

Host

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Biserial Correlation

Biserial Correlation
Import data

Biserial Correlation Data Check

Biserial Correlation Data Check
Binary group counts and continuous score descriptives

Frequencies

[BiserialData] D:\DATA ANALYSIS\G Correlation Tests\Biserial Correlation\SPSS_Output\sav\Biserial-Correlation-data.sav

Statistics

		Binary grouping variable	Binary variable coded 0/1 for point-biserial and biserial correlation
N	Valid	649	649
	Missing	0	0

Frequency Table

Binary grouping variable

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	F	383	59.0	59.0	59.0
	M	266	41.0	41.0	100.0
	Total	649	100.0	100.0	

Binary variable coded 0/1 for point-biserial and biserial correlation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	F / group 0	383	59.0	59.0	59.0
	M / group 1	266	41.0	41.0	100.0
	Total	649	100.0	100.0	

Descriptives

Biserial Correlation Data Check
Binary group counts and continuous score descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Final grade / continuous variable	649	0	19	11.91	3.231
Binary variable coded 0/1 for point-biserial and biserial correlation	649	.00	1.00	.4099	.49219
Valid N (listwise)	649				

Point-Biserial Correlation in SPSS

```
>Warning # 2004.  Command name: SUBTITLE  
>The subtitle given exceeds 60 characters in length.  The first 60 characters  
>will be used.
```

Point-Biserial Correlation in SPSS
Pearson correlation between the continuous variable and the

Correlations

Warnings

There is an invalid keyword on the PRINT subcommand. Text
found: FULL

Execution of this command stops.

Mean Difference Context for Biserial Correlation

Mean Difference Context for Biserial Correlation
Independent-samples test for G3 by the binary group

T-Test

Group Statistics

		Binary variable coded 0/1 for point-biserial and biserial correlation		
		N	Mean	Std. Deviation
Final grade / continuous variable	F / group 0	383	12.25	3.124
	M / group 1	266	11.41	3.321

Group Statistics

		Binary variable coded 0/1 for point-biserial and biserial correlation	
		Std. Error Mean	
Final grade / continuous variable	F / group 0	.160	
	M / group 1	.204	

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of .
		F	Sig.	t
Final grade / continuous variable	Equal variances assumed	.004	.950	3.311
	Equal variances not assumed			3.275

Independent Samples Test

		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
Final grade / continuous variable	Equal variances assumed	647	.001	.847
	Equal variances not assumed	547.439	.001	.847

Mean Difference Context for Biserial Correlation
 Independent-samples test for G3 by the binary group

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Final grade / continuous variable	Equal variances assumed	.256	.345	1.350
	Equal variances not assumed	.259	.339	1.355

Distribution and Assumption Context

>Warning # 2004. Command name: SUBTITLE

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

Distribution and Assumption Context
 Boxplot, histogram, and normality context for the continuous

Explore

Binary variable coded 0/1 for point-biserial and biserial correlation

Case Processing Summary

	Binary variable coded 0/1 for point-biserial and biserial correlation	Cases			
		Valid		Missing	
		N	Percent	N	Percent
Final grade / continuous variable	F / group 0	383	100.0%	0	0.0%
	M / group 1	266	100.0%	0	0.0%

Case Processing Summary

	Binary variable coded 0/1 for point-biserial and biserial correlation	Cases	
		Total	
		N	Percent
Final grade / continuous variable	F / group 0	383	100.0%
	M / group 1	266	100.0%

Descriptives

Binary variable coded 0/1 for point-biserial and biserial correlation		
Final grade / continuous variable	F / group 0	Mean
		95% Confidence Interval for Mean
		Lower Bound
		Upper Bound
		5% Trimmed Mean
		Median
		Variance
		Std. Deviation
		Minimum
		Maximum
		Range
		Interquartile Range
		Skewness
	Kurtosis	
M / group 1	Mean	

Distribution and Assumption Context
 Boxplot, histogram, and normality context for the continuous

Descriptives

		Binary variable coded 0/1 for point-biserial and biserial correlation		Statistic
Final grade / continuous variable	F / group 0	Mean		12.25
		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
		Kurtosis		2.683
		M / group 1	Mean	

Descriptives

		Binary variable coded 0/1 for point-biserial and biserial correlation		Std. Error
Final grade / continuous variable	F / group 0	Mean		.160
		95% Confidence Interval for Mean	Lower Bound	
			Upper Bound	
		5% Trimmed Mean		
		Median		
		Variance		
		Std. Deviation		
		Minimum		
		Maximum		
		Range		
		Interquartile Range		
		Skewness		.125
		Kurtosis		.249
		M / group 1	Mean	

Distribution and Assumption Context
 Boxplot, histogram, and normality context for the continuous

Descriptives

Binary variable coded 0/1 for point-biserial and biserial correlation

	95% Confidence Interval for Mean	Lower Bound
		Upper Bound
	5% Trimmed Mean	
	Median	
	Variance	
	Std. Deviation	
	Minimum	
	Maximum	
	Range	
	Interquartile Range	
	Skewness	
	Kurtosis	

Descriptives

Binary variable coded 0/1 for point-biserial and biserial correlation

		Statistic
	95% Confidence Interval for Mean	Lower Bound
		Upper Bound
	5% Trimmed Mean	
	Median	
	Variance	
	Std. Deviation	
	Minimum	
	Maximum	
	Range	
	Interquartile Range	
	Skewness	
	Kurtosis	

Distribution and Assumption Context
 Boxplot, histogram, and normality context for the continuous

Descriptives

Binary variable coded 0/1 for point-biserial and biserial correlation		Std. Error
95% Confidence Interval for Mean	Lower Bound	
	Upper Bound	
5% Trimmed Mean		
Median		
Variance		
Std. Deviation		
Minimum		
Maximum		
Range		
Interquartile Range		
Skewness		.149
Kurtosis		.298

Tests of Normality

	Binary variable coded 0/1 for point-biserial and biserial correlation	Kolmogorov-Smirnov ^a			Shapiro-...
		Statistic	df	Sig.	Statistic
Final grade / continuous variable	F / group 0	.105	383	.000	.934
	M / group 1	.148	266	.000	.913

Tests of Normality

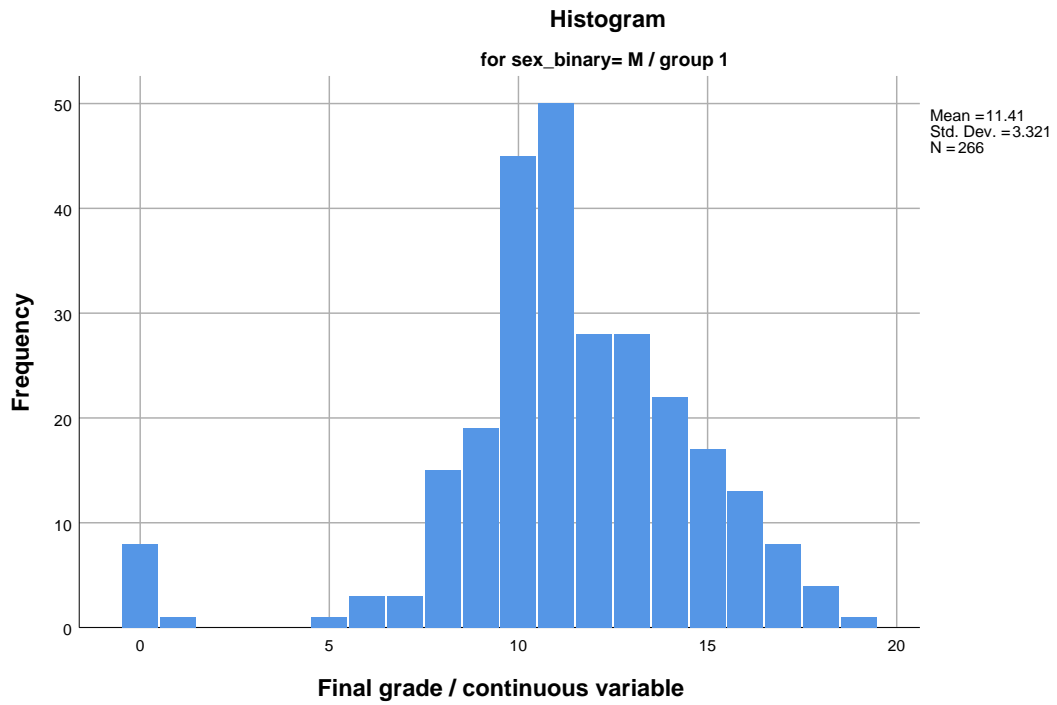
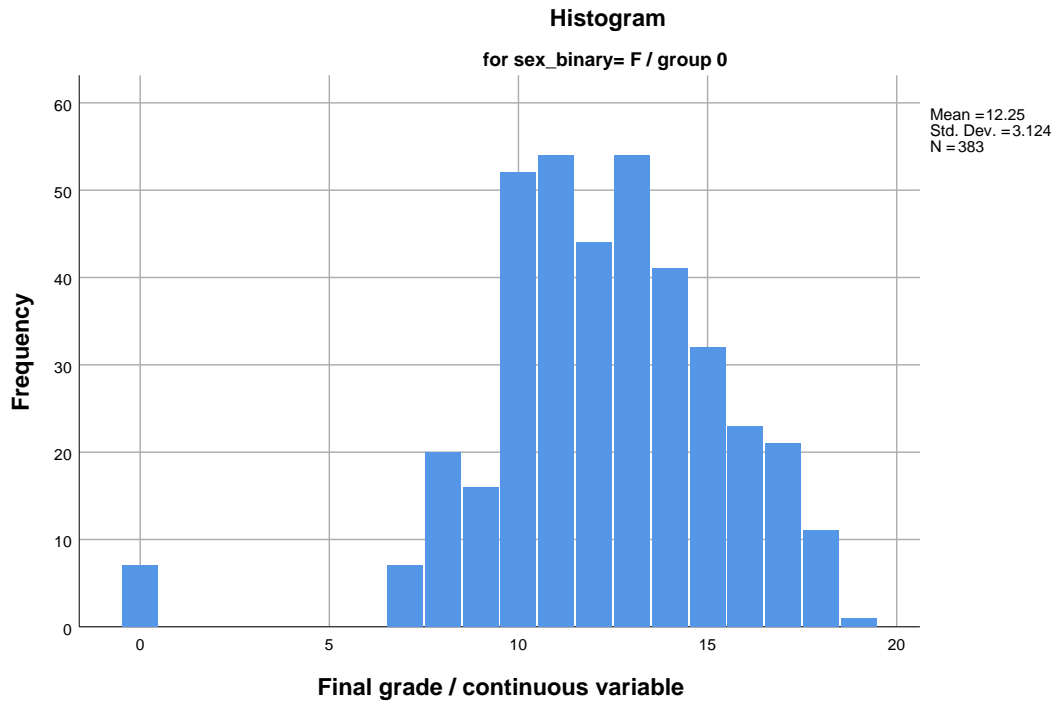
	Binary variable coded 0/1 for point-biserial and biserial correlation	Shapiro-Wilk	
		df	Sig.
Final grade / continuous variable	F / group 0	383	.000
	M / group 1	266	.000

a. Lilliefors Significance Correction

Final grade / continuous variable

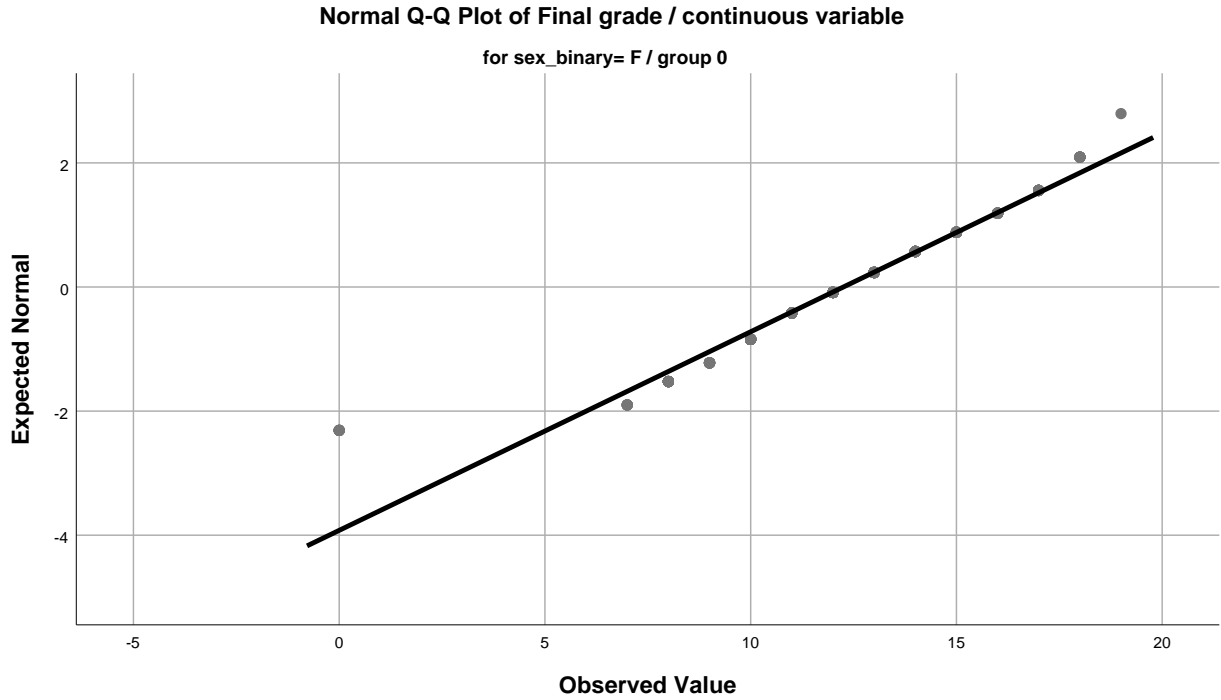
Histograms

Distribution and Assumption Context
Boxplot, histogram, and normality context for the continuous

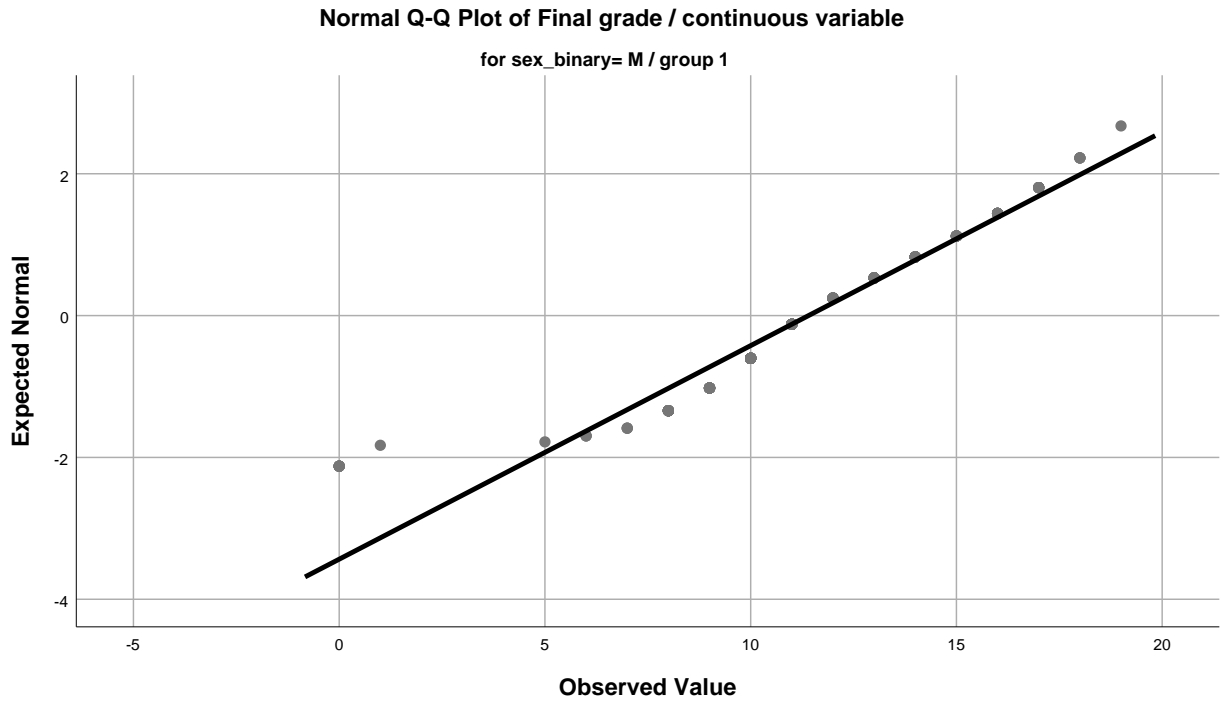


Distribution and Assumption Context
Boxplot, histogram, and normality context for the continuous

Normal Q-Q Plots

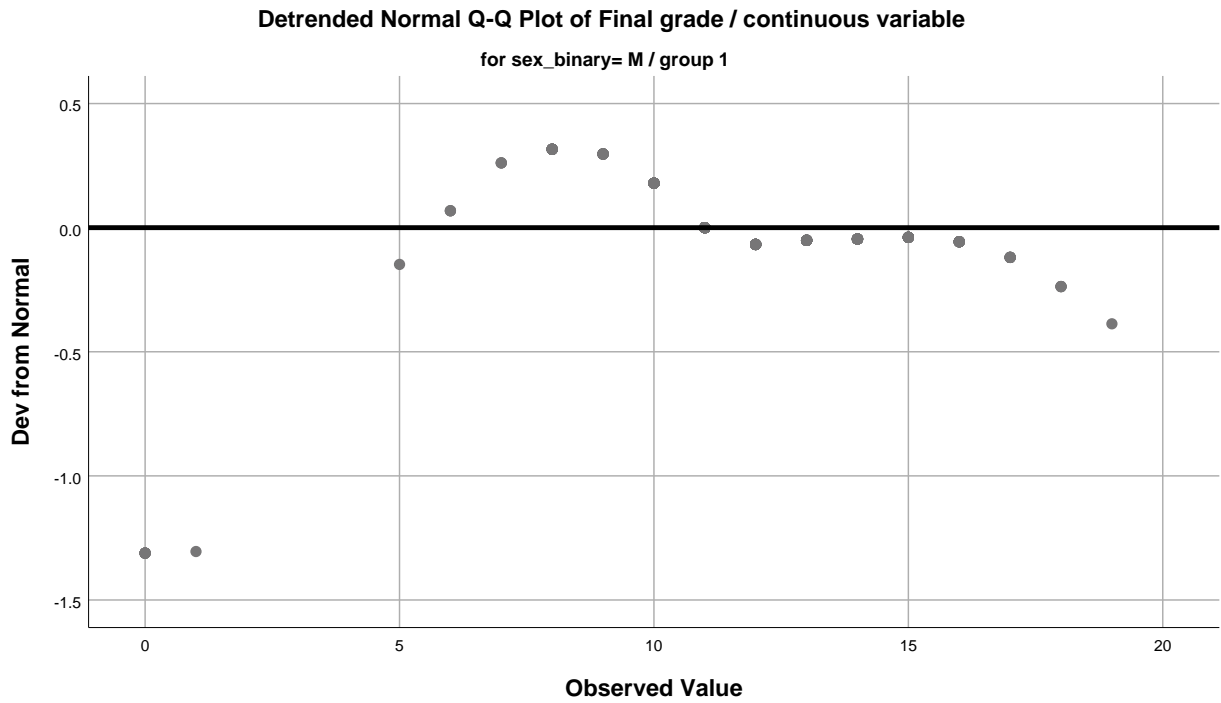
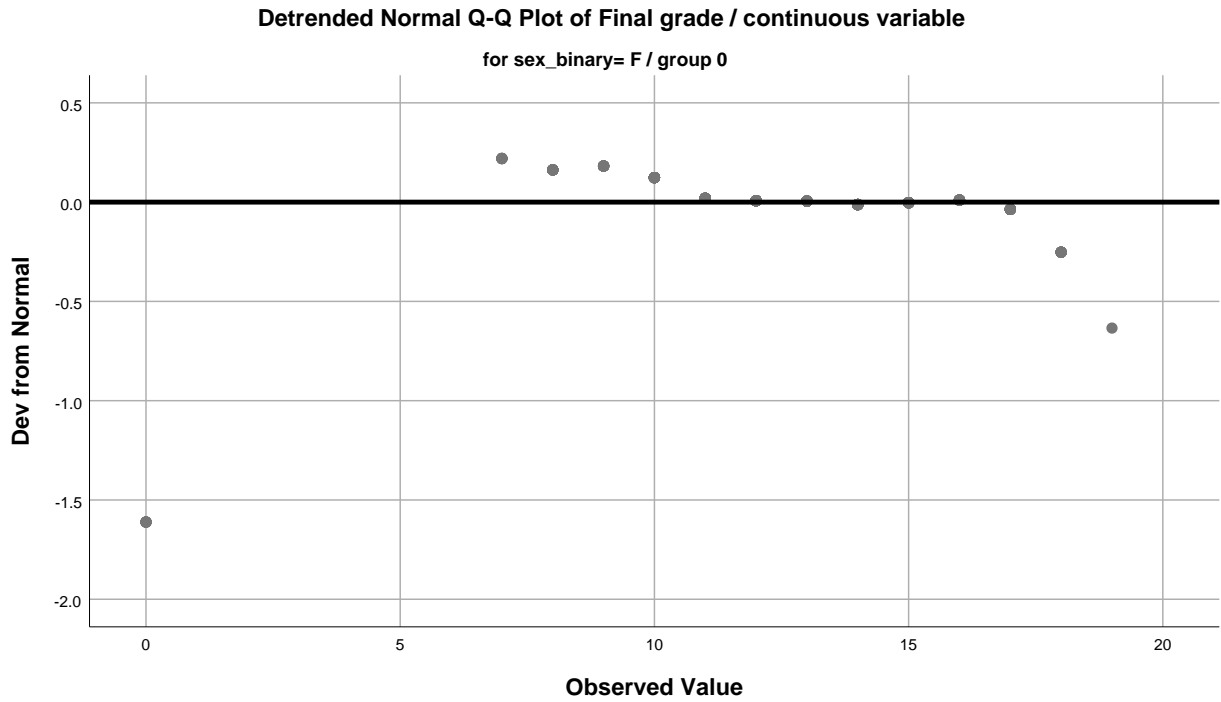


Distribution and Assumption Context
Boxplot, histogram, and normality context for the continuous

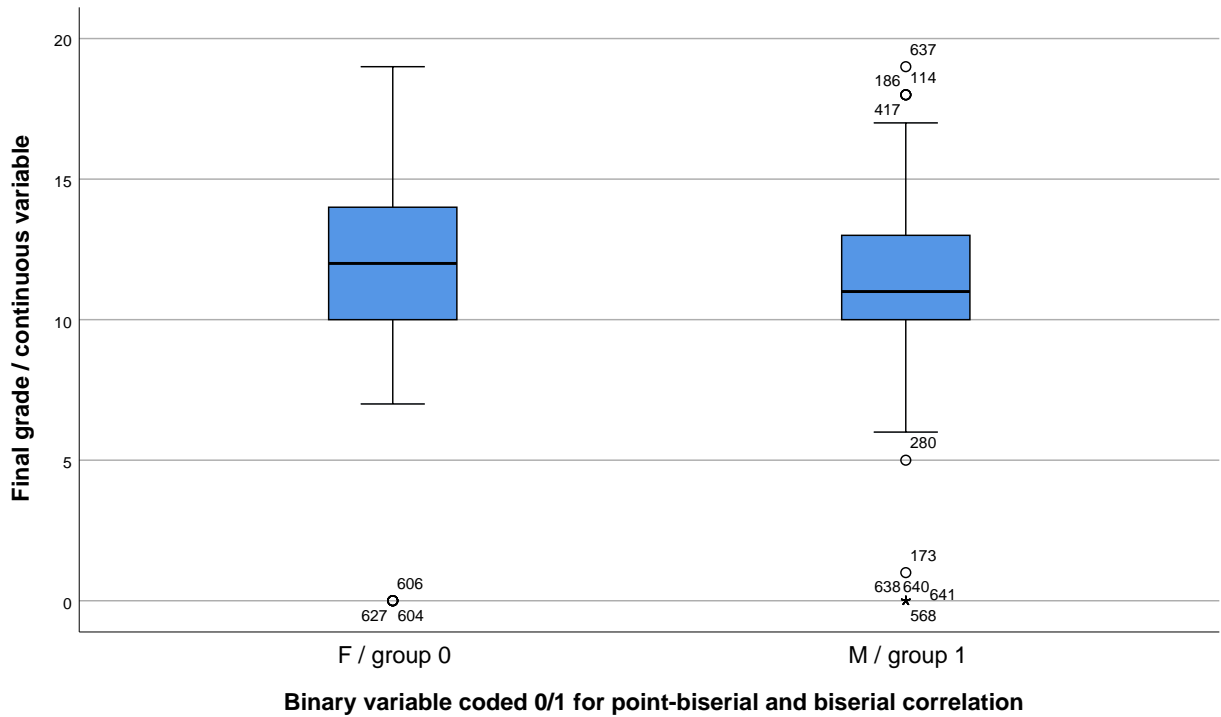


Detrended Normal Q-Q Plots

Distribution and Assumption Context
Boxplot, histogram, and normality context for the continuous



Distribution and Assumption Context
Boxplot, histogram, and normality context for the continuous



Manual Biserial Correlation Calculation

```
>Warning # 2004.  Command name: SUBTITLE  
>The subtitle given exceeds 60 characters in length.  The first 60 characters  
>will be used.
```

Manual Biserial Correlation Calculation
One-row calculation: point-biserial formula and biserial nor

List

The variables are listed in the following order:

```
LINE 1: n_total n_group0 n_group1 proportion_group0_q proportion_group1_p me  
an_group0 mean_group1 sd_total  
mean_difference_group1_minus_group0 point_biserial_formula t_value_p  
oint_biserial df_point_biserial  
  
LINE 2: p_value_two_tailed normal_cut_point_z normal_ordinate_y biserial_cor  
relation_formula
```

Manual Biserial Correlation Calculation
One-row calculation: point-biserial formula and biserial nor

```
      n_total:      649      383      266      .59014      .40986      12.25      11.
41      3.23      -.85      -.12898      -3.31      647.00
p_value_two_:      .00099      .23      .39      -.16318
```

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

Graph

```
>Error # 17804 in column 4.  Text: BOXPLOT
>Unrecognized subcommand was found.  Recognized subcommands are: TITLE,
>SUBTITLE, FOOTNOTE, BAR, PIE, LINE, HISTOGRAM, SCATTERPLOT, HILO, ERRORBAR an
d
>TEMPLATE.  Skipping to a "/".
>Execution of this command stops.
```

Graph

