

Host

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Jarque Bera Test

Jarque Bera Test
Import data

Normality context

Normality context
G3 plots

Explore

[JarqueBeraData] D:\DATA ANALYSIS\B Normality and Assumption Tests\Jarque Bera Test\SPSS_Output\sav\Jarque-Bera-Test-data.sav

Case Processing Summary

| | Cases | | | | | |
|----|-------|---------|---------|---------|-------|---------|
| | Valid | | 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 | |

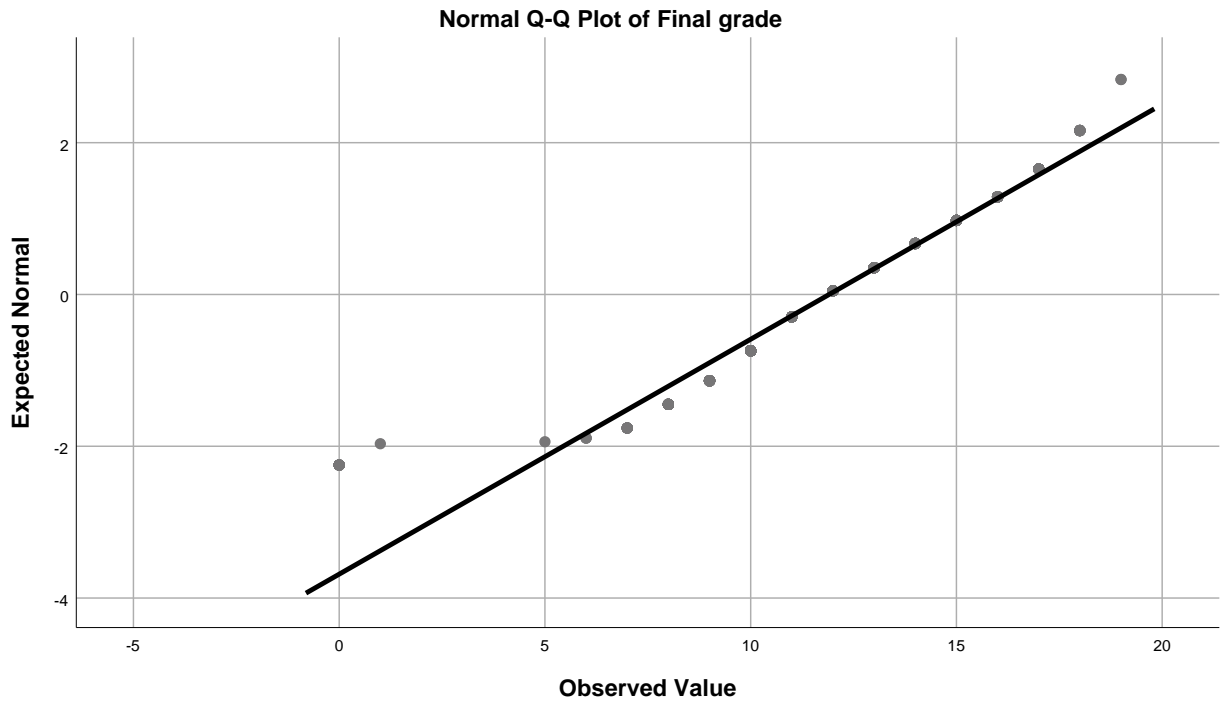
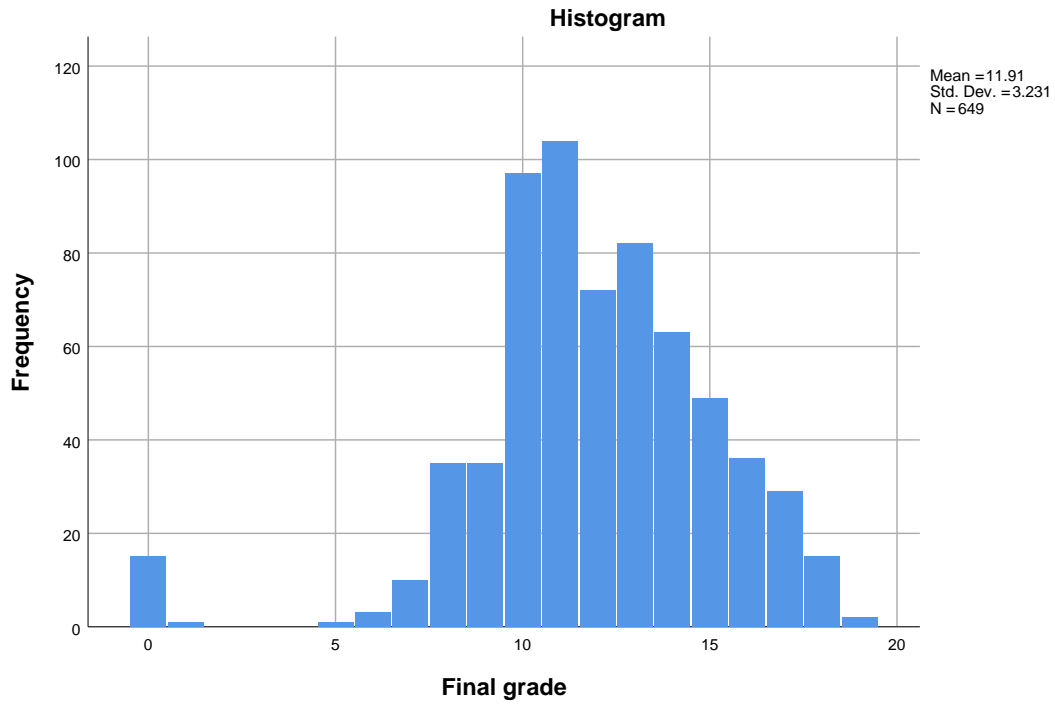
Tests of Normality

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

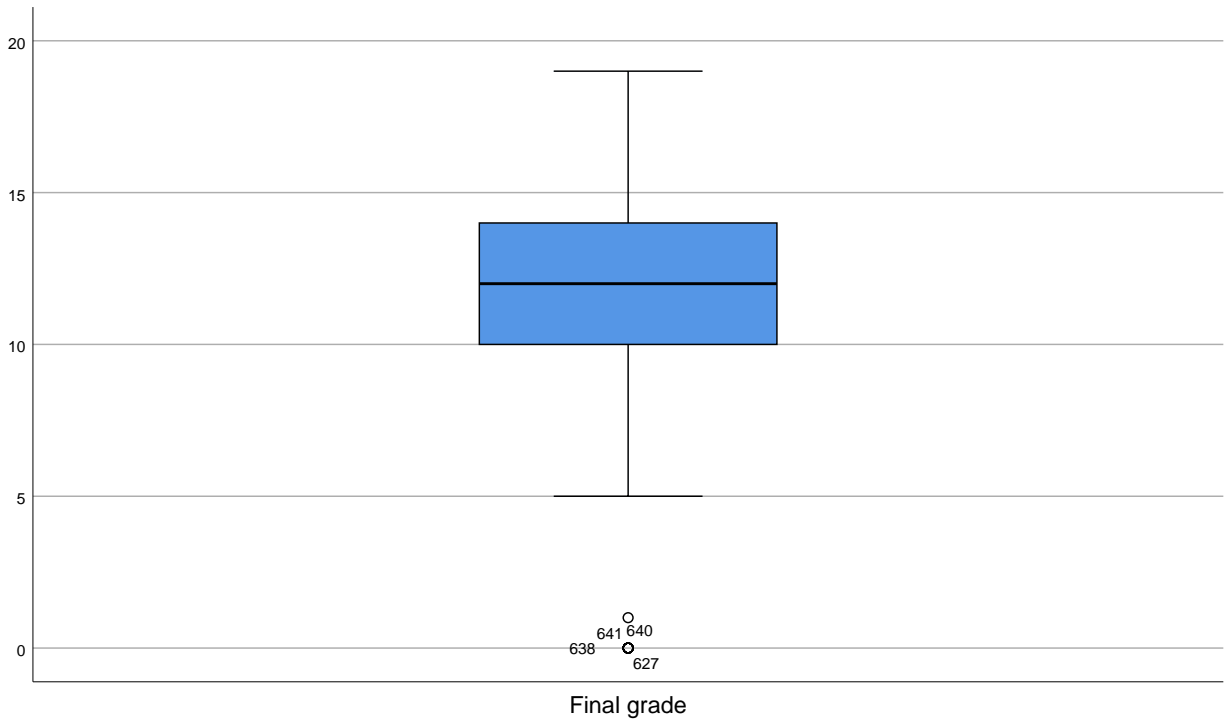
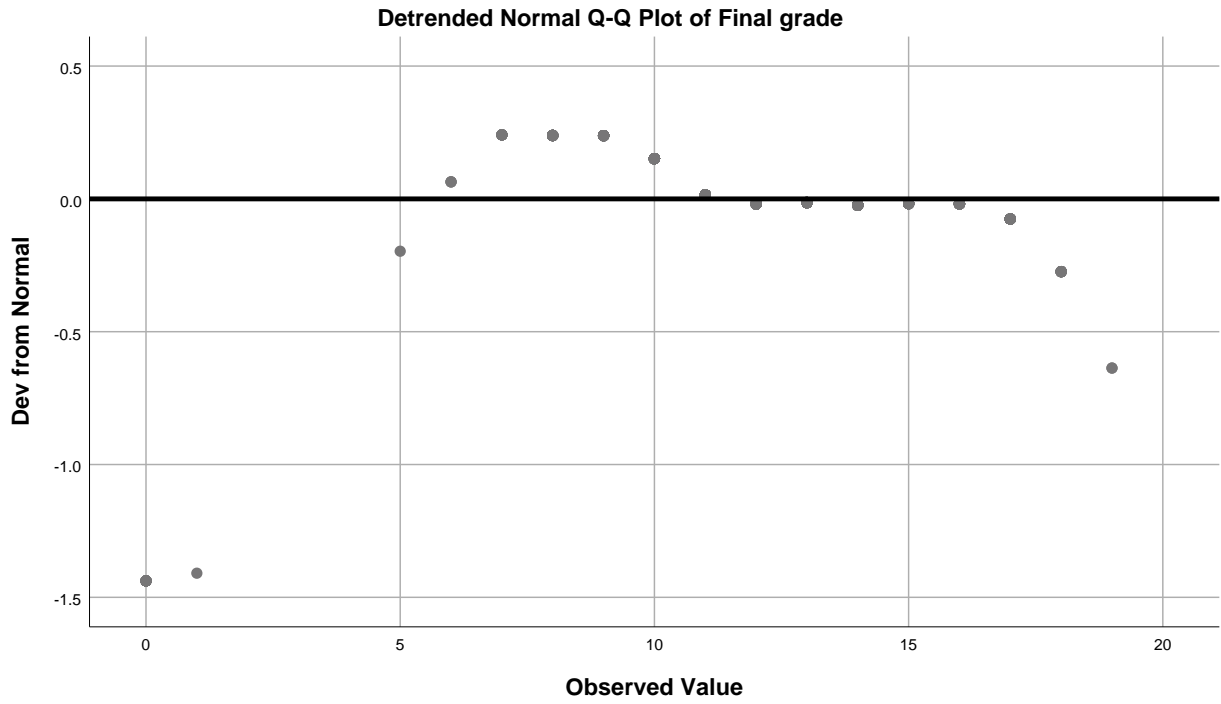
a. Lilliefors Significance Correction

Final grade

Normality context
G3 plots



Normality context
G3 plots



Jarque Bera result

Jarque Bera result
G3 normality

List

[JarqueBeraData] D:\DATA ANALYSIS\B Normality and Assumption Tests\Jarque Bera Test\SPSS_Output\sav\Jarque-Bera-Test-with-calculation.sav

Jarque Bera result
G3 normality

| jb_n_calc | jb_skewness | jb_kurtosis | jb_excess_kurtosis | jb_skew_component | jb_kurt _component | jarque_bera | jb_p_value | jb_reject_05 |
|-----------|-------------|-------------|--------------------|-------------------|-----------------------|-------------|------------|--------------|
|-----------|-------------|-------------|--------------------|-------------------|-----------------------|-------------|------------|--------------|

| | | | | | | | | | |
|-----|---------|---------|---------|--|--------|--------|-----------|--------|------|
| 649 | -.91080 | 5.68212 | 2.68212 | | .13826 | .29974 | 284.26194 | .00000 | 1.00 |
|-----|---------|---------|---------|--|--------|--------|-----------|--------|------|

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

Skewness and kurtosis context

Skewness and kurtosis context
Selected variables

Descriptives

Descriptive Statistics

| | N Statistic | Minimum Statistic | Maximum Statistic | Mean Statistic | Std. Deviation Statistic | Skewness | |
|--------------------|----------------|----------------------|----------------------|-------------------|-----------------------------|-----------|------------|
| | | | | | | Statistic | Std. Error |
| G1 | 649 | 0 | 19 | 11.40 | 2.745 | -.003 | .096 |
| G2 | 649 | 0 | 19 | 11.57 | 2.914 | -.360 | .096 |
| G3 | 649 | 0 | 19 | 11.91 | 3.231 | -.913 | .096 |
| age | 649 | 15 | 22 | 16.74 | 1.218 | .417 | .096 |
| absences | 649 | 0 | 32 | 3.66 | 4.641 | 2.021 | .096 |
| Valid N (listwise) | 649 | | | | | | |

Descriptive Statistics

| | Kurtosis | |
|--------------------|-----------|------------|
| | Statistic | Std. Error |
| G1 | .037 | .192 |
| G2 | 1.662 | .192 |
| G3 | 2.712 | .192 |
| age | .072 | .192 |
| absences | 5.781 | .192 |
| Valid N (listwise) | | |

Grouped normality context

Grouped normality context
G3 by sex

Explore

Sex group

Case Processing Summary

| | sex | Valid | | Cases Missing | | Total | |
|----|-----|-------|---------|---------------|---------|-------|---------|
| | | 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 | M | Mean | 11.41 |
| 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 | | | | |

Grouped normality context
G3 by sex

Descriptives

| sex | | Statistic | Std. Error |
|---------------------|--|-----------|------------|
| Range | | 19 | |
| Interquartile Range | | 3 | |
| Skewness | | -.980 | .149 |
| Kurtosis | | 2.803 | .298 |

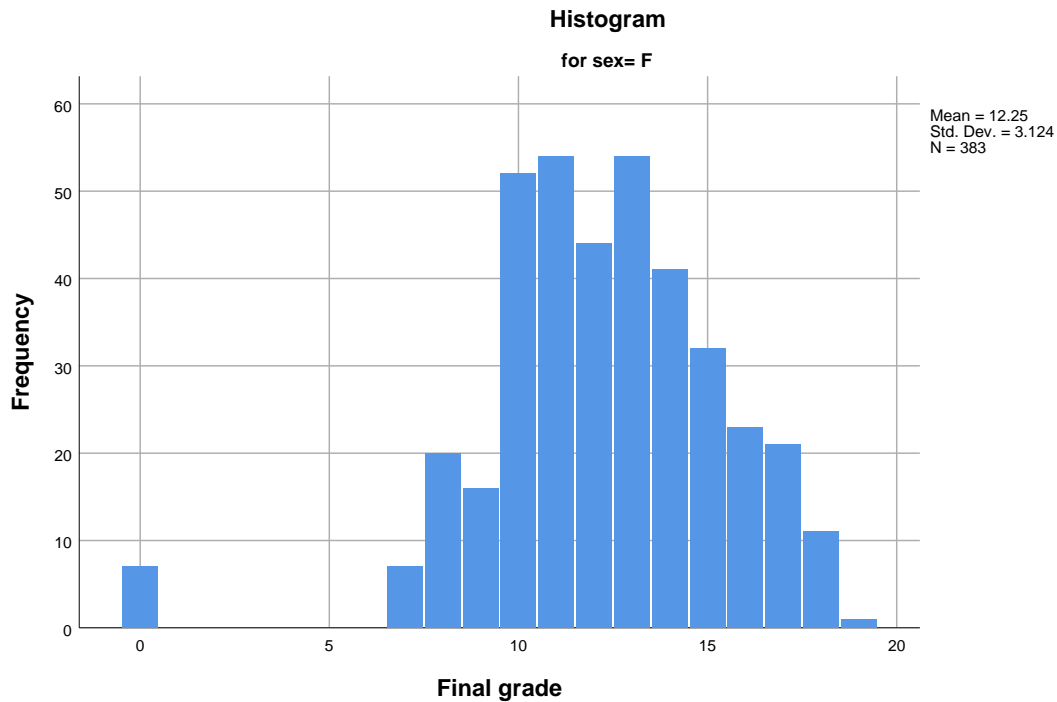
Tests of Normality

| | | 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 |

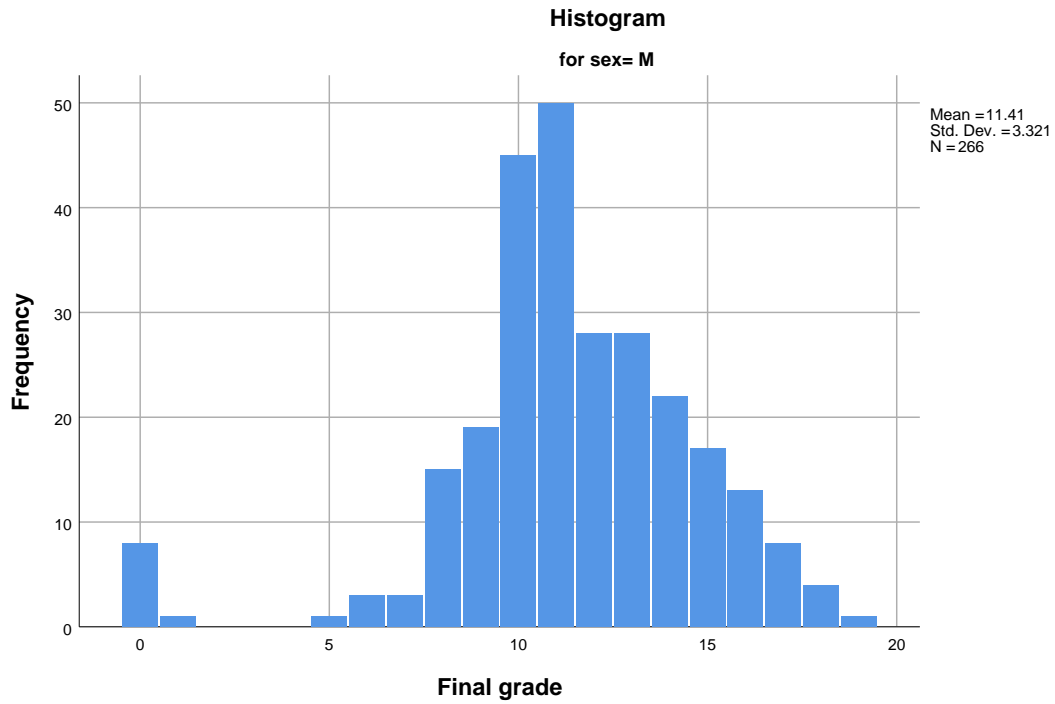
a. Lilliefors Significance Correction

Final grade

Histograms



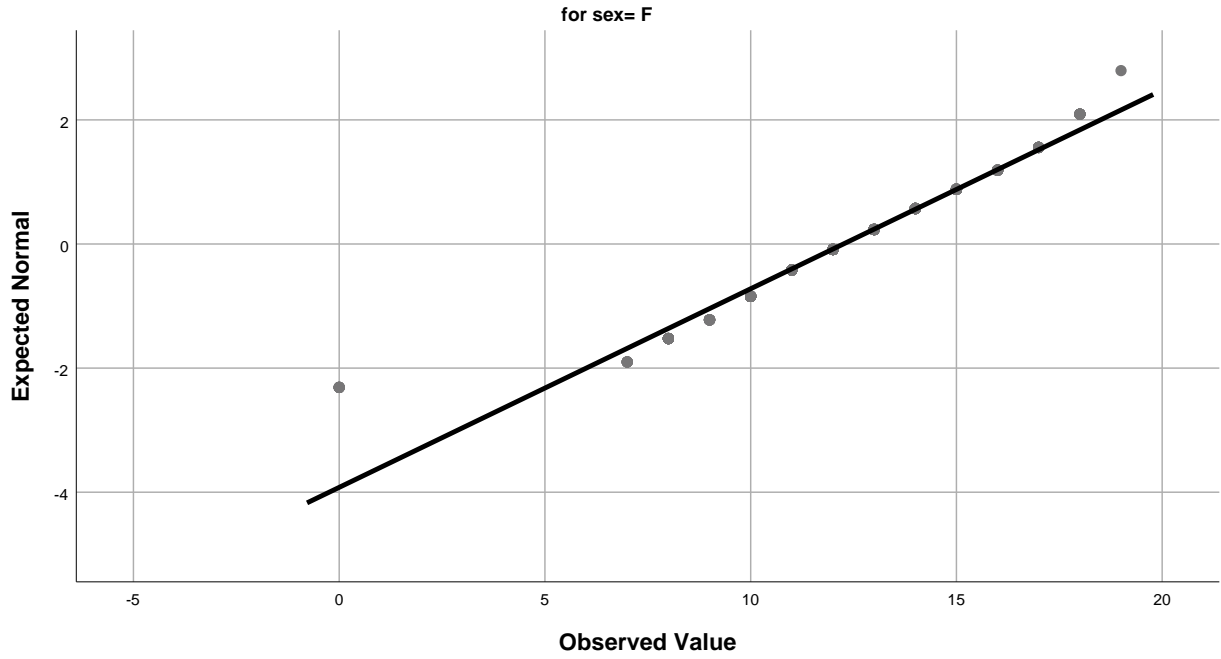
Grouped normality context
G3 by sex



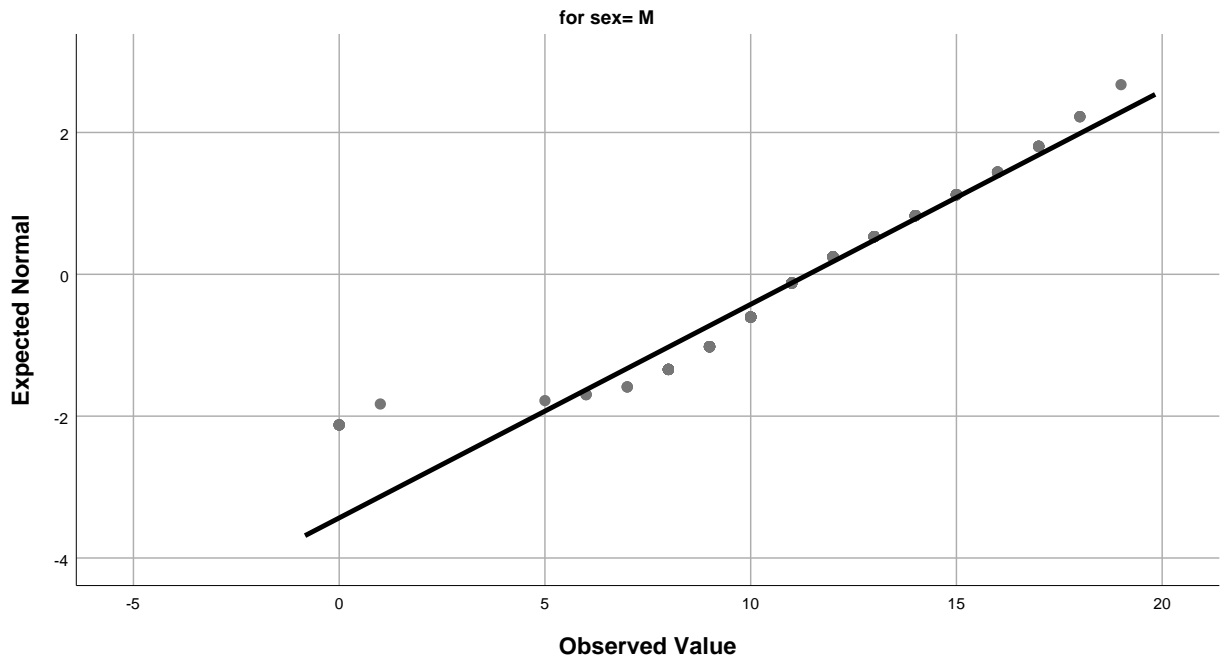
Normal Q-Q Plots

Grouped normality context
G3 by sex

Normal Q-Q Plot of Final grade

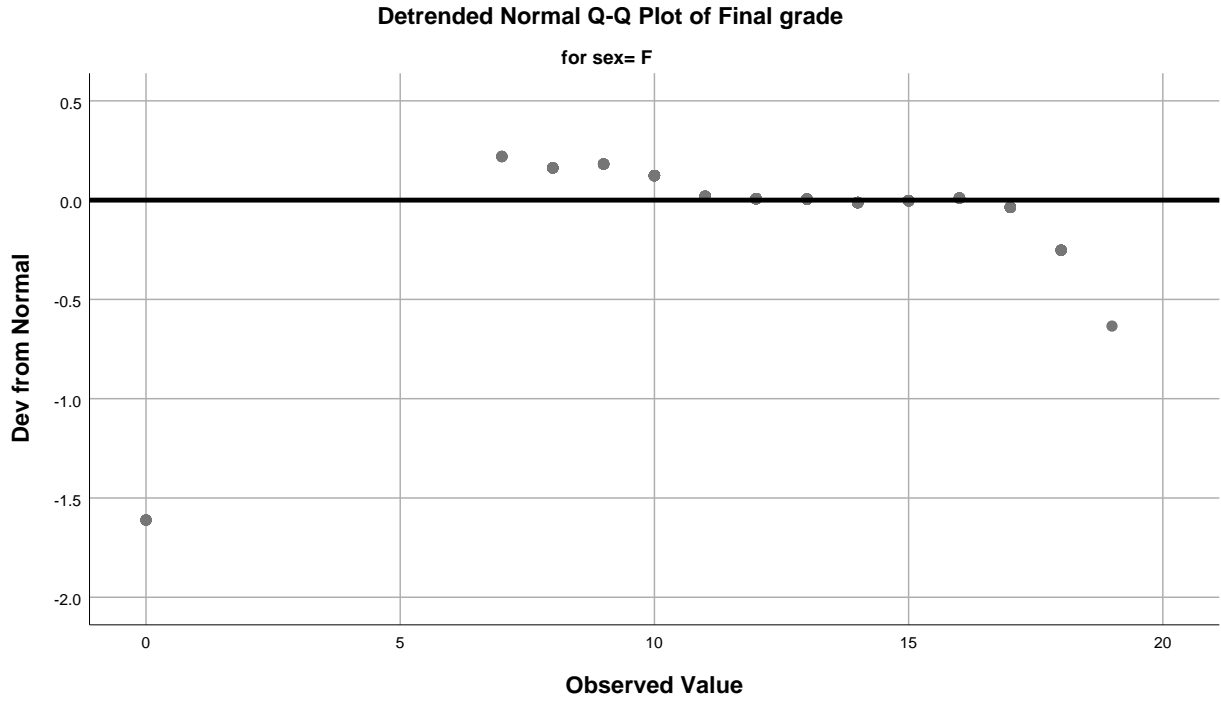


Normal Q-Q Plot of Final grade



Grouped normality context
G3 by sex

Detrended Normal Q-Q Plots



Grouped normality context
G3 by sex

Detrended Normal Q-Q Plot of Final grade

