>be used.
```

Variance Inflation Factor and Tolerance through SPSS colline

Regression

[VarianceInflationFactorData] D:\DATA ANALYSIS\B Normality and Assumption Test s\Variance Inflation Factor\SPSS_Output\sav\Variance-Inflation-Factor-data.sav

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	health, Medu, goout, absences, famrel, studytime, age, traveltime, freetime, G2, failures, Fedu, G1 ^b	.	Enter

a. Dependent Variable: G3

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.923 ^a	.852	.849	1.255

a. Predictors: (Constant), health, Medu, goout, absences, famrel, studytime, age, traveltime, freetime, G2, failures, Fedu, G1

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5763.280	13	443.329	281.518	.000 ^b
	Residual	999.987	635	1.575		
	Total	6763.267	648			

a. Dependent Variable: G3

b. Predictors: (Constant), health, Medu, goout, absences, famrel, studytime, age, traveltime, freetime, G2, failures, Fedu, G1

Variance Inflation Factor and Tolerance through SPSS colline

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.	Collinearity
		B	Std. Error	Coefficients			Statistics
				Beta			Tolerance
1	(Constant)	-.192	.841		-.228	.820	
	G1	.146	.037	.124	3.957	.000	.238
	G2	.881	.035	.795	25.408	.000	.238
	studytime	.088	.062	.023	1.420	.156	.912
	failures	-.232	.096	-.043	-2.427	.016	.753
	absences	.022	.011	.032	1.999	.046	.933
	age	.026	.044	.010	.581	.562	.846
	Medu	-.035	.059	-.012	-.603	.546	.548
	Fedu	.034	.059	.011	.565	.572	.567
	traveltime	.082	.069	.019	1.184	.237	.911
	famrel	-.028	.053	-.008	-.521	.603	.945
	freetime	-.039	.051	-.013	-.766	.444	.843
	goout	-.033	.046	-.012	-.719	.473	.845
	health	-.047	.035	-.021	-1.353	.177	.961

Variance Inflation Factor and Tolerance through SPSS colline

Coefficients^a

Model	Collinearity Statistics	
		VIF
1	(Constant)	
	G1	4.195
	G2	4.204
	studytime	1.097
	failures	1.328
	absences	1.072
	age	1.182
	Medu	1.823
	Fedu	1.762
	traveltime	1.097
	famrel	1.058
	freetime	1.186
	goout	1.183
	health	1.041

a. Dependent Variable: G3

Variance Inflation Factor and Tolerance through SPSS colline

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	(Constant)	Variance Proportions		
					G1	G2	studytime
1	1	11.416	1.000	.00	.00	.00	.00
	2	.950	3.467	.00	.00	.00	.00
	3	.583	4.426	.00	.00	.00	.00
	4	.282	6.362	.00	.00	.00	.00
	5	.169	8.211	.00	.00	.00	.48
	6	.155	8.588	.00	.00	.00	.04
	7	.138	9.111	.00	.00	.00	.00
	8	.093	11.099	.00	.03	.04	.43
	9	.068	12.930	.00	.00	.00	.00
	10	.061	13.714	.00	.00	.00	.00
	11	.053	14.668	.00	.02	.02	.00
	12	.023	22.224	.05	.02	.03	.04
	13	.008	38.634	.00	.87	.89	.00
	14	.002	74.600	.95	.06	.02	.00

Collinearity Diagnostics^a

Model	Dimension	Variance Proportions						
		failures	absences	age	Medu	Fedu	traveltime	famrel
1	1	.00	.00	.00	.00	.00	.00	.00
	2	.60	.04	.00	.00	.00	.00	.00
	3	.09	.87	.00	.00	.00	.00	.00
	4	.08	.00	.00	.09	.11	.20	.00
	5	.04	.01	.00	.00	.01	.00	.00
	6	.00	.00	.00	.04	.07	.47	.00
	7	.00	.00	.00	.00	.01	.13	.00
	8	.03	.00	.00	.00	.05	.04	.03
	9	.01	.01	.00	.01	.02	.00	.01
	10	.01	.00	.00	.84	.69	.01	.00
	11	.01	.00	.00	.01	.02	.02	.72
	12	.10	.05	.09	.01	.00	.11	.21
	13	.00	.00	.00	.00	.00	.00	.01
	14	.04	.00	.91	.00	.01	.02	.02

Variance Inflation Factor and Tolerance through SPSS colline

Collinearity Diagnostics^a

Model	Dimension	Variance Proportions		
		freetime	goout	health
1	1	.00	.00	.00
	2	.00	.00	.00
	3	.00	.00	.00
	4	.00	.01	.00
	5	.04	.06	.11
	6	.01	.00	.28
	7	.09	.26	.37
	8	.01	.06	.07
	9	.67	.56	.05
	10	.01	.01	.00
	11	.11	.00	.05
	12	.03	.04	.06
	13	.00	.00	.01
	14	.02	.00	.01

a. Dependent Variable: G3

Predictor correlation matrix for VIF interpretation

Correlations

		G1	G2	studytime	failures	absences	age
G1	Pearson Correlation	1	.865**	.261**	-.384**	-.147**	-.174**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	649	649	649	649	649	649
G2	Pearson Correlation	.865**	1	.240**	-.386**	-.125**	-.107**
	Sig. (2-tailed)	.000		.000	.000	.001	.006
	N	649	649	649	649	649	649
studytime	Pearson Correlation	.261**	.240**	1	-.147**	-.118**	-.008
	Sig. (2-tailed)	.000	.000		.000	.003	.831
	N	649	649	649	649	649	649
failures	Pearson Correlation	-.384**	-.386**	-.147**	1	.123**	.320**
	Sig. (2-tailed)	.000	.000	.000		.002	.000
	N	649	649	649	649	649	649
absences	Pearson Correlation	-.147**	-.125**	-.118**	.123**	1	.150**
	Sig. (2-tailed)	.000	.001	.003	.002		.000
	N	649	649	649	649	649	649
age	Pearson Correlation	-.174**	-.107**	-.008	.320**	.150**	1
	Sig. (2-tailed)	.000	.006	.831	.000	.000	
	N	649	649	649	649	649	649
Medu	Pearson Correlation	.260**	.264**	.097*	-.172**	-.009	-.108**
	Sig. (2-tailed)	.000	.000	.013	.000	.827	.006
	N	649	649	649	649	649	649
Fedu	Pearson Correlation	.218**	.225**	.050	-.166**	.030	-.121**
	Sig. (2-tailed)	.000	.000	.200	.000	.448	.002
	N	649	649	649	649	649	649
traveltime	Pearson Correlation	-.154**	-.154**	-.063	.098*	-.008	.034
	Sig. (2-tailed)	.000	.000	.108	.013	.836	.380
	N	649	649	649	649	649	649
famrel	Pearson Correlation	.049	.090*	-.004	-.063	-.090*	-.021
	Sig. (2-tailed)	.214	.022	.916	.111	.023	.601
	N	649	649	649	649	649	649

Predictor correlation matrix for VIF interpretation

Correlations

		Medu	Fedu	traveltime	famrel	freetime	goout
G1	Pearson Correlation	.260**	.218**	-.154**	.049	-.094*	-.074
	Sig. (2-tailed)	.000	.000	.000	.214	.016	.059
	N	649	649	649	649	649	649
G2	Pearson Correlation	.264**	.225**	-.154**	.090*	-.107**	-.079*
	Sig. (2-tailed)	.000	.000	.000	.022	.007	.043
	N	649	649	649	649	649	649
studytime	Pearson Correlation	.097*	.050	-.063	-.004	-.069	-.075
	Sig. (2-tailed)	.013	.200	.108	.916	.080	.055
	N	649	649	649	649	649	649
failures	Pearson Correlation	-.172**	-.166**	.098*	-.063	.109**	.045
	Sig. (2-tailed)	.000	.000	.013	.111	.005	.251
	N	649	649	649	649	649	649
absences	Pearson Correlation	-.009	.030	-.008	-.090*	-.019	.085*
	Sig. (2-tailed)	.827	.448	.836	.023	.634	.030
	N	649	649	649	649	649	649
age	Pearson Correlation	-.108**	-.121**	.034	-.021	-.005	.113**
	Sig. (2-tailed)	.006	.002	.380	.601	.901	.004
	N	649	649	649	649	649	649
Medu	Pearson Correlation	1	.647**	-.265**	.024	-.020	.010
	Sig. (2-tailed)		.000	.000	.535	.617	.808
	N	649	649	649	649	649	649
Fedu	Pearson Correlation	.647**	1	-.208**	.020	.007	.028
	Sig. (2-tailed)	.000		.000	.606	.862	.481
	N	649	649	649	649	649	649
traveltime	Pearson Correlation	-.265**	-.208**	1	-.010	.001	.057
	Sig. (2-tailed)	.000	.000		.809	.981	.144
	N	649	649	649	649	649	649
famrel	Pearson Correlation	.024	.020	-.010	1	.129**	.090*
	Sig. (2-tailed)	.535	.606	.809		.001	.022
	N	649	649	649	649	649	649

Predictor correlation matrix for VIF interpretation

Correlations

		health
G1	Pearson Correlation	-.052
	Sig. (2-tailed)	.189
	N	649
G2	Pearson Correlation	-.082 [*]
	Sig. (2-tailed)	.036
	N	649
studytime	Pearson Correlation	-.056
	Sig. (2-tailed)	.151
	N	649
failures	Pearson Correlation	.036
	Sig. (2-tailed)	.365
	N	649
absences	Pearson Correlation	-.030
	Sig. (2-tailed)	.442
	N	649
age	Pearson Correlation	-.009
	Sig. (2-tailed)	.824
	N	649
Medu	Pearson Correlation	.005
	Sig. (2-tailed)	.907
	N	649
Fedu	Pearson Correlation	.045
	Sig. (2-tailed)	.253
	N	649
traveltime	Pearson Correlation	-.048
	Sig. (2-tailed)	.220
	N	649
famrel	Pearson Correlation	.110 ^{**}
	Sig. (2-tailed)	.005
	N	649

Predictor correlation matrix for VIF interpretation

Correlations

		G1	G2	studytime	failures	absences	age
freetime	Pearson Correlation	-.094*	-.107**	-.069	.109**	-.019	-.005
	Sig. (2-tailed)	.016	.007	.080	.005	.634	.901
	N	649	649	649	649	649	649
goout	Pearson Correlation	-.074	-.079*	-.075	.045	.085*	.113**
	Sig. (2-tailed)	.059	.043	.055	.251	.030	.004
	N	649	649	649	649	649	649
health	Pearson Correlation	-.052	-.082*	-.056	.036	-.030	-.009
	Sig. (2-tailed)	.189	.036	.151	.365	.442	.824
	N	649	649	649	649	649	649

Correlations

		Medu	Fedu	traveltime	famrel	freetime	goout
freetime	Pearson Correlation	-.020	.007	.001	.129**	1	.346**
	Sig. (2-tailed)	.617	.862	.981	.001		.000
	N	649	649	649	649	649	649
goout	Pearson Correlation	.010	.028	.057	.090*	.346**	1
	Sig. (2-tailed)	.808	.481	.144	.022	.000	
	N	649	649	649	649	649	649
health	Pearson Correlation	.005	.045	-.048	.110**	.085*	-.016
	Sig. (2-tailed)	.907	.253	.220	.005	.031	.689
	N	649	649	649	649	649	649

Correlations

		health
freetime	Pearson Correlation	.085*
	Sig. (2-tailed)	.031
	N	649
goout	Pearson Correlation	-.016
	Sig. (2-tailed)	.689
	N	649
health	Pearson Correlation	1
	Sig. (2-tailed)	
	N	649

Predictor correlation matrix for VIF interpretation

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

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

Predictor descriptive statistics

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
G1	649	0	19	11.40	2.745
G2	649	0	19	11.57	2.914
studytime	649	1	4	1.93	.830
failures	649	0	3	.22	.593
absences	649	0	32	3.66	4.641
age	649	15	22	16.74	1.218
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
health	649	1	5	3.54	1.446
Valid N (listwise)	649				