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Kolmogorov Smirnov Test

Kolmogorov Smirnov Test
Import data

Kolmogorov Smirnov normality test

Kolmogorov Smirnov normality test
SPSS one-sample KS context

NPar Tests

[KolmogorovSmirnovData] D:\DATA ANALYSIS\B Normality and Assumption Tests\Kolmogorov Smirnov Test\SPSS_Output\sav\Kolmogorov-Smirnov-Test-data.sav

One-Sample Kolmogorov-Smirnov Test

G3		
N		649
Normal Parameters ^{a,b}	Mean	11.91
	Std. Deviation	3.231
Most Extreme Differences	Absolute	.124
	Positive	.074
	Negative	-.124
Test Statistic		.124
Asymp. Sig. (2-tailed)		.000 ^c

- a. Test distribution is Normal.
- b. Calculated from data.
- c. Lilliefors Significance Correction.

Normality plots

Normality plots G3

Explore

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
G3	649	100.0%	0	0.0%	649	100.0%

Descriptives

		Statistic	Std. Error
G3	Mean	11.91	.127
	95% Confidence Interval for Mean	Lower Bound	11.66
		Upper Bound	12.16
	5% Trimmed Mean	12.06	
	Median	12.00	
	Variance	10.437	
	Std. Deviation	3.231	
	Minimum	0	
	Maximum	19	
	Range	19	
	Interquartile Range	4	
	Skewness	-.913	.096
	Kurtosis	2.712	.192

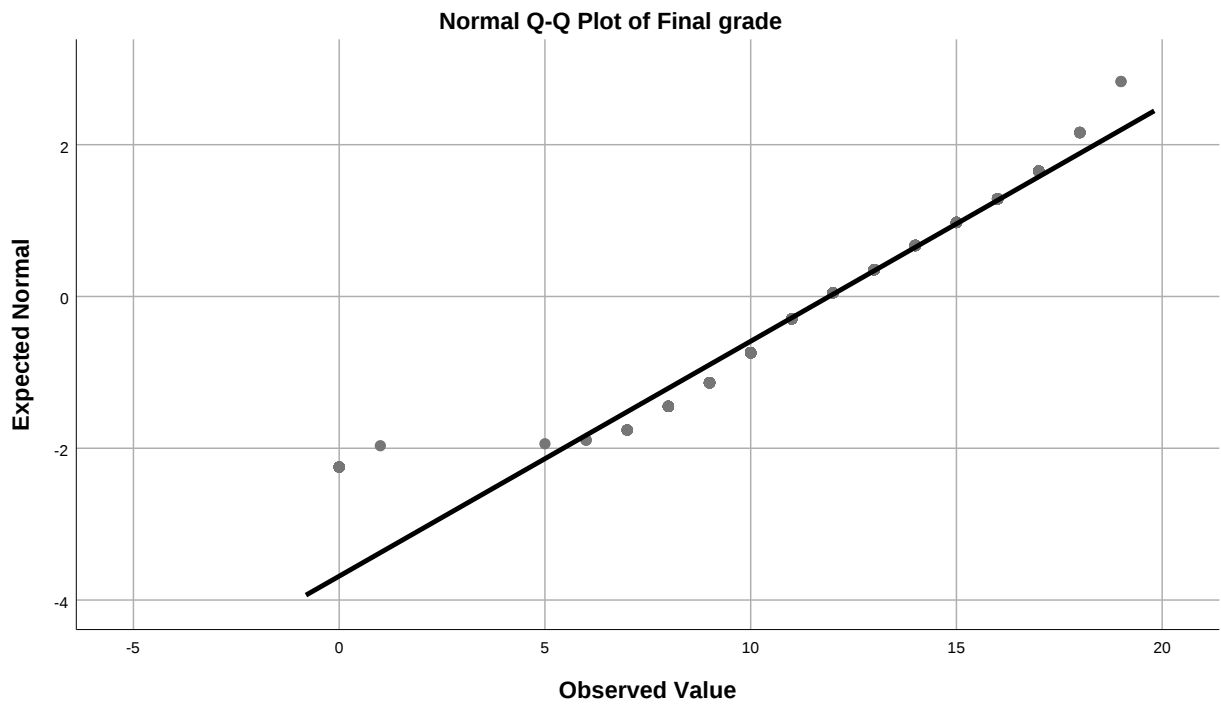
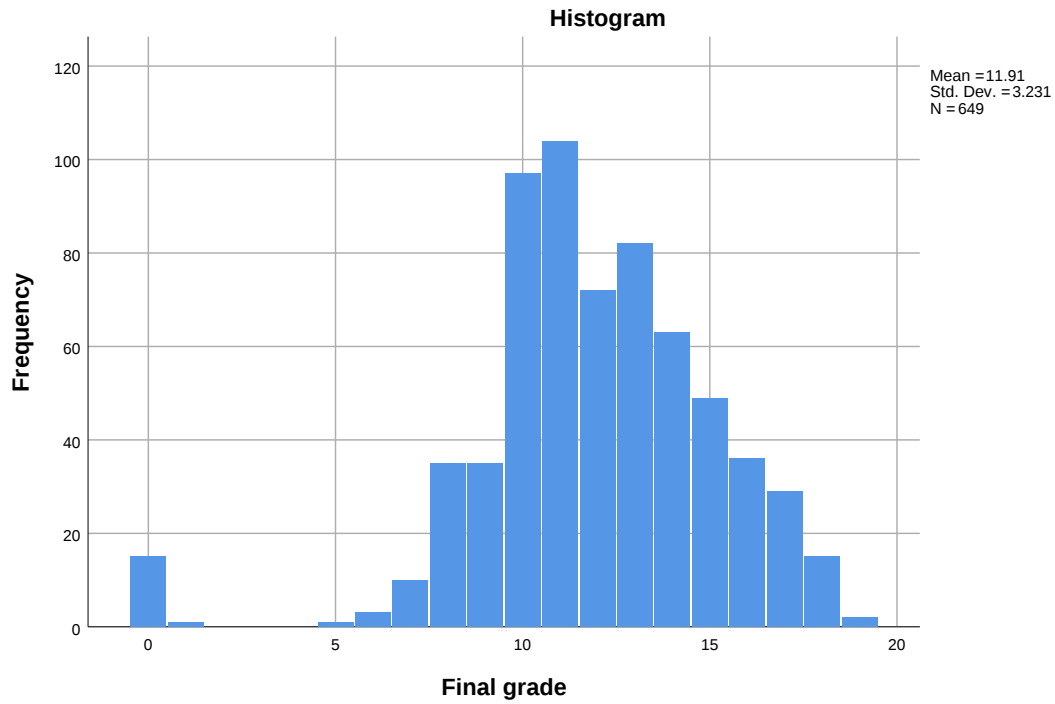
Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
G3	.124	649	.000	.926	649	.000

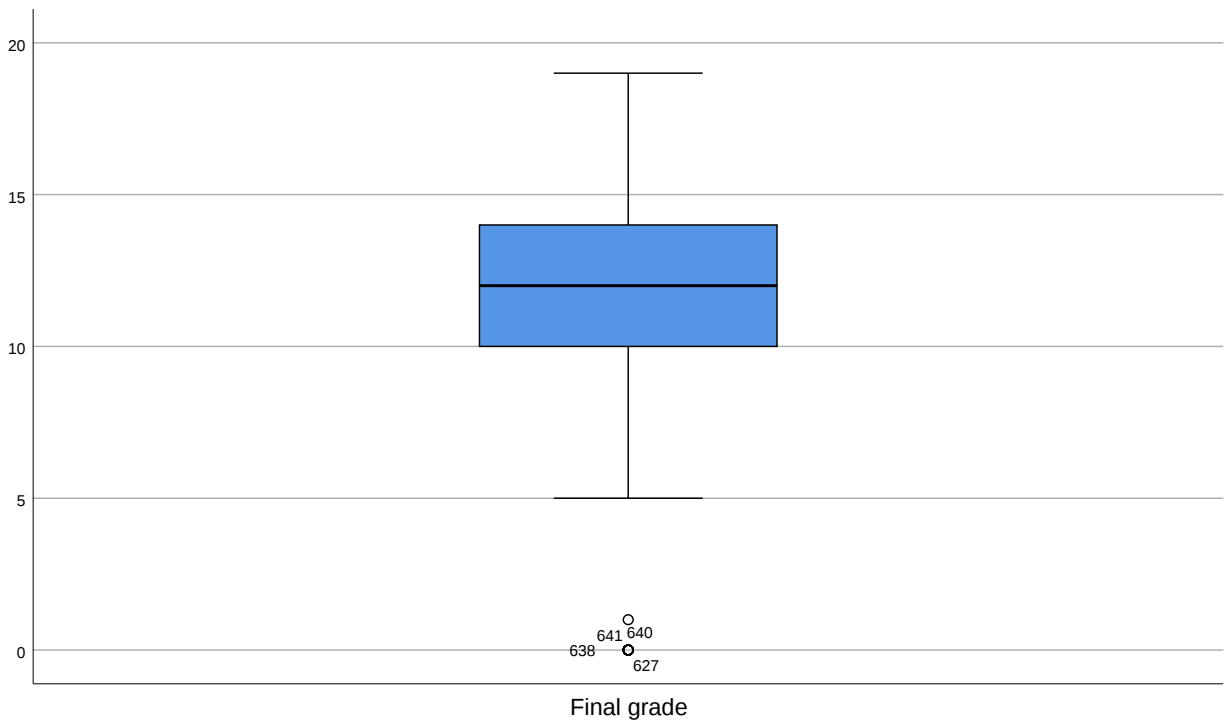
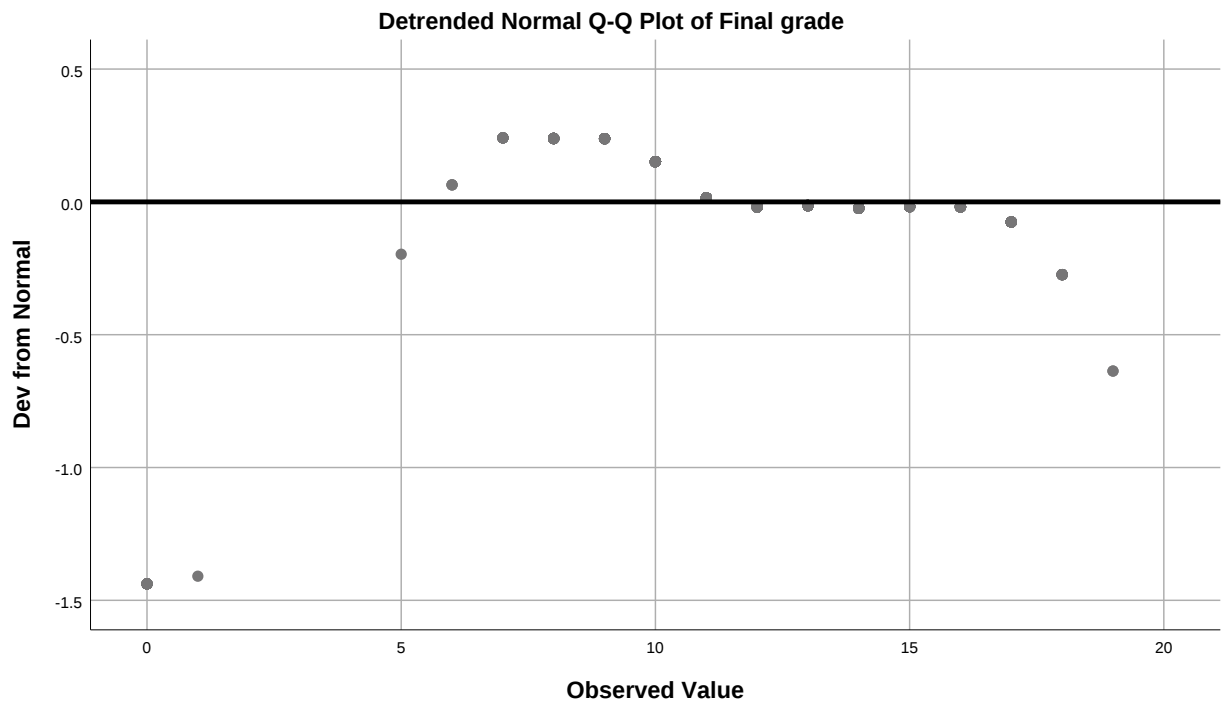
a. Lilliefors Significance Correction

Final grade

Normality plots
G3



Normality plots G3



>Error # 10910. Command name: AGGREGATE

Normality plots
G3

>The definition of a new variable on the AGGREGATE command specifies a new
>variable name that duplicates the name of an existing variable. To replace
>existing variables, specify OVERWRITE=YES in the OUTFILE subcommand.
>Execution of this command stops.
>New variable ks_D_plus caused the error.

>Error # 10910. Command name: AGGREGATE
>The definition of a new variable on the AGGREGATE command specifies a new
>variable name that duplicates the name of an existing variable. To replace
>existing variables, specify OVERWRITE=YES in the OUTFILE subcommand.
>New variable ks_D_minus caused the error.

Manual KS calculation

Manual KS calculation
G3 fitted-normal D statistic

List

[KolmogorovSmirnovData] D:\DATA ANALYSIS\B Normality and Assumption Tests\Kolmogorov Smirnov Test\SPSS_Output\sav\Kolmogorov-Smirnov-Test-with-calculation.sav

Manual KS calculation
G3 fitted-normal D statistic

ks_n	ks_mean	ks_sd	ks_d_plus	ks_d_minus	ks_D
649	11.91	3.23	.00143	.00011	.00143

Number of cases read: 1 Number of cases listed: 1

Manual KS detail

Manual KS detail
First 20 sorted cases

List

Manual KS detail
First 20 sorted cases

ks_rank	G3	ks_z	ks_fitted_cdf	ks_ecdf_lower	ks_ecdf_upper	ks_d_p
lus ks_d_minus						
1.00	0	-3.68532	.00011	.00000	.00154	.00
143 .00011						
2.00	0	-3.68532	.00011	.00154	.00308	.00
297 -.00143						
3.00	0	-3.68532	.00011	.00308	.00462	.00
451 -.00297						
4.00	0	-3.68532	.00011	.00462	.00616	.00
605 -.00451						
5.00	0	-3.68532	.00011	.00616	.00770	.00
759 -.00605						
6.00	0	-3.68532	.00011	.00770	.00924	.00
913 -.00759						
7.00	0	-3.68532	.00011	.00924	.01079	.01
067 -.00913						
8.00	0	-3.68532	.00011	.01079	.01233	.01
221 -.01067						
9.00	0	-3.68532	.00011	.01233	.01387	.01
375 -.01221						
10.00	0	-3.68532	.00011	.01387	.01541	.01
529 -.01375						
11.00	0	-3.68532	.00011	.01541	.01695	.01
683 -.01529						
12.00	0	-3.68532	.00011	.01695	.01849	.01
838 -.01683						
13.00	0	-3.68532	.00011	.01849	.02003	.01
992 -.01838						
14.00	0	-3.68532	.00011	.02003	.02157	.02
146 -.01992						
15.00	0	-3.68532	.00011	.02157	.02311	.02
300 -.02146						
16.00	1	-3.37579	.00037	.02311	.02465	.02
429 -.02274						

Manual KS detail
First 20 sorted cases

17.00	5	-2.13765	.01627	.02465	.02619	.00
992 - .00838						
18.00	6	-1.82811	.03377	.02619	.02773	-.00
603 .00757						
19.00	6	-1.82811	.03377	.02773	.02928	-.00
449 .00603						
20.00	6	-1.82811	.03377	.02928	.03082	-.00
295 .00449						

Number of cases read: 20 Number of cases listed: 20

Two-group distribution context

Two-group distribution context
G3 by sex

NPar Tests

Warnings

Text: sex Command: NPAR TESTS
A string variable was used in a variable list where only numeric variables are allowed.
Execution of this command stops.

Explore

Sex group

Case Processing Summary

		Valid		Cases Missing		Total	
	sex	N	Percent	N	Percent	N	Percent
G3	F	383	100.0%	0	0.0%	383	100.0%
	M	266	100.0%	0	0.0%	266	100.0%

Descriptives

		sex		Statistic	Std. Error
G3	F	Mean		12.25	.160
		95% Confidence Interval for Mean	Lower Bound	11.94	
			Upper Bound	12.57	
		5% Trimmed Mean		12.37	
		Median		12.00	
		Variance		9.760	
		Std. Deviation		3.124	
		Minimum		0	
		Maximum		19	
		Range		19	
		Interquartile Range		4	
		Skewness		-.857	.125
		Kurtosis		2.683	.249
	M	Mean		11.41	.204

Two-group distribution context
G3 by sex

Descriptives

sex		Statistic	Std. Error
	95% Confidence Interval for Mean	Lower Bound	11.01
		Upper Bound	11.81
	5% Trimmed Mean	11.60	
	Median	11.00	
	Variance	11.027	
	Std. Deviation	3.321	
	Minimum	0	
	Maximum	19	
	Range	19	
	Interquartile Range	3	
	Skewness	-.980	.149
	Kurtosis	2.803	.298

Tests of Normality

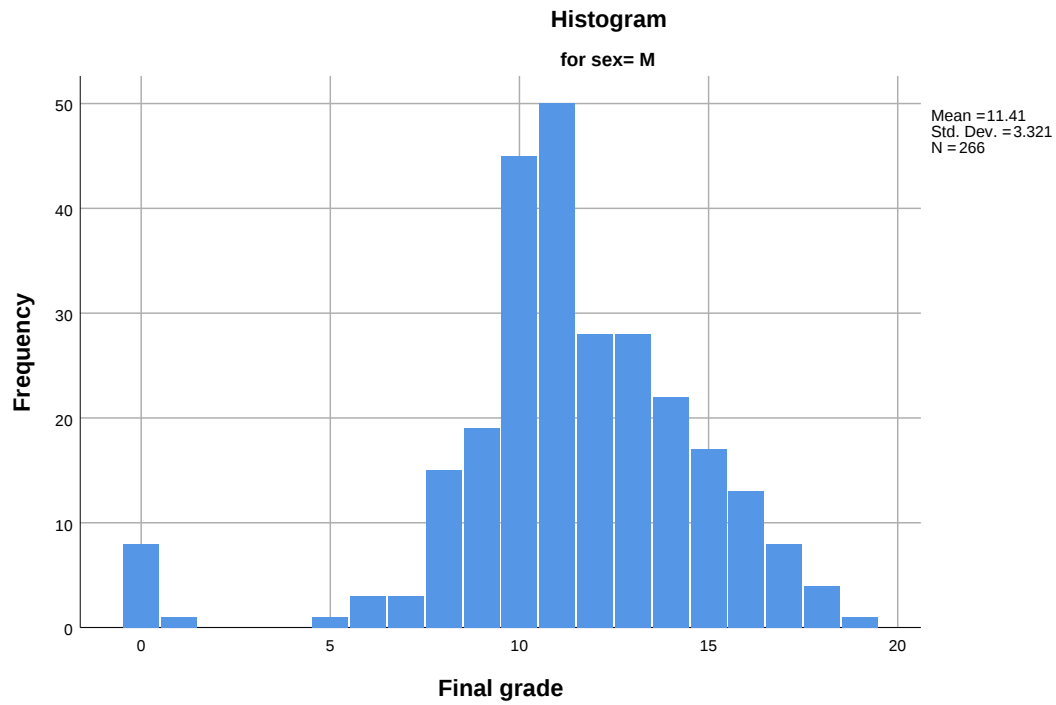
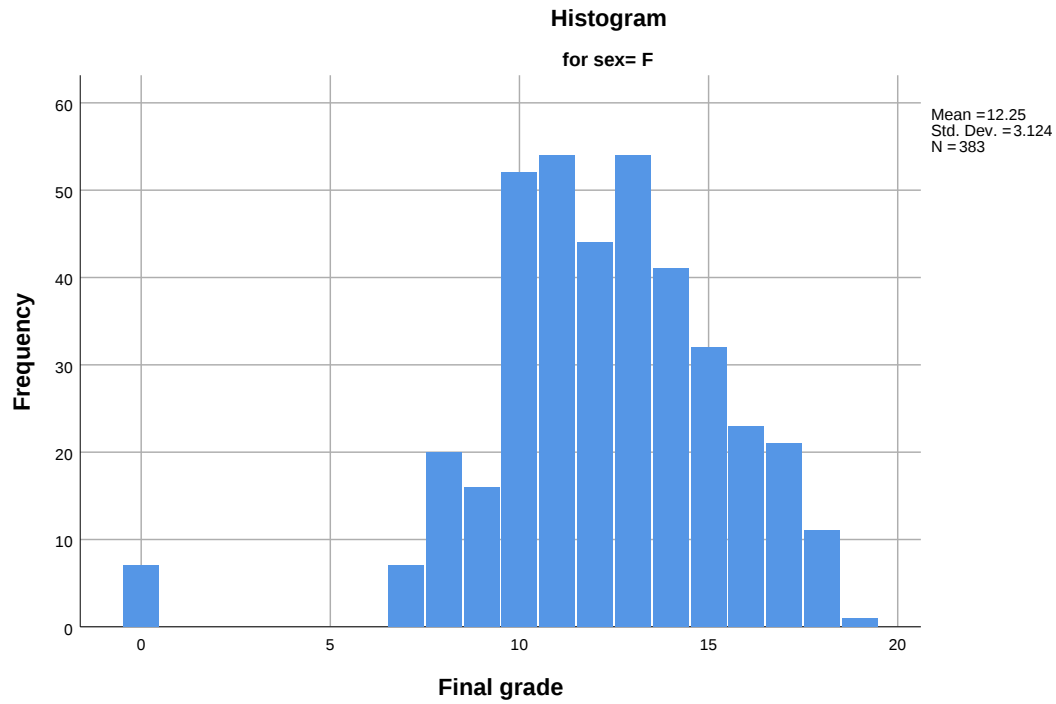
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	sex	Statistic	df	Sig.	Statistic	df	Sig.
G3	F	.105	383	.000	.934	383	.000
	M	.148	266	.000	.913	266	.000

a. Lilliefors Significance Correction

Final grade

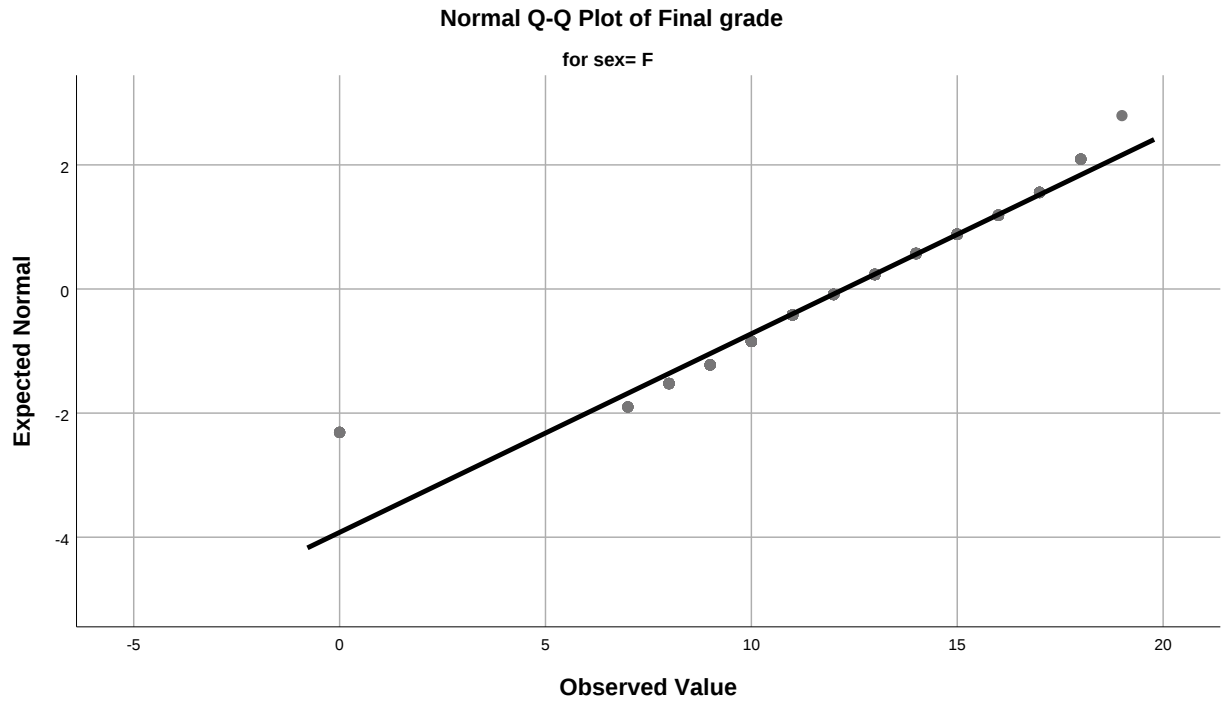
Histograms

Two-group distribution context
G3 by sex

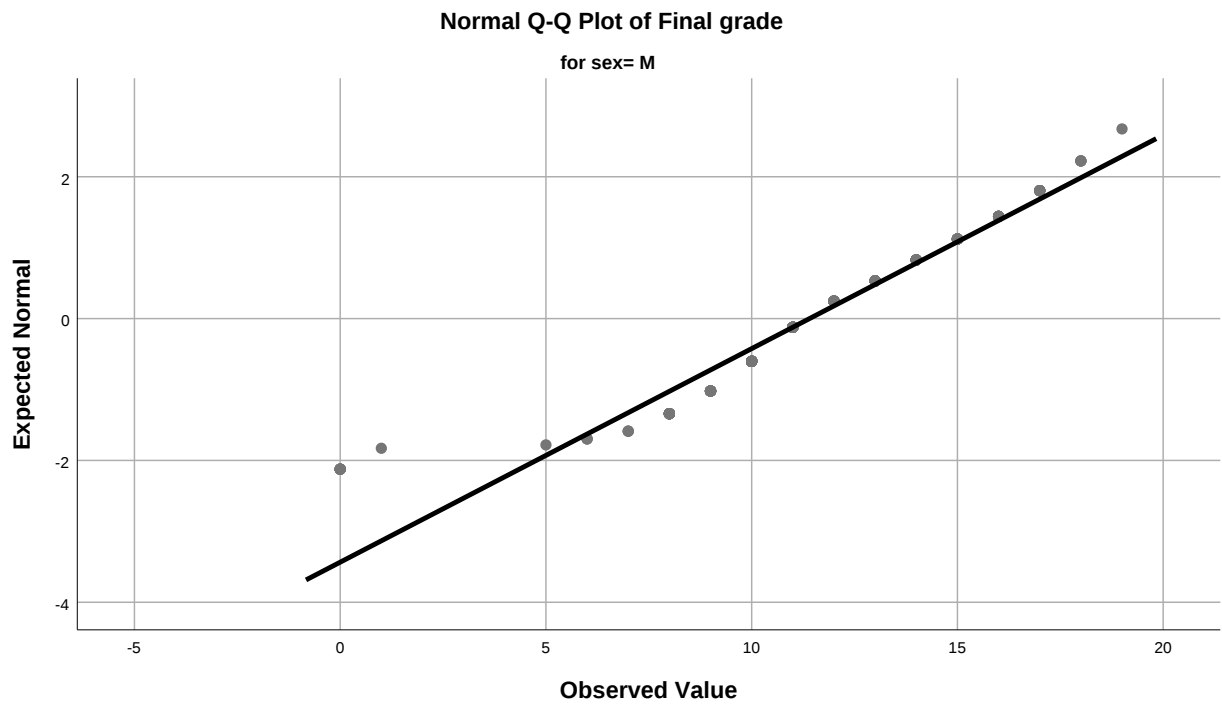


Two-group distribution context
G3 by sex

Normal Q-Q Plots

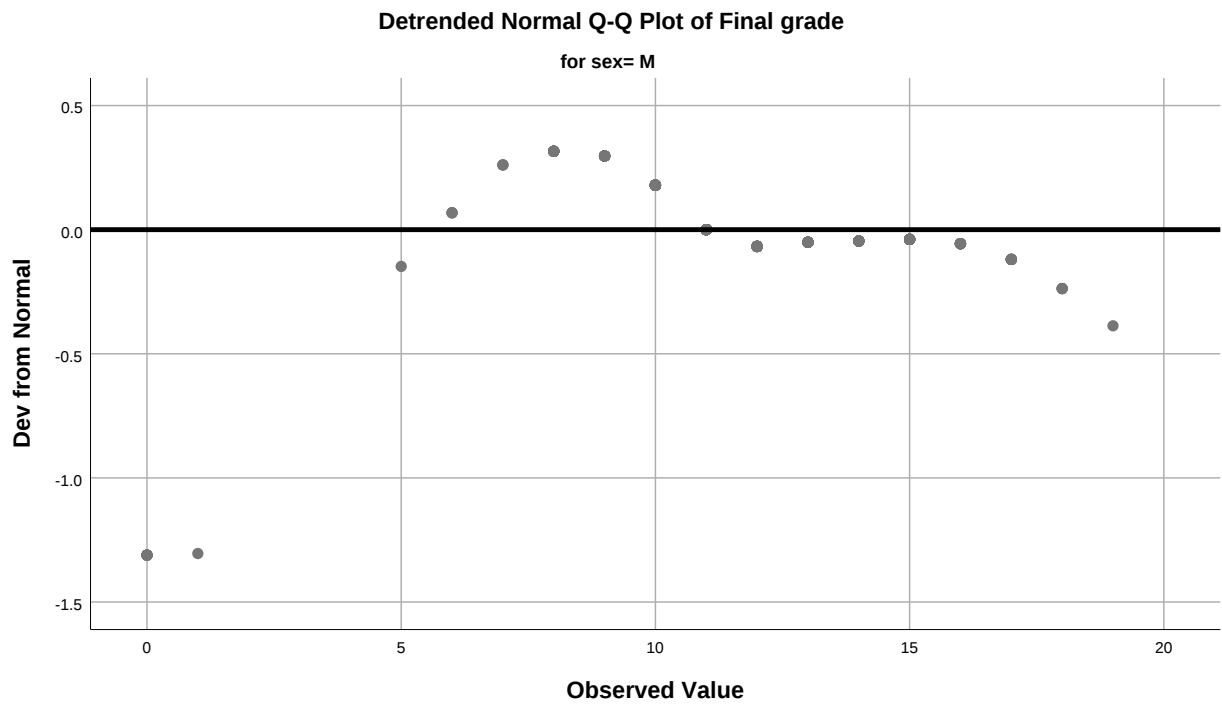
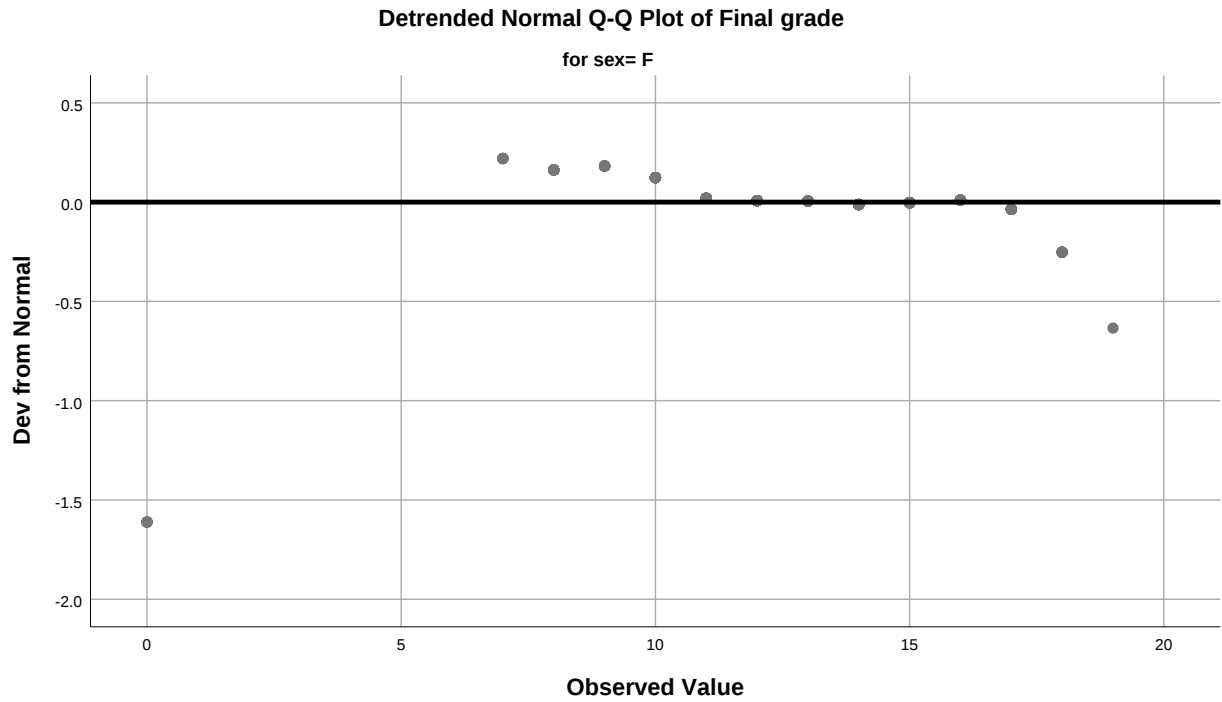


Two-group distribution context
G3 by sex



Detrended Normal Q-Q Plots

Two-group distribution context
G3 by sex



Two-group distribution context
G3 by sex

