

```
1008 0 OUTPUT ACTIVATE RegressionforSurveyDataOutput.  
1008 0 M> OUTPUT ACTIVATE RegressionforSurveyDataOutput.  
1009 0 TITLE 'Regression for Survey Data'.  
1009 0 M> TITLE 'Regression for Survey Data'.
```

Regression for Survey Data

```
1010 0
1010 0 M>
1011 0 GET DATA
1011 0 M> GET DATA
1012 0 /TYPE=TXT /FILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analysis
\Regression for Survey Data\dataset.csv' /ENCODING='UT
F8' /DELCASE=LINE /DELIMITERS=', ' /QUALIFIER='''
1012 0 M> /TYPE=TXT /FILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analy
sis\Regression for Survey Data\dataset.csv' /ENCODING=
'UTF8' /DELCASE=LINE /DELIMITERS=', ' /QUALIFIER='''
1013 0 /ARRANGEMENT=DELIMITED /FIRSTCASE=2
1013 0 M> /ARRANGEMENT=DELIMITED /FIRSTCASE=2
1014 0 /VARIABLES=
1014 0 M> /VARIABLES=
1015 0 school A8 sex A8 age F8.0 address A8 famsize A8 Pstatus A8 Medu F8.0
Fedu F8.0
1015 0 M> school A8 sex A8 age F8.0 address A8 famsize A8 Pstatus A8 Medu F
8.0 Fedu F8.0
1016 0 Mjob A16 Fjob A16 reason A16 guardian A16 traveltime F8.0 studytime
F8.0 failures F8.0
1016 0 M> Mjob A16 Fjob A16 reason A16 guardian A16 traveltime F8.0 studyti
me F8.0 failures F8.0
1017 0 schoolsup A8 famsup A8 paid A8 activities A8 nursery A8 higher A8 in
ternet A8 romantic A8
1017 0 M> schoolsup A8 famsup A8 paid A8 activities A8 nursery A8 higher A8
internet A8 romantic A8
1018 0 famrel F8.0 freetime F8.0 goout F8.0 Dalc F8.0 Walc F8.0 health F8.0
absences F8.0 G1 F8.0 G2 F8.0 G3 F8.0.
1018 0 M> famrel F8.0 freetime F8.0 goout F8.0 Dalc F8.0 Walc F8.0 health F
8.0 absences F8.0 G1 F8.0 G2 F8.0 G3 F8.0.
1019 0 DATASET NAME RegressionforSurveyDataData.
1019 0 M> DATASET NAME RegressionforSurveyDataData.
1020 0 COMPUTE subject_id=$CASENUM.
1020 0 M> COMPUTE subject_id=$CASENUM.
1021 0 COMPUTE Dalc_R=6-Dalc.
1021 0 M> COMPUTE Dalc_R=6-Dalc.
1022 0 COMPUTE Walc_R=6-Walc.
1022 0 M> COMPUTE Walc_R=6-Walc.
```

Regression for Survey Data

```
1023 0 COMPUTE scale_score=MEAN.6(famrel,freetime,goout,Dalc_R,Walc_R,health
).
1023 0 M> COMPUTE scale_score=MEAN.6(famrel,freetime,goout,Dalc_R,Walc_R,hea
lth).
1024 0 RECODE sex ('F'=1) ('M'=2) INTO sex_code.
1024 0 M> RECODE sex ('F'=1) ('M'=2) INTO sex_code.
1025 0 RECODE school ('GP'=1) ('MS'=2) INTO school_code.
1025 0 M> RECODE school ('GP'=1) ('MS'=2) INTO school_code.
1026 0 RECODE higher internet ('no'=0) ('yes'=1) INTO higher_code internet_c
ode.
1026 0 M> RECODE higher internet ('no'=0) ('yes'=1) INTO higher_code interne
t_code.
1027 0 EXECUTE.
1027 0 M> EXECUTE.
1028 0
1028 0 M>
1029 0 * BEGIN METHOD-SPECIFIC SPSS WORKFLOW.
1029 0 M> * BEGIN METHOD-SPECIFIC SPSS WORKFLOW.
1030 0 TITLE 'Regression for Survey Data'.
1030 0 M> TITLE 'Regression for Survey Data'.
```

Regression for Survey Data

```
1031  0  SUBTITLE 'Final grade from prior grade behavior failures absences and  
sex'.
```

```
1031  0 M> SUBTITLE 'Final grade from prior grade behavior failures absences  
and sex'.
```

```
>Warning # 2004 on line 1031.  Command name: SUBTITLE
```

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

Regression for Survey Data
Final grade from prior grade behavior failures absences and

```

1032 0  COMPUTE sex_male=(sex='M').
1032 0 M>  COMPUTE sex_male=(sex='M').
1033 0  REGRESSION /STATISTICS=COEFF OUTS R ANOVA CHANGE CI(95) COLLIN TOL
1033 0 M>  REGRESSION /STATISTICS=COEFF OUTS R ANOVA CHANGE CI(95) COLLIN TOL
1034 0  /DEPENDENT G3 /METHOD=ENTER G1 studytime failures absences sex_male
1034 0 M>  /DEPENDENT G3 /METHOD=ENTER G1 studytime failures absences sex_ma
le
1035 0  /RESIDUALS=HISTOGRAM(ZRESID) NORMPROB(ZRESID) /SAVE PRED RESID.
1035 0 M>  /RESIDUALS=HISTOGRAM(ZRESID) NORMPROB(ZRESID) /SAVE PRED RESID.

```

Regression

Notes

Output Created		18-JUL-2026 13:22:00
Comments		
Input	Data	D:\DATA ANALYSIS\M Survey and Likert Scale Analysis\Regression for Survey Data\dataset.csv
	Active Dataset	RegressionforSurveyData Data
	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 cases with no missing values for any variable used.

Regression for Survey Data
Final grade from prior grade behavior failures absences and

Notes

Syntax		REGRESSION /STATISTICS=COEFF OUTS R ANOVA CHANGE CI(95) COLLIN TOL /DEPENDENT G3 /METHOD=ENTER G1 studytime failures absences sex_male /RESIDUALS=HISTOGRA M(ZRESID) NORMPROB (ZRESID) /SAVE PRED ...
Resources	Processor Time	00:00:01.34
	Elapsed Time	00:00:01.01
	Memory Required	6400 bytes
	Additional Memory Required for Residual Plots	576 bytes
Variables Created or Modified	PRE_1	Unstandardized Predicted Value
	RES_1	Unstandardized Residual

[RegressionforSurveyDataData]

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	sex_male, absences, failures, studytime, G1 ^b	.	Enter

a. Dependent Variable: G3

b. All requested variables entered.

Regression for Survey Data
Final grade from prior grade behavior failures absences and

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.833 ^a	.693	.691	1.796	.693	290.795	5

Model Summary^b

Model	Change Statistics	
	df2	Sig. F Change
1	643	.000

a. Predictors: (Constant), sex_male, absences, failures, studytime, G1

b. Dependent Variable: G3

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4689.434	5	937.887	290.795	.000 ^b
	Residual	2073.833	643	3.225		
	Total	6763.267	648			

a. Dependent Variable: G3

b. Predictors: (Constant), sex_male, absences, failures, studytime, G1

Regression for Survey Data
Final grade from prior grade behavior failures absences and

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.238	.379		3.263	.001
	G1	.926	.029	.787	32.267	.000
	studytime	.112	.090	.029	1.244	.214
	failures	-.485	.129	-.089	-3.747	.000
	absences	.027	.015	.039	1.778	.076
	sex_male	-.233	.147	-.035	-1.588	.113

Coefficients^a

Model		95.0% Confidence Interval for B		Collinearity Statistics	
		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.493	1.982		
	G1	.870	.982	.802	1.247
	studytime	-.065	.289	.892	1.122
	failures	-.739	-.231	.845	1.183
	absences	-.003	.058	.967	1.034
	sex_male	-.521	.055	.954	1.048

a. Dependent Variable: G3

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	G1	studytime	failures
1	1	3.892	1.000	.00	.00	.01	.01
	2	.886	2.096	.00	.00	.01	.73
	3	.589	2.570	.00	.00	.00	.01
	4	.523	2.727	.00	.00	.04	.09
	5	.089	6.627	.05	.12	.93	.00
	6	.021	13.590	.94	.87	.02	.16

Regression for Survey Data
Final grade from prior grade behavior failures absences and

Collinearity Diagnostics^a

Model	Dimension	Variance Proportions	
		absences	sex_male
1	1	.02	.02
	2	.01	.00
	3	.50	.48
	4	.40	.38
	5	.03	.09
	6	.04	.04

a. Dependent Variable: G3

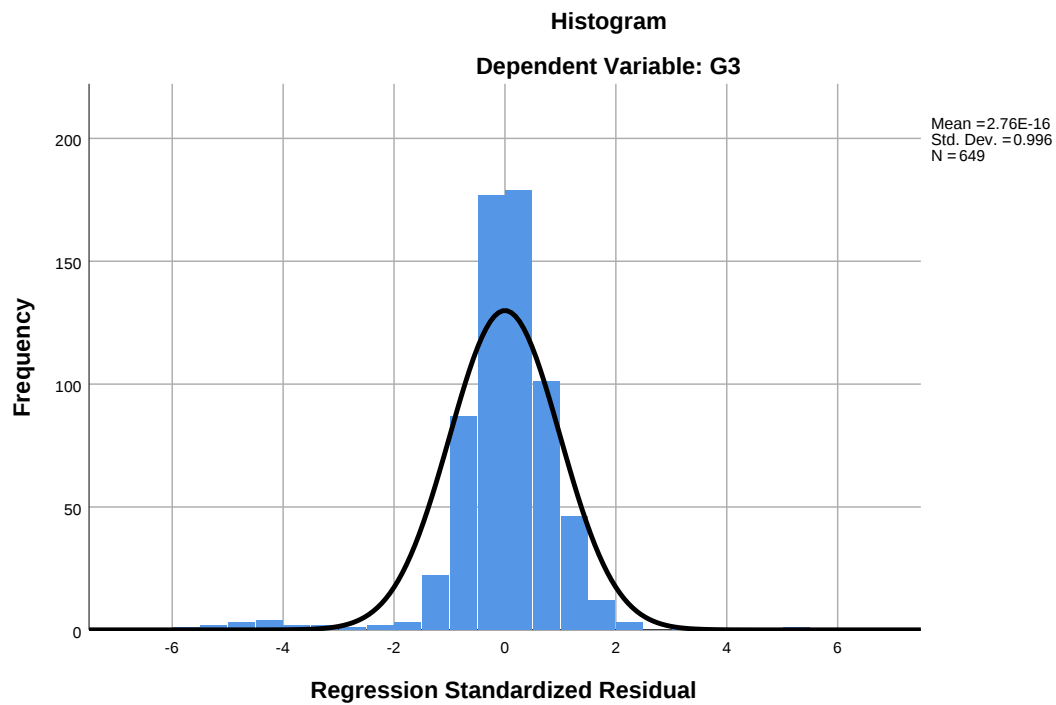
Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.57	19.17	11.91	2.690	649
Residual	-10.332	9.428	.000	1.789	649
Std. Predicted Value	-3.842	2.699	.000	1.000	649
Std. Residual	-5.753	5.250	.000	.996	649

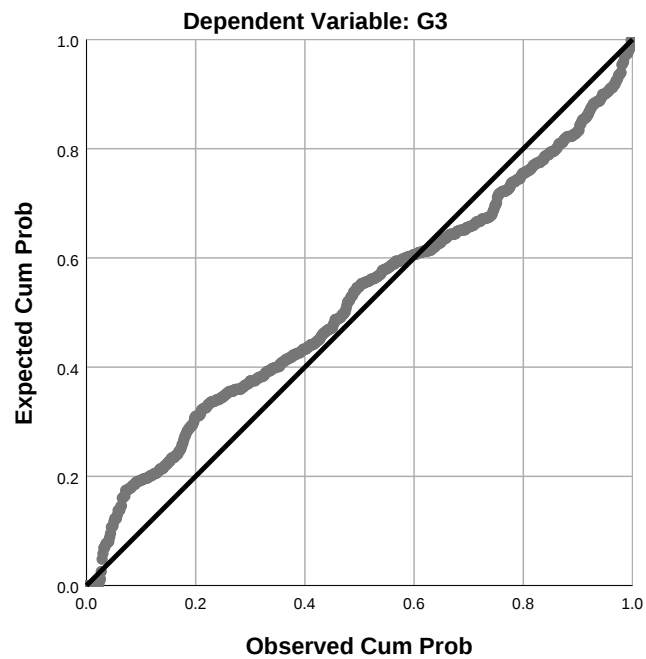
a. Dependent Variable: G3

Charts

Regression for Survey Data
Final grade from prior grade behavior failures absences and



Normal P-P Plot of Regression Standardized Residual



Regression for Survey Data
Final grade from prior grade behavior failures absences and

```
1036 0 ECHO 'The omnibus F statistic and conditional slopes belong to this s
pecified OLS model'.
1036 0 M> ECHO 'The omnibus F statistic and conditional slopes belong to thi
s specified OLS model'.
The omnibus F statistic and conditional slopes belong to this specified OLS mo
del
1037 0 * END METHOD-SPECIFIC SPSS WORKFLOW.
1037 0 M> * END METHOD-SPECIFIC SPSS WORKFLOW.
1038 0
1038 0 M>
1039 0 SAVE OUTFILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analysis\Reg
ression for Survey Data\SPSS_Output\sav\regression-for
-survey-data_spss_ready_data.sav' /COMPRESSED.
1039 0 M> SAVE OUTFILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analysis\
Regression for Survey Data\SPSS_Output\sav\regression-
for-survey-data_spss_ready_data.sav' /COMPRESSED.

1040 0
1040 0 M>
1041 0 ECHO '=====
====='.
1041 0 M> ECHO '=====
====='.
=====
1042 0 ECHO 'REGRESSION FOR SURVEY DATA'.
1042 0 M> ECHO 'REGRESSION FOR SURVEY DATA'.
REGRESSION FOR SURVEY DATA
1043 0 ECHO 'Method type: regression_model'.
1043 0 M> ECHO 'Method type: regression_model'.
Method type: regression_model
1044 0 ECHO 'Design: Multiple OLS model for final grade using prior grade, s
tudy behavior, failures, absences, and sex.'.
1044 0 M> ECHO 'Design: Multiple OLS model for final grade using prior grade
, study behavior, failures, absences, and sex.'.
Design: Multiple OLS model for final grade using prior grade, study behavior,
failures, absences, and sex.
1045 0 ECHO 'Inference scope: The applicable omnibus F test evaluates whethe
r all non-intercept slopes are jointly zero.'.
1045 0 M> ECHO 'Inference scope: The applicable omnibus F test evaluates whe
ther all non-intercept slopes are jointly zero.'.
```

Regression for Survey Data
Final grade from prior grade behavior failures absences and

Inference scope: The applicable omnibus F test evaluates whether all non-intercept slopes are jointly zero.

```
1046 0 ECHO 'Formula: Y=X*beta+epsilon; beta_hat=(X'X)^-1X'Y; F=(SSR/p)/(SSE/(n-p-1)).'
```

```
1046 0 M> ECHO 'Formula: Y=X*beta+epsilon; beta_hat=(X'X)^-1X'Y; F=(SSR/p)/(SSE/(n-p-1)).'
```

```
Formula: Y=X*beta+epsilon; beta_hat=(X'X)^-1X'Y; F=(SSR/p)/(SSE/(n-p-1)).
```

```
1047 0 ECHO 'Variables: G3, G1, studytime, failures, absences, sex'.
```

```
1047 0 M> ECHO 'Variables: G3, G1, studytime, failures, absences, sex'.
```

```
Variables: G3, G1, studytime, failures, absences, sex
```

```
1048 0 ECHO 'Rows analyzed: 649'.
```

```
1048 0 M> ECHO 'Rows analyzed: 649'.
```

```
Rows analyzed: 649
```

```
1049 0 ECHO 'adjusted_r_squared = 0.6909837881112495'.
```

```
1049 0 M> ECHO 'adjusted_r_squared = 0.6909837881112495'.
```

```
adjusted_r_squared = 0.6909837881112495
```

```
1050 0 ECHO 'f_p_value = 2.2358445413375103e-162'.
```

```
1050 0 M> ECHO 'f_p_value = 2.2358445413375103e-162'.
```

```
f_p_value = 2.2358445413375103e-162
```

```
1051 0 ECHO 'f_statistic = 290.7954718681798'.
```

```
1051 0 M> ECHO 'f_statistic = 290.7954718681798'.
```

```
f_statistic = 290.7954718681798
```

```
1052 0 ECHO 'g1_coefficient = 0.925917708400602'.
```

```
1052 0 M> ECHO 'g1_coefficient = 0.925917708400602'.
```

```
g1_coefficient = 0.925917708400602
```

```
1053 0 ECHO 'n_cases = 649'.
```

```
1053 0 M> ECHO 'n_cases = 649'.
```

```
n_cases = 649
```

```
1054 0 ECHO 'r_squared = 0.6933681724622429'.
```

```
1054 0 M> ECHO 'r_squared = 0.6933681724622429'.
```

```
r_squared = 0.6933681724622429
```

```
1055 0 ECHO 'rmse = 1.7958968209040602'.
```

```
1055 0 M> ECHO 'rmse = 1.7958968209040602'.
```

```
rmse = 1.7958968209040602
```

```
1056 0 ECHO 'Cross-check status: pass'.
```

```
1056 0 M> ECHO 'Cross-check status: pass'.
```

```
Cross-check status: pass
```

```
1057 0 ECHO '=====
====='
```

Regression for Survey Data
Final grade from prior grade behavior failures absences and

```
1057  0 M> ECHO '=====
====='.
=====
1058  0
1058  0 M>
1059  0 OUTPUT SAVE OUTFILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analy
sis\Regression for Survey Data\SPSS_Output\spv\regress
ion-for-survey-data_spss_output.spv'.
1059  0 M> OUTPUT SAVE OUTFILE='D:\DATA ANALYSIS\M Survey and Likert Scale An
alysis\Regression for Survey Data\SPSS_Output\spv\regr
ession-for-survey-data_spss_output.spv'.
1060  0 OUTPUT EXPORT /CONTENTS EXPORT=ALL LAYERS=PRINTSETTING MODELVIEWS=PRI
NTSETTING
1060  0 M> OUTPUT EXPORT /CONTENTS EXPORT=ALL LAYERS=PRINTSETTING MODELVIEWS=
PRINTSETTING
```