```
SET TLook=None FOOTNOTE=ON Small=0.0001 SUMMARY=None THREADS=AUTO SIGLESS=YES
TFit=Both DIGITGROUPING=No LEADZERO=No TABLERENDER=light.
SET Printback=On.
SET Small=0.0001 THREADS=AUTO DIGITGROUPING=No LEADZERO=No.
SET Small=0.0001 THREADS=AUTO DIGITGROUPING=No LEADZERO=No.
SET CTemplate=None Epoch=Automatic SIGLESS=YES RNG=MC TLook='C:\PROGRA~1\IBM\S
PSS\STATIS~1\27\Looks\CompactBoxed.stt' FOOTNOTE=ON Format=F8.2 SUMMARY=None S
CALEMIN=24 TFit=Both FUZZBITS=6 TABLERENDER=light.
SET TLook='C:\PROGRA~1\IBM\SPSS\STATIS~1\27\Looks\CompactBoxed.stt' FOOTNOTE=O
N SUMMARY=None SIGLESS=YES TFit=Both TABLERENDER=light.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\SPSSINC_RECODEEX.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_PACKAGE_INSTALL.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_VALLBLS_FROMDATA.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\SETSMACRO.xml'.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_DATASET.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_CONVERT_PYTHON.xml '.
```

```
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_CORRELATIONS.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\propor.xml'.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_OPTBINEX.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\SPSSINC_ANON.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_PMML_DISPLAY.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_WEIGHTED_KAPPA.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\SPSSINC_PROGRAM.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_OPEN_PROJECT.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\SPSSINC_COMPARE_DATASETS.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_NTILE_ANALYSIS.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_BENCHMRK.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\SPSSINC_MODIFY_OUTPUT.xml '.
```

```
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\LSMON.xml'.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\CWD.xml'.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\SPSSINC_PROCESS_FILESORIG.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_FIND_FILE.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_SOUND.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_FLEISS_KAPPA.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_POWERCHISQUARE.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\SPSSINC_MODIFY_TABLES.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_GET_TRIPLES.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_CARTPROD.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_MAKE_CATALOG.xml '.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_IF.xml'.
```

```
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\SCRIPTEX.xml'.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_GETSET_DATASET.xml'.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\SPSSINC_TRANSLATE_OUTPUT.xml'.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_DATA_DATE.xml'.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_MCSET_CONVERT.xml'.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_OUTPUT_ATTRS.xml'.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_MAKE_CASES.xml'.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_PSM.xml'.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_PREPROCESS.xml'.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_UPDATE.xml'.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_IMBALANCED.xml'.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_TEXTANALYSIS.xml'.
```

```
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_R36_CONFIGURATION.xml'.
EXTENSION /SPECIFICATION COMMAND='C:\ProgramData\IBM\SPSS\Statistics\27\extens
ions\STATS_EXTENSION_REPORT.xml'.

STATS_EXTENSION_REPORT bundle successfully installed.
Dialog(s) for STATS_EXTENSION_REPORT extension installed to:
Extensions>Installed Extensions Report

STATS R36 CONFIGURATION bundle successfully installed.
Dialog(s) for STATS R36 CONFIGURATION extension installed to:
Extensions>R3.6 Configuration

STATS TEXTANALYSIS bundle successfully installed.
Dialog(s) for STATS TEXTANALYSIS extension installed to:
Analyze>Descriptive Statistics>Text Analysis

STATS_IMBALANCED bundle successfully installed.
Dialog(s) for STATS_IMBALANCED extension installed to:
Data>Imbalanced Resample

STATS_UPDATE bundle successfully installed.
Dialog(s) for STATS_UPDATE extension installed to:
Data>Merge Files>Update

STATS PREPROCESS bundle successfully installed.
Dialog(s) for STATS PREPROCESS extension installed to:
```

```
Transform>Preprocess Variables

STATS_PSM bundle successfully installed.
Dialog(s) for STATS_PSM extension installed to:
Data>Propensity Score Matching...

STATS MAKE CASES bundle successfully installed.
Dialog(s) for STATS MAKE CASES extension installed to:
File>New>Data with Cases

STATS OUTPUT ATTRS bundle successfully installed.
Dialog(s) for STATS OUTPUT ATTRS extension installed to:
File>Set Viewer Output Options (Syntax)...

STATS MCSET CONVERT bundle successfully installed.
Dialog(s) for STATS MCSET CONVERT extension installed to:
Analyze>Tables>Convert Multiple Category Set

STATS_DATA_DATE bundle successfully installed.
Dialog(s) for STATS_DATA_DATE extension installed to:
Data>Define Date from Data...

SPSSINC TRANSLATE OUTPUT bundle successfully installed.

STATS GETSET DATASET bundle successfully installed.
Dialog(s) for STATS GETSET DATASET extension installed to:
File>SPSS Data with DS Name
```

```
STATS QUOTE SQLTEXT bundle successfully installed.
Dialog(s) for STATS QUOTE SQLTEXT extension installed to:
Utilities>Quote Text File Contents

SCRIPTEX bundle successfully installed.

STATS IF bundle successfully installed.
Dialog(s) for STATS IF extension installed to:
Utilities>Conditionally Execute Code Blocks

STATS_MAKE_CATALOG bundle successfully installed.
Dialog(s) for STATS_MAKE_CATALOG extension installed to:
File>Make Variable Catalog

STATS CARTPROD bundle successfully installed.
Dialog(s) for STATS CARTPROD extension installed to:
Data>Cartesian Product

STATS GET TRIPLES bundle successfully installed.
Dialog(s) for STATS GET TRIPLES extension installed to:
File>Read Triple-S Data

generalopen bundle successfully installed.
Dialog(s) for generalopen extension installed to:
File>General Open
null
```

```
SPSSINC_MODIFY_TABLES bundle successfully installed.
Dialog(s) for SPSSINC_MODIFY_TABLES extension installed to:
Utilities>Modify Table Appearance

Select Predictors bundle successfully installed.
Dialog(s) for Select Predictors extension installed to:
Analyze>Dimension Reduction>Predictor Selection

STATS_POWERCHISQUARE bundle successfully installed.
Dialog(s) for STATS_POWERCHISQUARE extension installed to:
Analyze>Power Analysis>Proportions>Chi-Square

STATS FLEISS KAPPA bundle successfully installed.
Dialog(s) for STATS FLEISS KAPPA extension installed to:
Analyze>Scale>Fleiss Kappa

STATS SOUND bundle successfully installed.
Dialog(s) for STATS SOUND extension installed to:
Utilities>Play Sound

STATS FIND FILE bundle successfully installed.
Dialog(s) for STATS FIND FILE extension installed to:
File>Find File

FormatCorrelations bundle successfully installed.
Dialog(s) for FormatCorrelations extension installed to:
```

```
Utilities>Format Correlation Matrix

SPSSINC PROCESS FILESORIG bundle successfully installed.
Dialog(s) for SPSSINC PROCESS FILESORIG extension installed to:
Utilities>Process Data Files Original

CWD bundle successfully installed.

LSMON bundle successfully installed.
Dialog(s) for LSMON extension installed to:
Utilities>Monitor License Usage

SimulateActiveDataset bundle successfully installed.
Dialog(s) for SimulateActiveDataset extension installed to:
Data>Simulate Active Dataset

SPSSINC MODIFY OUTPUT bundle successfully installed.
Dialog(s) for SPSSINC MODIFY OUTPUT extension installed to:
Utilities>Modify Output Titles

CFA bundle successfully installed.
Dialog(s) for CFA extension installed to:
Analyze>Descriptive Statistics>Configural Frequency Analysis

STATS BENCHMRK bundle successfully installed.
Dialog(s) for STATS BENCHMRK extension installed to:
Utilities>Benchmark
```

```
STATS NTILE ANALYSIS bundle successfully installed.
Dialog(s) for STATS NTILE ANALYSIS extension installed to:
Analyze>Classify>Ntile Analysis
null

SPSSINC COMPARE DATASETS bundle successfully installed.
Dialog(s) for SPSSINC COMPARE DATASETS extension installed to:
Data>Compare Datasets

STATS OPEN PROJECT bundle successfully installed.
Dialog(s) for STATS OPEN PROJECT extension installed to:
File>Open>Project

Descriptive Statistics Example bundle successfully installed.
Dialog(s) for Descriptive Statistics Example extension installed to:
Extensions>Descriptive Statistics Example

SPSSINC PROGRAM bundle successfully installed.
Dialog(s) for SPSSINC PROGRAM extension installed to:
Utilities>Run Python Program

STATS WEIGHTED KAPPA bundle successfully installed.
Dialog(s) for STATS WEIGHTED KAPPA extension installed to:
Analyze>Scale>Weighted Kappa

STATS PMML DISPLAY bundle successfully installed.
```

```
Dialog(s) for STATS PMML DISPLAY extension installed to:
Utilities>Display PMML Models

SPSSINC ANON bundle successfully installed.
Dialog(s) for SPSSINC ANON extension installed to:
Transform>Anonymize Variables

STATS OPTBINEX bundle successfully installed.
Dialog(s) for STATS OPTBINEX extension installed to:
Transform>Extended Optimal Binning

RegBestSubsets bundle successfully installed.
Dialog(s) for RegBestSubsets extension installed to:
Analyze>Regression>Regression Best Subsets

PROPOR bundle successfully installed.
Dialog(s) for PROPOR extension installed to:
Analyze>Compare Means>Proportion Confidence Intervals

RegBoxCoxTransforms bundle successfully installed.
Dialog(s) for RegBoxCoxTransforms extension installed to:
Analyze>Regression>Box-Cox Transformations

ColPropTest bundle successfully installed.
Dialog(s) for ColPropTest extension installed to:
Analyze>Descriptive Statistics>Column proportions test
```

```
STATS CORRELATIONS bundle successfully installed.
Dialog(s) for STATS CORRELATIONS extension installed to:
Analyze>Correlate>Bivariate with Confidence Intervals...

Naive Bayes Classifier bundle successfully installed.
Dialog(s) for Naive Bayes Classifier extension installed to:
Analyze>Classify>Naive Bayes

STATS CONVERT PYTHON bundle successfully installed.
Dialog(s) for STATS CONVERT PYTHON extension installed to:
Utilities>Python2 Conversion

RegCompResPlots bundle successfully installed.
Dialog(s) for RegCompResPlots extension installed to:
Analyze>Regression>Component+Residual Plots

STATS DATASET bundle successfully installed.
Dialog(s) for STATS DATASET extension installed to:
File>Manage Datasets

SETSMACRO bundle successfully installed.
Dialog(s) for SETSMACRO extension installed to:
Utilities>Generate Syntax from Sets

STATS VALLBLS FROMDATA bundle successfully installed.
Dialog(s) for STATS VALLBLS FROMDATA extension installed to:
Data>Create Value Labels from Data
```

```
STATS_PACKAGE_INSTALL bundle successfully installed.
Dialog(s) for STATS_PACKAGE_INSTALL extension installed to:
Extensions>Install Python and R Modules

STATS QUADE ANCOVA bundle successfully installed.
Dialog(s) for STATS QUADE ANCOVA extension installed to:
Analyze>Nonparametric Tests>Quade Nonparametric ANCOVA

SPSSINC_RECODEEX bundle successfully installed.
Dialog(s) for SPSSINC_RECODEEX extension installed to:
Transform>Extended Recode
null
null

Extension file(s) installed to:
C:\ProgramData\IBM\SPSS\Statistics\27\extensions
Dialog file(s) installed to:
C:\ProgramData\IBM\SPSS\Statistics\27\CustomDialogs\spss.enhanced


 GET
  FILE='C:\Users\stefa\OneDrive - Careered - CTU\2024\RES814\Data Files SPSS\W
eek 1\schools.sav'.
ALTER TYPE ALL(A=AMIN).
```

Alter Type

C:\Users\stefa\OneDrive - Careered - CTU\2024\RES814\Data Files SPSS\Week 1\schools.sav

Altered Types

School name	A60	**AMIN**

```
 DATASET NAME DataSet1 WINDOW=FRONT.
GET
  FILE='C:\Users\stefa\OneDrive - Careered - CTU\2024\RES814\Data Files SPSS\Week 1\electric.sav'.
DATASET NAME DataSet2 WINDOW=FRONT.
GET
  FILE='C:\Users\stefa\OneDrive - Careered - CTU\2024\RES814\Data Files SPSS\Week 1\gss.sav'.
DATASET NAME DataSet3 WINDOW=FRONT.
DATASET ACTIVATE DataSet1.
T-TEST PAIRS=act94 WITH act93 (PAIRED)
  /ES DISPLAY(TRUE) STANDARDIZER(SD)
  /CRITERIA=CI(.9500)
  /MISSING=LISTWISE.
```

T-Test

[DataSet1] C:\Users\stefa\OneDrive - Careered - CTU\2024\RES814\Data Files SPSS\Week 1\schools.sav

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	average ACT score 1994	**15.861**	**64**	**1.8351**	**.2294**
	average ACT score 1993	**15.986**	**64**	**1.8401**	**.2300**

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	average ACT score 1994 & average ACT score 1993	**64**	**.972**	**.000**

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	average ACT score 1994 - average ACT score 1993	**-.1250**	**.4342**	**.0543**	**-.2335**	**-.0165**	**-2.303**	**63**	**.025**

Paired Samples Effect Sizes

			Standardizer[a]	Point Estimate	95% Confidence Interval Lower	Upper
Pair 1	average ACT score 1994 - average ACT score 1993	Cohen's d	**.4342**	**-.288**	**-.537**	**-.037**
		Hedges' correction	**.4369**	**-.286**	**-.534**	**-.036**

a. The denominator used in estimating the effect sizes.
Cohen's d uses the sample standard deviation of the mean difference.
Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.

```
 DATASET ACTIVATE DataSet2.
EXAMINE VARIABLES=chol58 BY vital10
  /PLOT BOXPLOT STEMLEAF HISTOGRAM NPPLOT SPREADLEVEL(0)
```

```
  /COMPARE GROUPS
  /MESTIMATORS HUBER(1.339) ANDREW(1.34) HAMPEL(1.7,3.4,8.5) TUKEY(4.685)
  /PERCENTILES(5,10,25,50,75,90,95) HAVERAGE
  /STATISTICS DESCRIPTIVES EXTREME
  /CINTERVAL 95
  /MISSING REPORT
  /NOTOTAL.
```

Explore

```
[DataSet2] C:\Users\stefa\OneDrive - Careered - CTU\2024\RES814\Data Files SPSS\Week 1
\electric.sav
```

Status at Ten Years

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	Status at Ten Years	N	Percent	N	Percent	N	Percent
Serum Cholesterol 58 -- Mg per DL	Alive	**179**	**100.0%**	**0**	**0.0%**	**179**	**100.0%**
	Dead	**61**	**100.0%**	**0**	**0.0%**	**61**	**100.0%**

Descriptives

Status at Ten Years				Statistic	Std. Error
Serum Cholesterol 58 -- Mg per DL	Alive	Mean		**264.87**	**3.960**
		95% Confidence Interval for Mean	Lower Bound	**257.05**	
			Upper Bound	**272.68**	
		5% Trimmed Mean		**262.57**	
		Median		**260.00**	
		Variance		**2806.993**	
		Std. Deviation		**52.981**	
		Minimum		**154**	
		Maximum		**515**	
		Range		**361**	
		Interquartile Range		**66**	
		Skewness		**.913**	**.182**
		Kurtosis		**2.205**	**.361**
	Dead	Mean		**261.80**	**6.633**
		95% Confidence Interval for Mean	Lower Bound	**248.53**	
			Upper Bound	**275.07**	
		5% Trimmed Mean		**262.48**	
		Median		**264.00**	
		Variance		**2683.927**	
		Std. Deviation		**51.807**	
		Minimum		**106**	
		Maximum		**375**	
		Range		**269**	
		Interquartile Range		**60**	
		Skewness		**-.217**	**.306**
		Kurtosis		**.538**	**.604**

M-Estimators

	Status at Ten Years	Huber's M-Estimator[a]	Tukey's Biweight[b]	Hampel's M-Estimator[c]	Andrews' Wave[d]
Serum Cholesterol 58 -- Mg per DL	Alive	**260.18**	**258.85**	**260.26**	**258.81**
	Dead	**262.00**	**262.85**	**262.76**	**262.83**

a. The weighting constant is 1.339.

b. The weighting constant is 4.685.

c. The weighting constants are 1.700, 3.400, and 8.500

d. The weighting constant is 1.340*pi.

Percentiles

		Status at Ten Years	Percentiles 5	10	25	50	75	90	95
Weighted Average(Definition 1)	Serum Cholesterol 58 -- Mg per DL	Alive	**188.00**	**205.00**	**228.00**	**260.00**	**294.00**	**330.00**	**358.00**
		Dead	**176.70**	**194.80**	**233.00**	**264.00**	**292.50**	**327.80**	**350.80**
Tukey's Hinges	Serum Cholesterol 58 -- Mg per DL	Alive			**228.00**	**260.00**	**294.00**		
		Dead			**235.00**	**264.00**	**292.00**		

Extreme Values

	Status at Ten Years			Case Number	Value
Serum Cholesterol 58 -- Mg per DL	Alive	Highest	1	**67**	**515**
			2	**52**	**425**
			3	**137**	**393**
			4	**92**	**388**
			5	**139**	**373**
		Lowest	1	**94**	**154**
			2	**236**	**169**
			3	**133**	**175**
			4	**87**	**176**
			5	**172**	**177**
	Dead	Highest	1	**40**	**375**
			2	**47**	**368**
			3	**19**	**351**
			4	**14**	**349**
			5	**42**	**338**
		Lowest	1	**51**	**106**
			2	**12**	**157**
			3	**58**	**176**
			4	**120**	**183**
			5	**112**	**191**

Tests of Normality

	Status at Ten Years	Kolmogorov-Smirnov[a] Statistic	df	Sig.	Shapiro-Wilk Statistic	df	Sig.
Serum Cholesterol 58 -- Mg per DL	Alive	**.072**	**179**	**.026**	**.961**	**179**	**.000**
	Dead	**.057**	**61**	**.200***	**.990**	**61**	**.903**

*. This is a lower bound of the true significance.

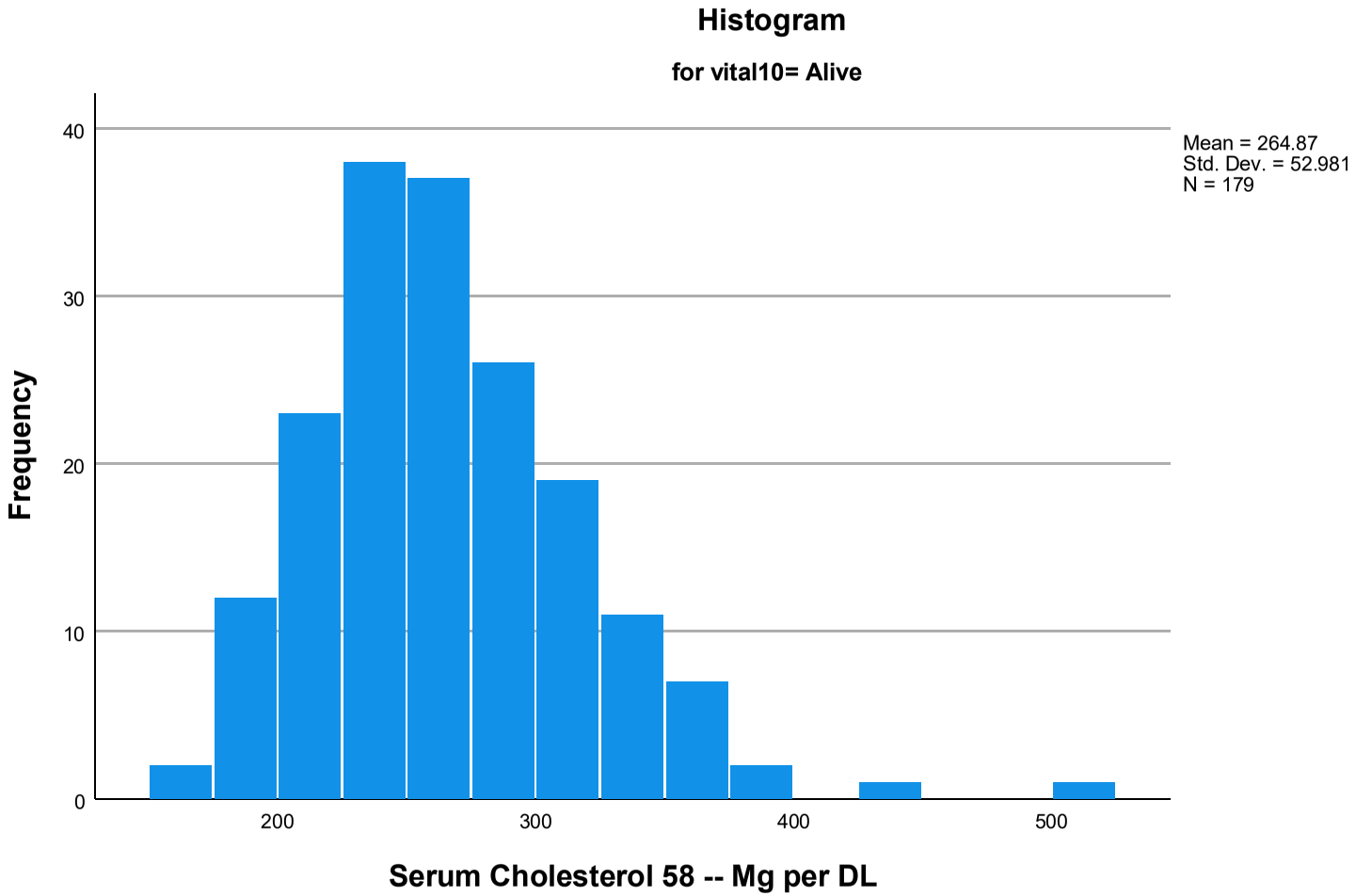
a. Lilliefors Significance Correction

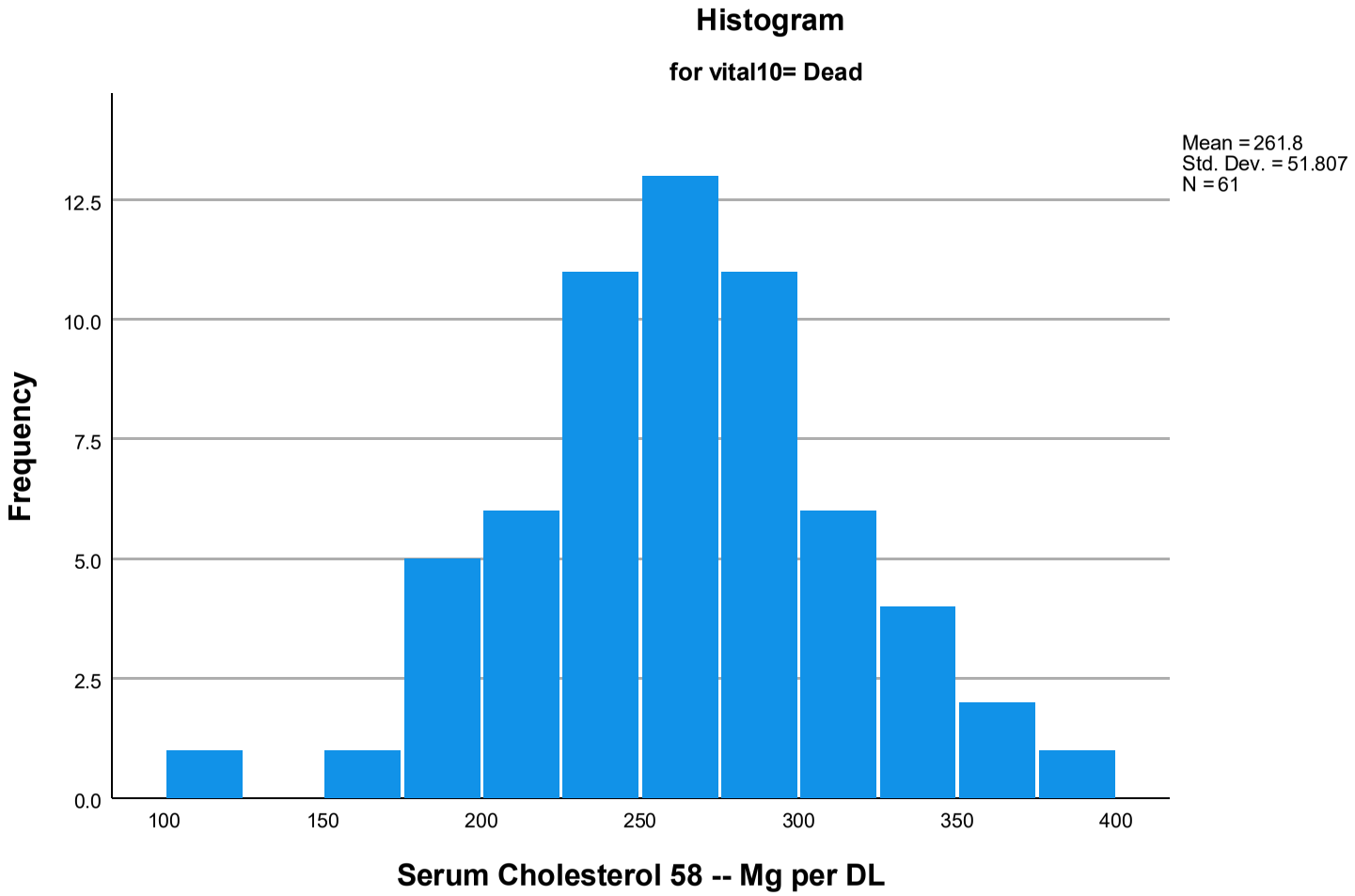
Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Serum Cholesterol 58 -- Mg per DL	Based on Mean	**.101**	**1**	**238**	**.751**
	Based on Median	**.037**	**1**	**238**	**.847**
	Based on Median and with adjusted df	**.037**	**1**	**224.938**	**.847**
	Based on trimmed mean	**.057**	**1**	**238**	**.811**

Serum Cholesterol 58 -- Mg per DL

Histograms


Histogram
for vital10= Alive
Mean = 264.87
Std. Dev. = 52.981
N = 179
Frequency
40
30
20
10
0
200
300
400
500
Serum Cholesterol 58 -- Mg per DL



Stem-and-Leaf Plots

Serum Cholesterol 58 -- Mg per DL Stem-and-Leaf Plot for vital10= Alive

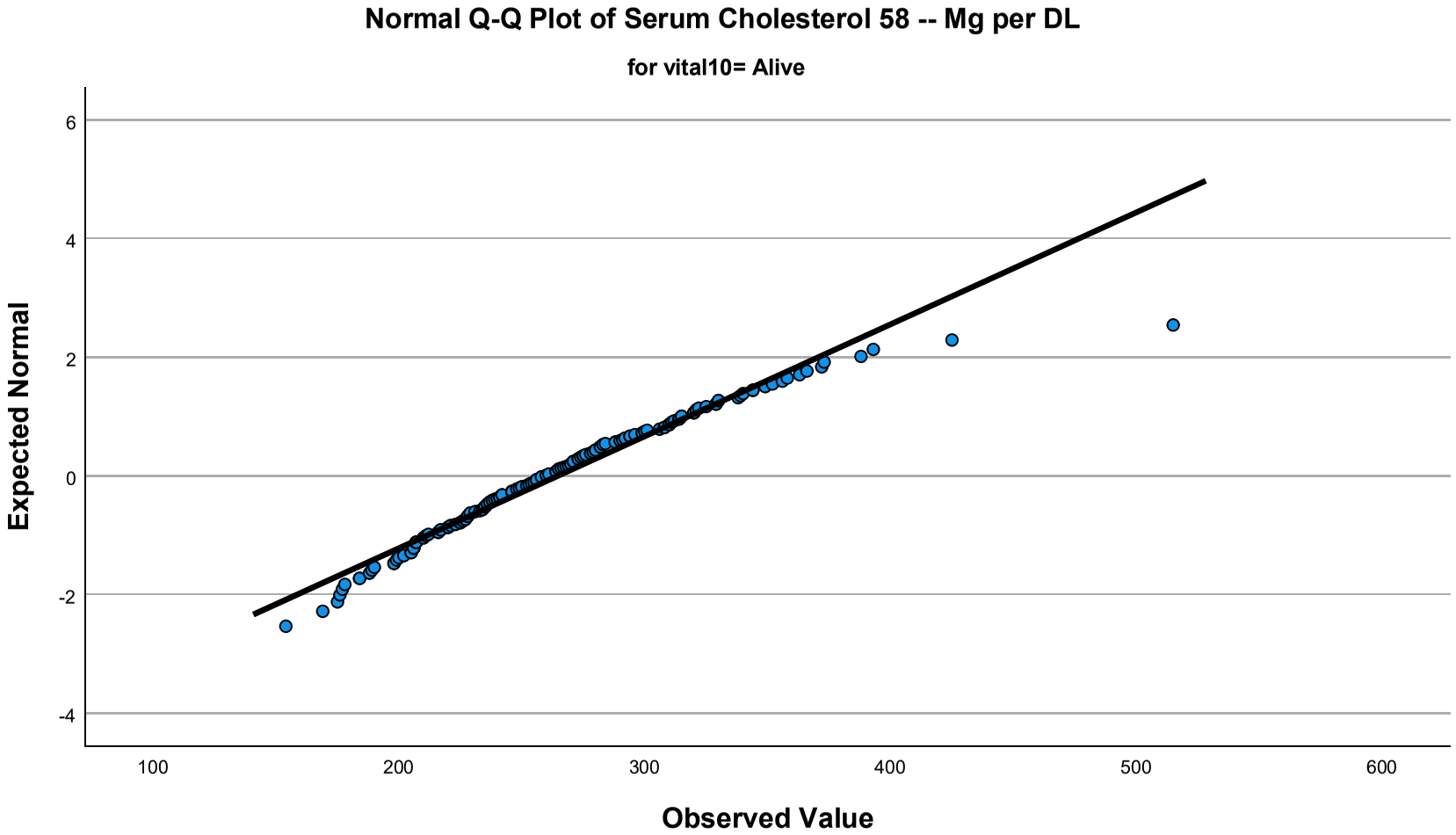
```
 Frequency    Stem &  Leaf

     1.00        1 .  5
     5.00        1 .  67777
     8.00        1 .  88889999
    19.00        2 .  0000000000011111111
    29.00        2 .  22222222222222233333333333333
    27.00        2 .  444444444444455555555555555
    29.00        2 .  66666666666677777777777777777
    20.00        2 .  88888888888999999999
    14.00        3 .  00000111111111
    12.00        3 .  222222223333
     7.00        3 .  4444555
     4.00        3 .  6677
     2.00        3 .  89
     2.00 Extremes    (>=425)

 Stem width:  100
 Each leaf:        1 case(s)
```

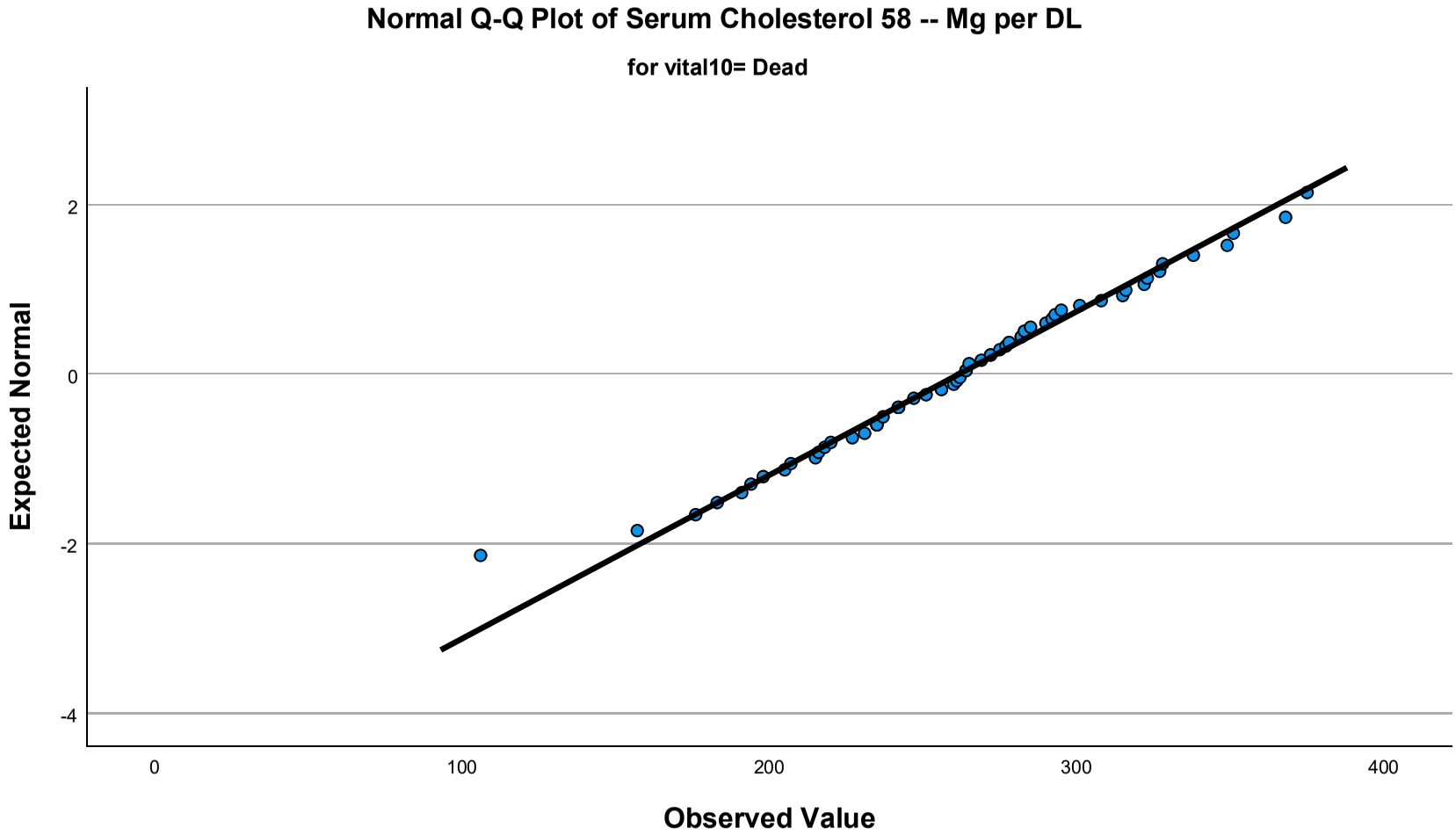
Serum Cholesterol 58 -- Mg per DL Stem-and-Leaf Plot for
vital10= Dead

```
 Frequency    Stem &  Leaf
```

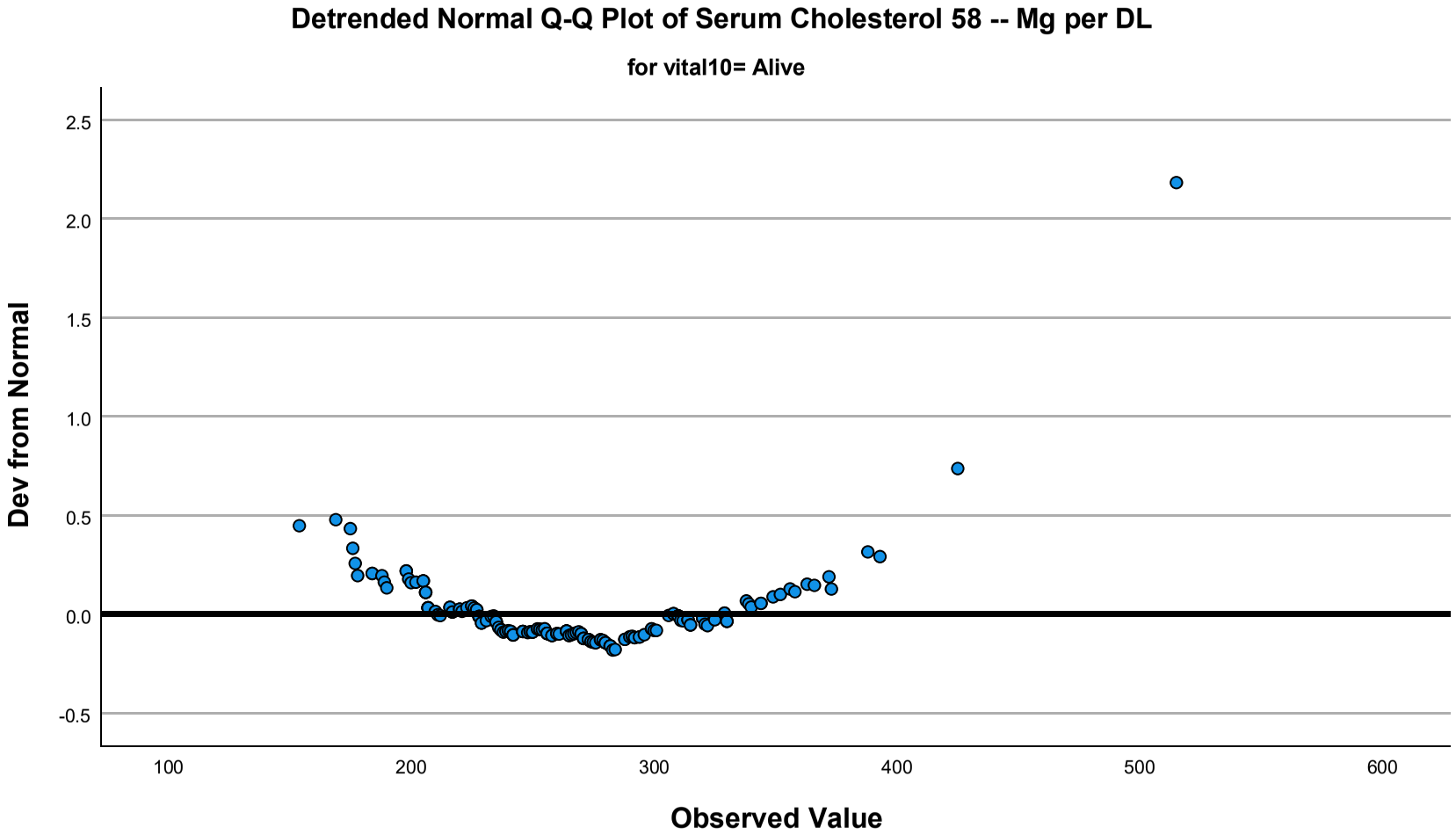
```
     1.00 Extremes    (=<106)
     6.00        1 .  578999
    17.00        2 .  00111223333344444
    24.00        2 .  555666666667777788889999
    10.00        3 .  0011222234
     3.00        3 .  567

 Stem width:  100
 Each leaf:        1 case(s)
```

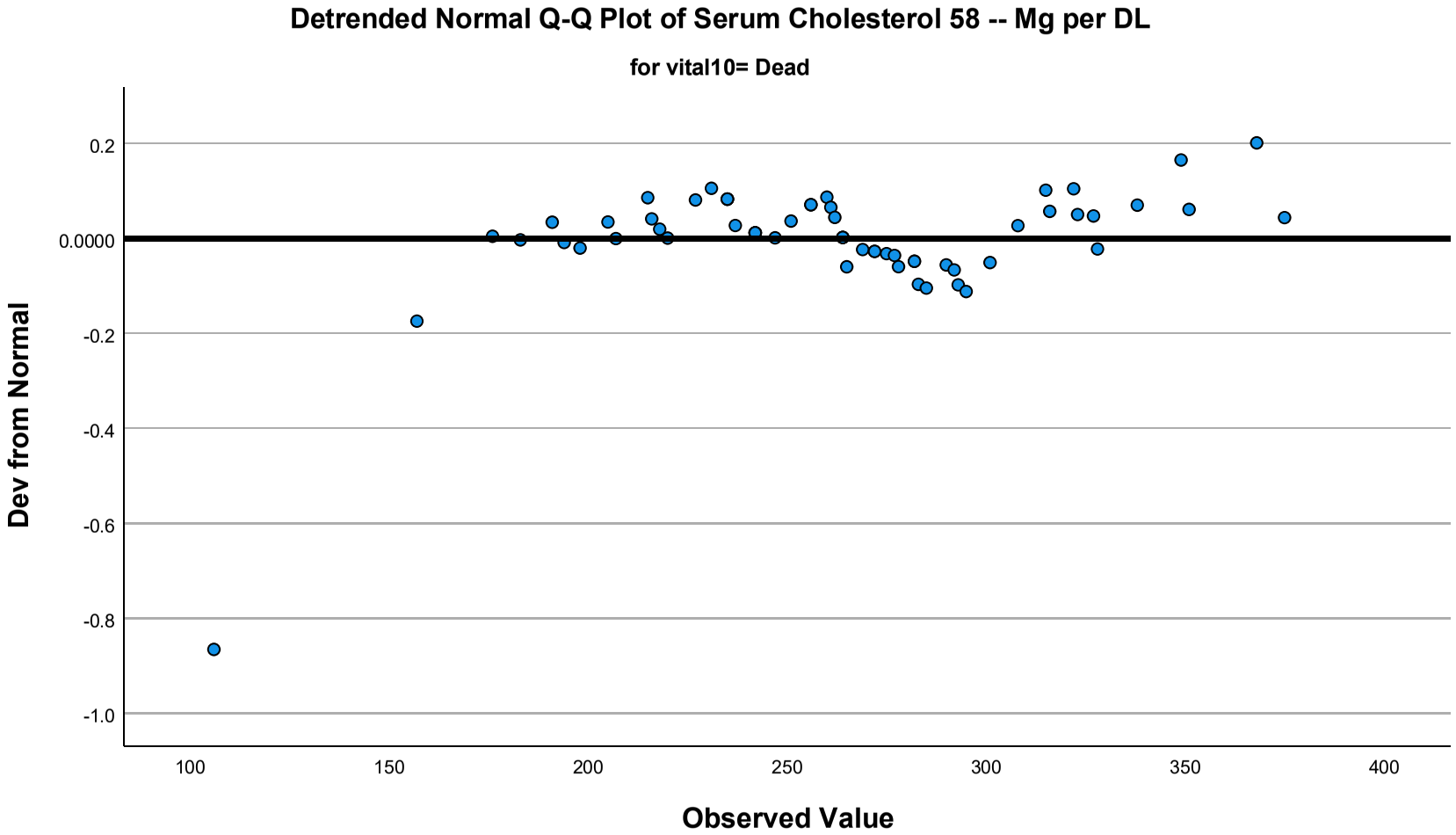
Normal Q-Q Plots

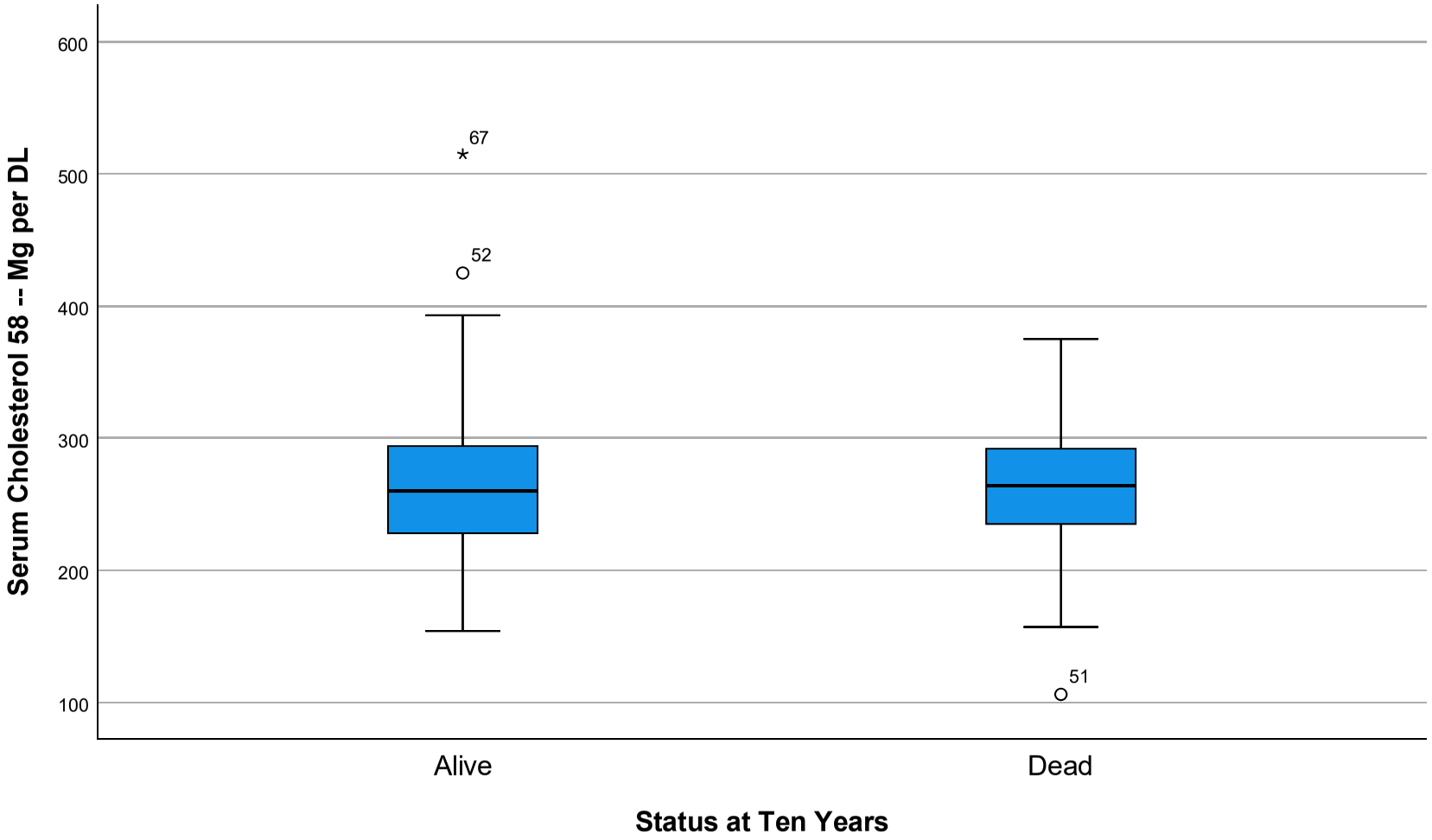

Normal Q-Q Plot of Serum Cholesterol 58 -- Mg per DL
for vital10= Alive
Expected Normal
6
4
2
0
-2
-4
100
200
300
400
500
600
Observed Value

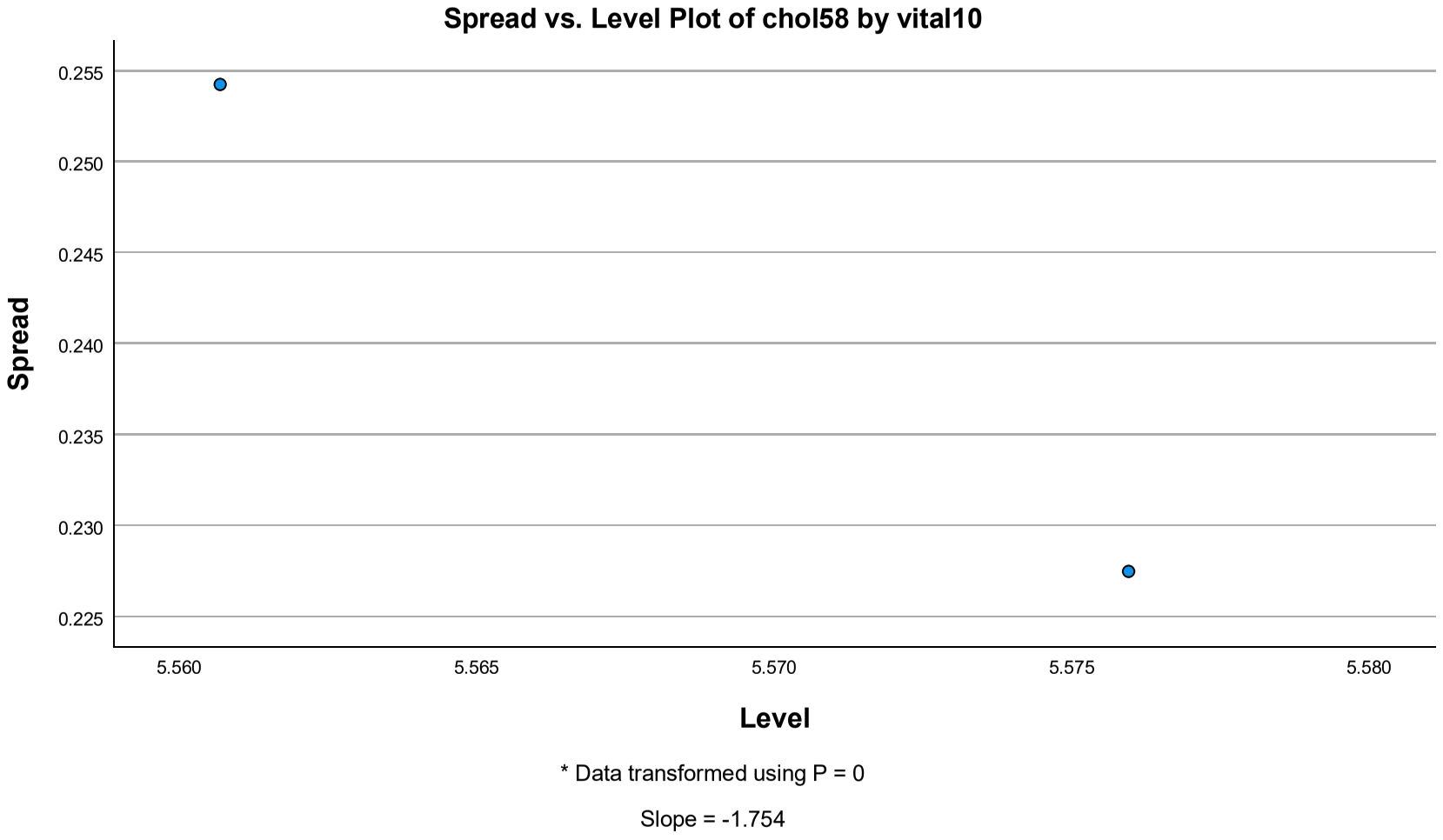


Detrended Normal Q-Q Plots


Detrended Normal Q-Q Plot of Serum Cholesterol 58 -- Mg per DL
for vital10= Alive
Dev from Normal
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
100
200
300
400
500
600
Observed Value


Detrended Normal Q-Q Plot of Serum Cholesterol 58 -- Mg per DL
for vital10= Dead
Dev from Normal
0.2
0.0000
-0.2
-0.4
-0.6
-0.8
-1.0
100
150
200
250
300
350
400
Observed Value


Serum Cholesterol 58 -- Mg per DL
600
500
400
300
200
100
67
52
51
Alive
Dead
Status at Ten Years




```
T-TEST GROUPS=vital10(1 2)
  /MISSING=LISTWISE
```

```
  /VARIABLES=chol58
  /ES DISPLAY(TRUE)
  /CRITERIA=CI(.95).
```

T-Test

Warnings

The Independent Samples table is not produced.
The Independent Samples Effect Sizes table is not produced.

Group Statistics

	Status at Ten Years	N	Mean	Std. Deviation	Std. Error Mean
Serum Cholesterol 58 -- Mg per DL	Dead	**61**	**261.80**	**51.807**	**6.633**
	2	**0**[a]	.	.	.

a. t cannot be computed because at least one of the groups is empty.

```
 DATASET ACTIVATE DataSet3.
ONEWAY rincdol BY ndegree
  /ES=OVERALL
  /MISSING ANALYSIS
  /CRITERIA=CILEVEL(0.95)
  /POSTHOC=BONFERRONI ALPHA(0.05).
```

Oneway

[DataSet3] C:\Users\stefa\OneDrive - Careered - CTU\2024\RES814\Data Files SPSS\Week 1 \gss.sav

ANOVA

Respondent's income; ranges recoded to midpoints

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	**69070941438**	**2**	**34535470719**	**68.102**	**.000**
Within Groups	**4.635E+11**	**914**	**507116092.0**		
Total	**5.326E+11**	**916**			

ANOVA Effect Sizes[a]

		Point Estimate	95% Confidence Interval Lower	Upper
Respondent's income; ranges recoded to midpoints	Eta-squared	**.130**	**.091**	**.169**
	Epsilon-squared	**.128**	**.089**	**.167**
	Omega-squared Fixed-effect	**.128**	**.089**	**.167**
	Omega-squared Random-effect	**.068**	**.047**	**.091**

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Respondent's income; ranges recoded to midpoints

Bonferroni

(I) Degree	(J) Degree	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Less than high school	High school	**-9006.727***	**2397.441**	**.001**	**-14756.74**	**-3256.72**
	Junior college or more	**-24252.154***	**2474.337**	**.000**	**-30186.59**	**-18317.72**
High school	Less than high school	**9006.727***	**2397.441**	**.001**	**3256.72**	**14756.74**
	Junior college or more	**-15245.427***	**1601.619**	**.000**	**-19086.74**	**-11404.11**
Junior college or more	Less than high school	**24252.154***	**2474.337**	**.000**	**18317.72**	**30186.59**
	High school	**15245.427***	**1601.619**	**.000**	**11404.11**	**19086.74**

*. The mean difference is significant at the 0.05 level.

```
 DATASET ACTIVATE DataSet2.
T-TEST GROUPS=vital10(1 2)
  /MISSING=LISTWISE
  /VARIABLES=chol58
  /ES DISPLAY(TRUE)
  /CRITERIA=CI(.95).
```

T-Test

```
[DataSet2] C:\Users\stefa\OneDrive - Careered - CTU\2024\RES814\Data Files SPSS\Week 1
\electric.sav
```

Warnings

The Independent Samples table is not produced.
The Independent Samples Effect Sizes table is not produced.

Group Statistics

	Status at Ten Years	N	Mean	Std. Deviation	Std. Error Mean
Serum Cholesterol 58 -- Mg per DL	Dead	**61**	**261.80**	**51.807**	**6.633**
	2	**0**[a]	.	.	.

a. t cannot be computed because at least one of the groups is empty.

```
T-TEST GROUPS=vital10(1 2)
  /MISSING=LISTWISE
```

```
  /VARIABLES=chol58
  /ES DISPLAY(TRUE)
  /CRITERIA=CI(.95).
```

T-Test

Warnings

The Independent Samples table is not produced.
The Independent Samples Effect Sizes table is not produced.

Group Statistics

	Status at Ten Years	N	Mean	Std. Deviation	Std. Error Mean
Serum Cholesterol 58 -- Mg per DL	Dead	**61**	**261.80**	**51.807**	**6.633**
	2	**0**[a]	.	.	.

a. t cannot be computed because at least one of the groups is empty.

```
 *Nonparametric Tests: Independent Samples.
NPTESTS
  /INDEPENDENT TEST (chol58) GROUP (vital10)
  /MISSING SCOPE=ANALYSIS USERMISSING=EXCLUDE
  /CRITERIA ALPHA=0.05  CILEVEL=95.
```

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	**The distribution of Serum Cholesterol 58 -- Mg per DL is the same across categories of Status at Ten Years.**	**Independent-Samples Mann-Whitney U Test**	**.918**	**Retain the null hypothesis.**

a. The significance level is .050.

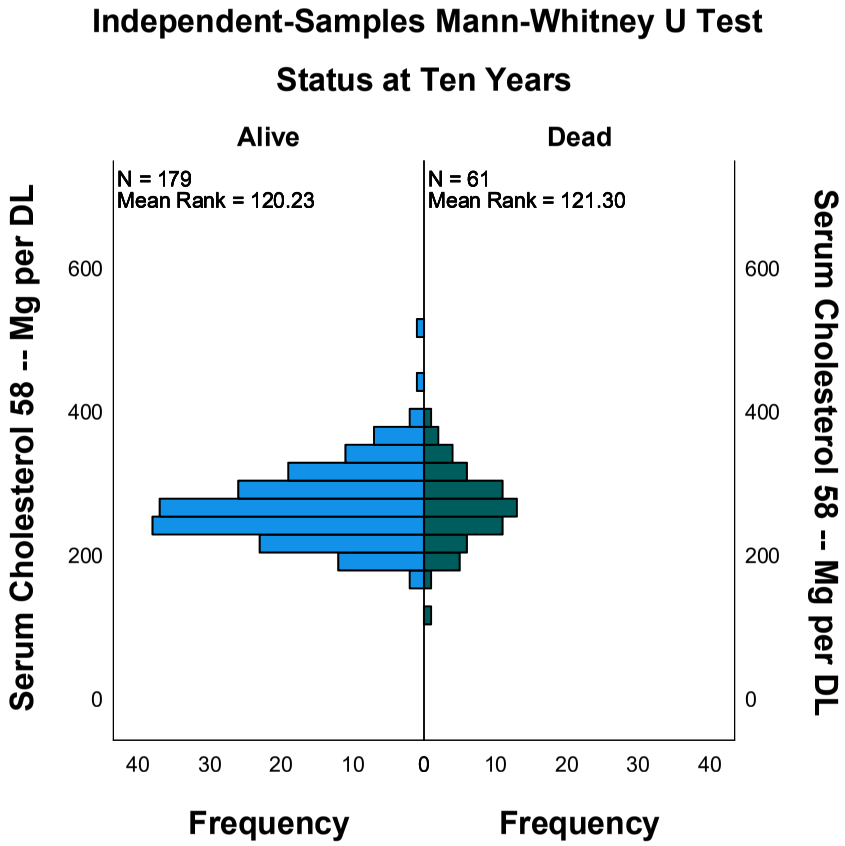
b. Asymptotic significance is displayed.

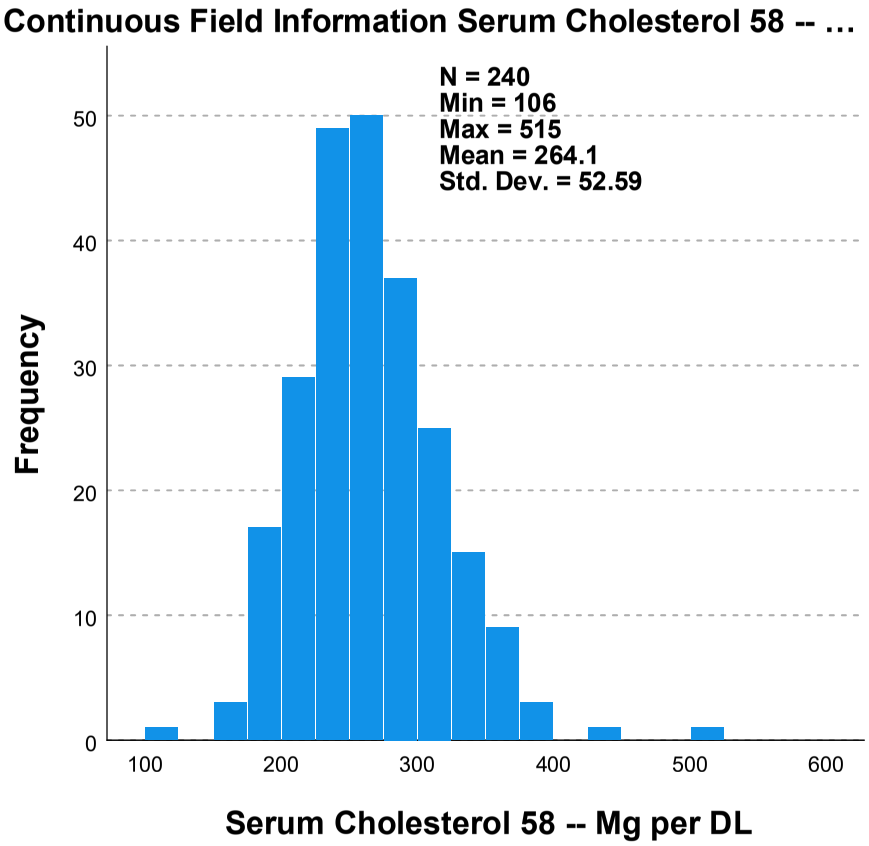
Independent-Samples Mann-Whitney U Test

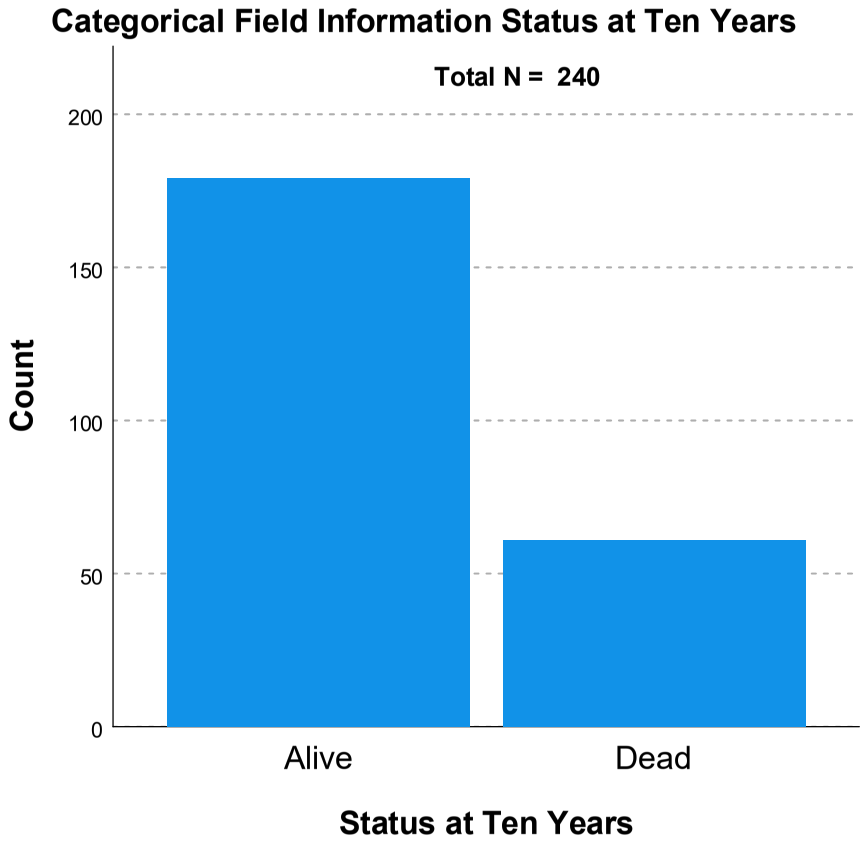
Serum Cholesterol 58 -- Mg per DL across Status at Ten Years

Independent-Samples Mann-Whitney U Test Summary

Total N	**240**
Mann-Whitney U	**5508.000**
Wilcoxon W	**7399.000**
Test Statistic	**5508.000**
Standard Error	**468.236**
Standardized Test Statistic	**.104**
Asymptotic Sig.(2-sided test)	**.918**


Independent-Samples Mann-Whitney U Test
Status at Ten Years
Alive
Dead
N = 179
Mean Rank = 120.23
N = 61
Mean Rank = 121.30
Serum Cholesterol 58 -- Mg per DL
Serum Cholesterol 58 -- Mg per DL
600
400
200
0
40
30
20
10
0
10
20
30
40
Frequency
Frequency


Continuous Field Information Serum Cholesterol 58 -- …
N = 240
Min = 106
Max = 515
Mean = 264.1
Std. Dev. = 52.59
Frequency
0
10
20
30
40
50
100
200
300
400
500
600
Serum Cholesterol 58 -- Mg per DL




```
 BEGIN PROGRAM PYTHON3.
# Import the spss and spssaux modules, which are installed by default with SPS
```

```
S Statistics (as part of Essentials for Python).
# These modules provide API's that interact with SPSS Statistics.
import spss, spssaux
# Create a Python dictionary that is used in retrieving information about the
variables in the active dataset.
vardict = spssaux.VariableDict()
# Convert the run-time value of the "Variables to analyze" control to a list.
The run-time value is a blank-separated string that
# consists of the variables in the control.
vars = "dbp58 vital10".split()
scaleVars=""; categoricalVars=""
# Build lists of the scale and categorical variables based on the measurement
level of each variable.
for var in vars:
   if vardict[var].VariableLevel == 'scale':
      scaleVars=scaleVars + var + " "
   elif vardict[var].VariableLevel in ['nominal','ordinal']:
      categoricalVars=categoricalVars + var + " "
# Use the Submit function from the spss module to execute a FREQUENCIES comman
d for the categorical variables
# and a DESCRIPTIVES command for the scale variables.
if len(categoricalVars):
   spss.Submit("FREQUENCIES " + categoricalVars + ".")
if len(scaleVars):
```

```
   spss.Submit("DESCRIPTIVES " + scaleVars + ".")
END PROGRAM.
```

Frequencies

Statistics

Status at Ten Years

N	Valid	**240**
	Missing	**0**

Status at Ten Years

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Alive	**179**	**74.6**	**74.6**	**74.6**
	Dead	**61**	**25.4**	**25.4**	**100.0**
	Total	**240**	**100.0**	**100.0**	

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Average Diast Blood Pressure 58	**239**	**65**	**160**	**88.79**	**13.050**
Valid N (listwise)	**239**				

```
null

Extension file(s) installed to:
C:\ProgramData\IBM\SPSS\Statistics\27\extensions
Dialog file(s) installed to:
C:\ProgramData\IBM\SPSS\Statistics\27\CustomDialogs\spss.enhanced
```

```
 DATASET ACTIVATE DataSet3.
ONEWAY rincdol BY ndegree
  /STATISTICS DESCRIPTIVES EFFECTS HOMOGENEITY
  /PLOT MEANS
  /MISSING LISTWISE
  /CRITERIA=CILEVEL(0.95)
  /POSTHOC=BONFERRONI ALPHA(0.05).
```

Oneway

```
[DataSet3] C:\Users\stefa\OneDrive - Careered - CTU\2024\RES814\Data Files SPSS\Week 1
\gss.sav
```

Descriptives

Respondent's income; ranges recoded to midpoints

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	Between-Component Variance
						Lower Bound	Upper Bound			
Less than high school		**109**	**17458.72**	**16862.993**	**1615.182**	**14257.14**	**20660.29**	**500**	**100000**	
High school		**463**	**26465.44**	**19510.865**	**906.747**	**24683.58**	**28247.30**	**500**	**110000**	
Junior college or more		**345**	**41710.87**	**27328.846**	**1471.336**	**38816.92**	**44604.82**	**500**	**110000**	
Total		**917**	**31130.59**	**24112.524**	**796.266**	**29567.87**	**32693.31**	**500**	**110000**	
Model	Fixed Effects			**22519.238**	**743.651**	**29671.13**	**32590.05**			
	Random Effects				**7228.894**	**27.17**	**62234.01**			**125920580.1**

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Respondent's income; ranges recoded to midpoints	Based on Mean	**28.211**	**2**	**914**	**.000**
	Based on Median	**25.046**	**2**	**914**	**.000**
	Based on Median and with adjusted df	**25.046**	**2**	**837.555**	**.000**
	Based on trimmed mean	**27.691**	**2**	**914**	**.000**

ANOVA

Respondent's income; ranges recoded to midpoints

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	**69070941438**	**2**	**34535470719**	**68.102**	**.000**
Within Groups	**4.635E+11**	**914**	**507116092.0**		
Total	**5.326E+11**	**916**			

Post Hoc Tests

Multiple Comparisons

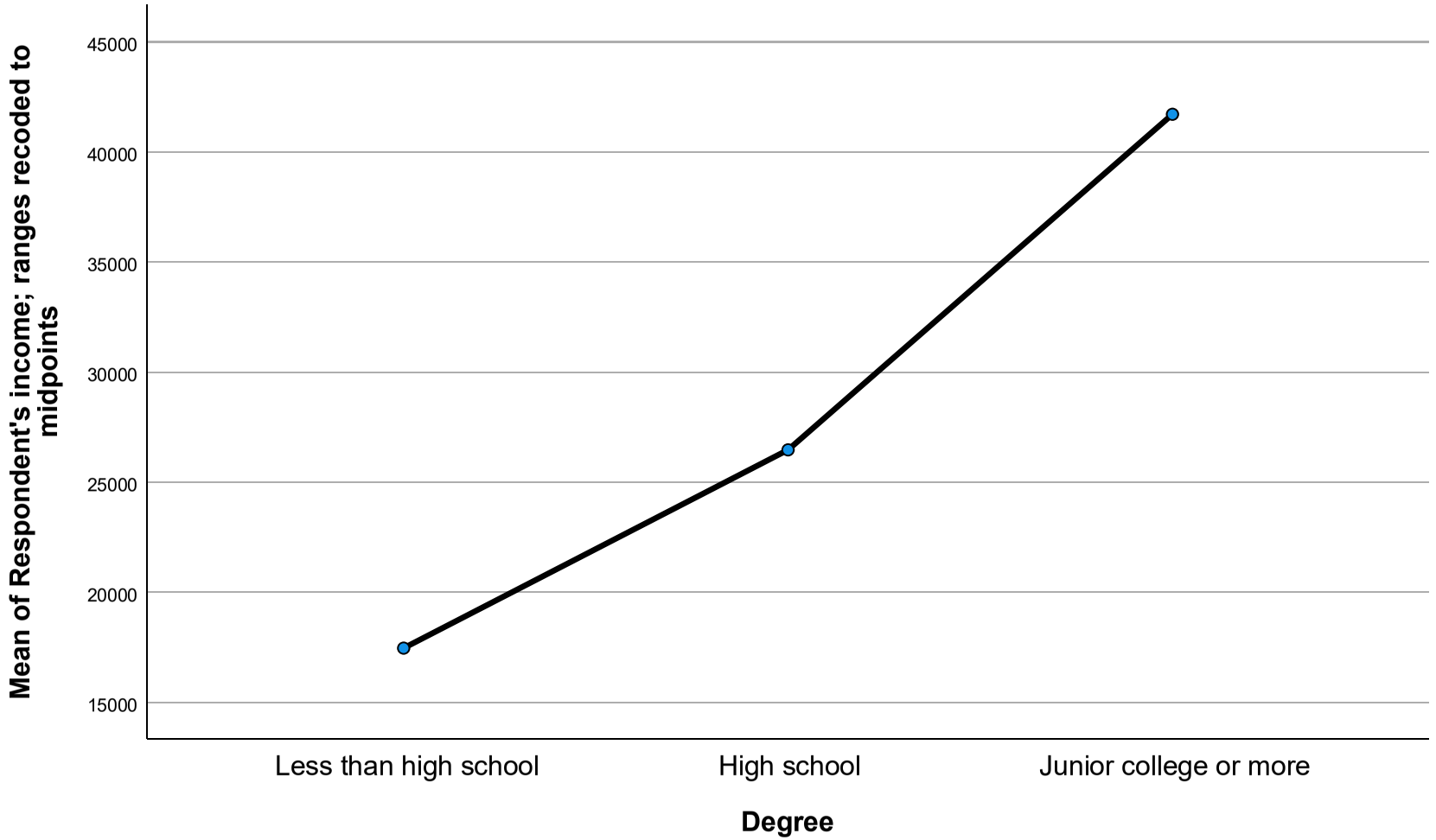
Dependent Variable: Respondent's income; ranges recoded to midpoints

Bonferroni

(I) Degree	(J) Degree	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Less than high school	High school	**-9006.727***	**2397.441**	**.001**	**-14756.74**	**-3256.72**
	Junior college or more	**-24252.154***	**2474.337**	**.000**	**-30186.59**	**-18317.72**
High school	Less than high school	**9006.727***	**2397.441**	**.001**	**3256.72**	**14756.74**
	Junior college or more	**-15245.427***	**1601.619**	**.000**	**-19086.74**	**-11404.11**
Junior college or more	Less than high school	**24252.154***	**2474.337**	**.000**	**18317.72**	**30186.59**
	High school	**15245.427***	**1601.619**	**.000**	**11404.11**	**19086.74**

*. The mean difference is significant at the 0.05 level.

Means Plots




```
 DATASET ACTIVATE DataSet2.
T-TEST GROUPS=vital10(1 2)
```

```
  /MISSING=ANALYSIS
  /VARIABLES=chol58
  /ES DISPLAY(TRUE)
  /CRITERIA=CI(.95).
```

T-Test

```
[DataSet2] C:\Users\stefa\OneDrive - Careered - CTU\2024\RES814\Data Files SPSS\Week 1
\electric.sav
```

Warnings

The Independent Samples table is not produced.
The Independent Samples Effect Sizes table is not produced.

Group Statistics

	Status at Ten Years	N	Mean	Std. Deviation	Std. Error Mean
Serum Cholesterol 58 -- Mg per DL	Dead	**61**	**261.80**	**51.807**	**6.633**
	2	**0**[a]	.	.	.

a. t cannot be computed because at least one of the groups is empty.

```
T-TEST PAIRS=chol58 WITH vital10 (PAIRED)
  /ES DISPLAY(FALSE)
  /CRITERIA=CI(.9500)
  /MISSING=ANALYSIS.
```

T-Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Serum Cholesterol 58 -- Mg per DL	**264.09**	**240**	**52.594**	**3.395**
	Status at Ten Years	**.25**	**240**	**.436**	**.028**

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Serum Cholesterol 58 -- Mg per DL & Status at Ten Years	**240**	**-.025**	**.695**

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Serum Cholesterol 58 -- Mg per DL - Status at Ten Years	**263.833**	**52.607**	**3.396**	**257.144**	**270.523**	**77.695**	**239**	**.000**

```
BAYES ANOVA chol58 BY vital10
  /CRITERIA CILEVEL=95 TOL=0.000001 MAXITER=2000
  /INFERENCE ANALYSIS=BOTH
  /PRIOR TYPE=REFERENCE
  /ESTBF COMPUTATION=JZS
  /PLOT MEANS=0 1 ERRORVAR=FALSE.
```

Bayesian ANOVA

ANOVA

Serum Cholesterol 58 -- Mg per DL	Sum of Squares	df	Mean Square	F	Sig.	Bayes Factor[a]
Between Groups	**426.741**	**1**	**426.741**	**.154**	**.695**	**.055**
Within Groups	**660680.421**	**238**	**2775.968**			
Total	**661107.163**	**239**				

a. Bayes factor: JZS

Bayesian Estimates of Coefficients[a,b,c]

Parameter	Posterior			95% Credible Interval	
	Mode	Mean	Variance	Lower Bound	Upper Bound
Status at Ten Years = Alive	**264.866**	**264.866**	**15.640**	**257.108**	**272.624**
Status at Ten Years = Dead	**261.803**	**261.803**	**45.893**	**248.514**	**275.093**

a. Dependent Variable: Serum Cholesterol 58 -- Mg per DL

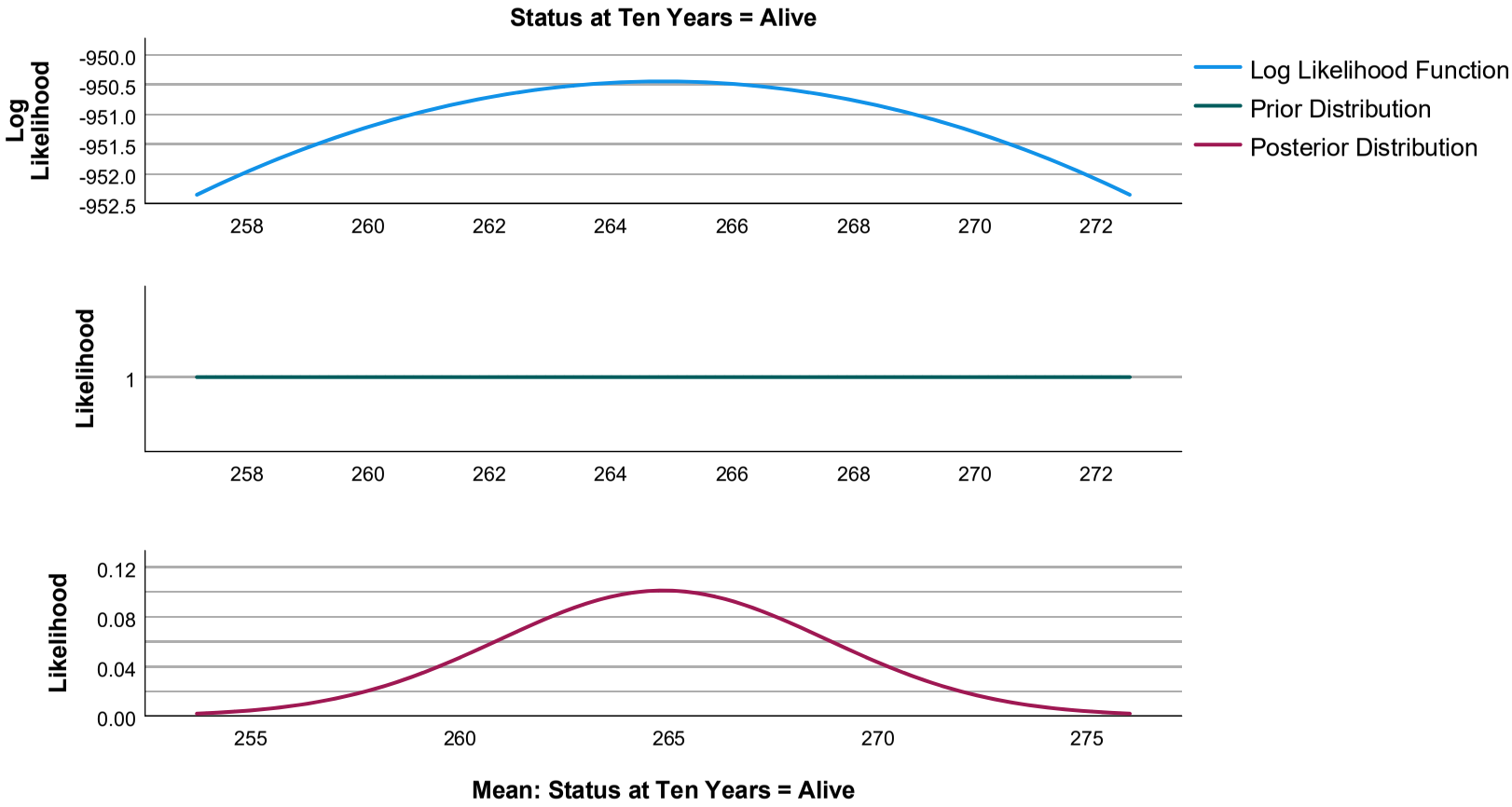
b. Model: Status at Ten Years

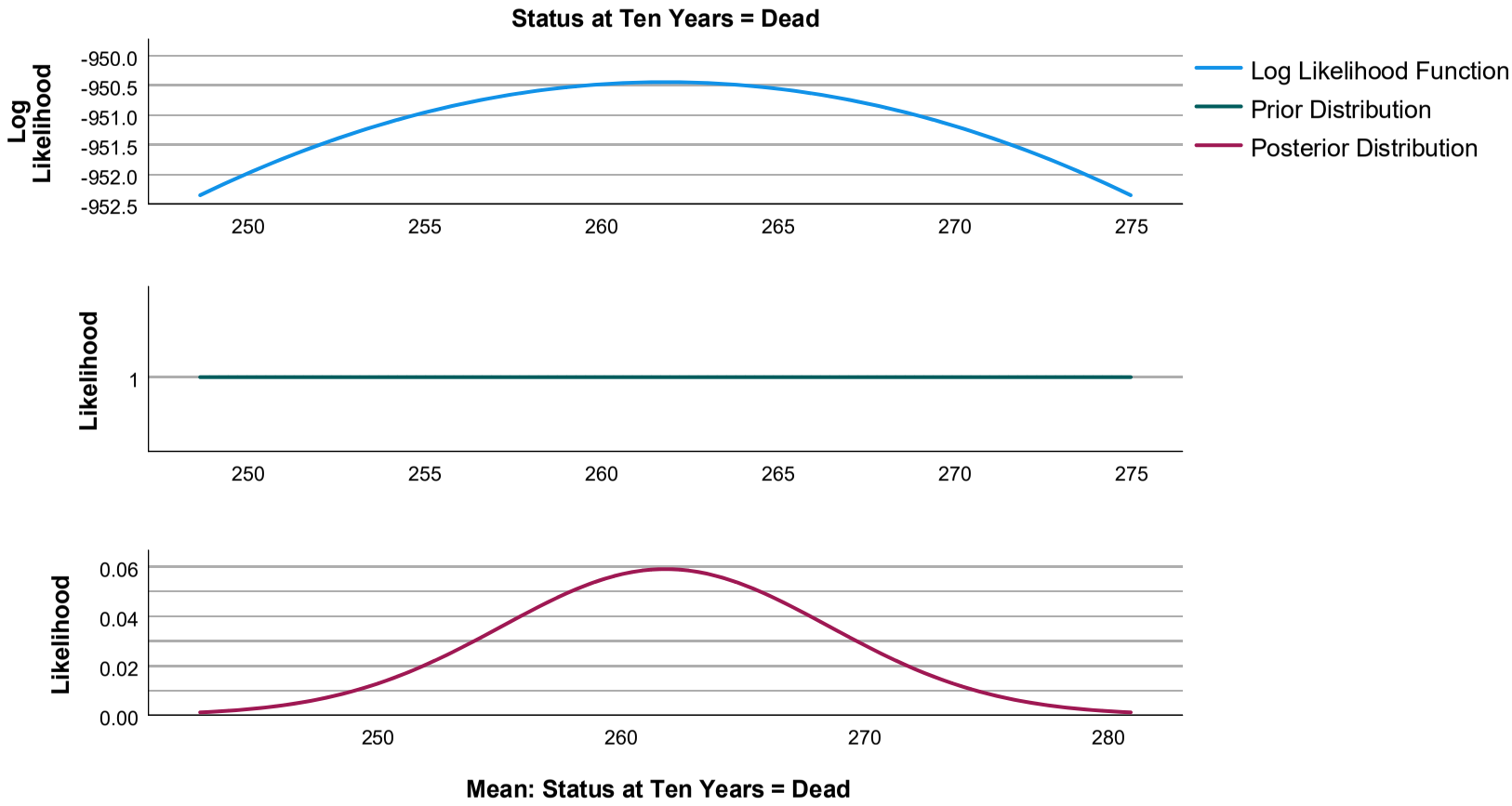
c. Assume standard reference priors.

Bayesian Estimates of Error Variance[a]

Parameter	Posterior			95% Credible Interval	
	Mode	Mean	Variance	Lower Bound	Upper Bound
Error variance	**2752.835**	**2799.493**	**66984.297**	**2337.674**	**3350.931**

a. Assume standard reference priors.


Status at Ten Years = Alive
Log Likelihood
-950.0
-950.5
-951.0
-951.5
-952.0
-952.5
258
260
262
264
266
268
270
272
Log Likelihood Function
Prior Distribution
Posterior Distribution
Likelihood
1
Likelihood
0.12
0.08
0.04
0.00
255
260
265
270
275
Mean: Status at Ten Years = Alive




```
 *Nonparametric Tests: One Sample.
NPTESTS
```

```
  /ONESAMPLE TEST (caseid firstchd age dbp58 eduyr cgt58 ht58 wt58 dayofwk fam
hxcvr chd hist educcat)
  /MISSING SCOPE=ANALYSIS USERMISSING=EXCLUDE
  /CRITERIA ALPHA=0.05 CILEVEL=95  SEED=2000000.
```

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a]	Decision
1	The categories of Case Identification Number occur with equal probabilities.	One-Sample Chi-Square Test	1.000	Retain the null hypothesis.
2	The categories of First CHD Event occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
3	The categories of Day of Death occur with equal probabilities.	One-Sample Chi-Square Test	.757	Retain the null hypothesis.
4	The categories defined by Family History of CHD = Yes and No occur with probabilities .500 and .500.	One-Sample Binomial Test	.000	Reject the null hypothesis.
5	The categories defined by Incidence of Coronary Heart Disease = chd and none occur with probabilities .500 and .500.	One-Sample Binomial Test	1.000	Retain the null hypothesis.
6	The categories defined by family history of CHD = family history and no family history occur with probabilities .500 and .500.	One-Sample Binomial Test	.000	Reject the null hypothesis.
7	The categories of Highest Level of Schooling occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
8	The distribution of Age at Entry is normal with mean 48 and standard deviation 4.129.	One-Sample Kolmogorov-Smirnov Test	.000[b]	Reject the null hypothesis.
9	The distribution of Average Diast Blood Pressure 58 is normal with mean 89 and standard deviation 13.050.	One-Sample Kolmogorov-Smirnov Test	.000[b]	Reject the null hypothesis.
10	The distribution of Years of Education is normal with mean 12 and standard deviation 2.774.	One-Sample Kolmogorov-Smirnov Test	.000[b]	Reject the null hypothesis.
11	The distribution of No of Cigarettes per Day in 1958 is normal with mean 12 and standard deviation 12.258.	One-Sample Kolmogorov-Smirnov Test	.000[b]	Reject the null hypothesis.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a]	Decision
12	**The distribution of Stature, 1958 – To Nearest 0.1 Inch is normal with mean 68.5 and standard deviation 2.6689.**	**One-Sample Kolmogorov-Smirnov Test**	**.004**[b]	**Reject the null hypothesis.**
13	**The distribution of Body Weight, 1958 -- LBS is normal with mean 173 and standard deviation 24.728.**	**One-Sample Kolmogorov-Smirnov Test**	**.008**[b]	**Reject the null hypothesis.**

a. The significance level is .050.

b. Lilliefors Corrected. Asymptotic significance is displayed.

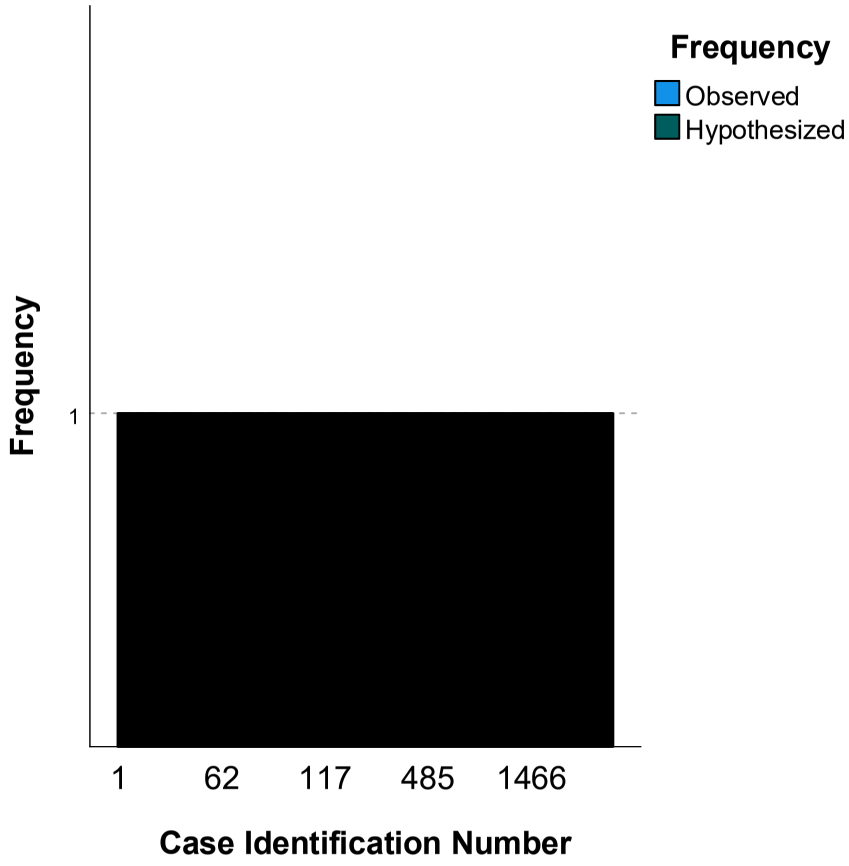
One-Sample Chi-Square Test

Case Identification Number

One-Sample Chi-Square Test Summary

Total N	**240**
Test Statistic	**.000**[a]
Degree Of Freedom	**239**
Asymptotic Sig.(2-sided test)	**1.000**

a. There are 240 cells (100%) with expected values less than 5. The minimum expected value is 1.

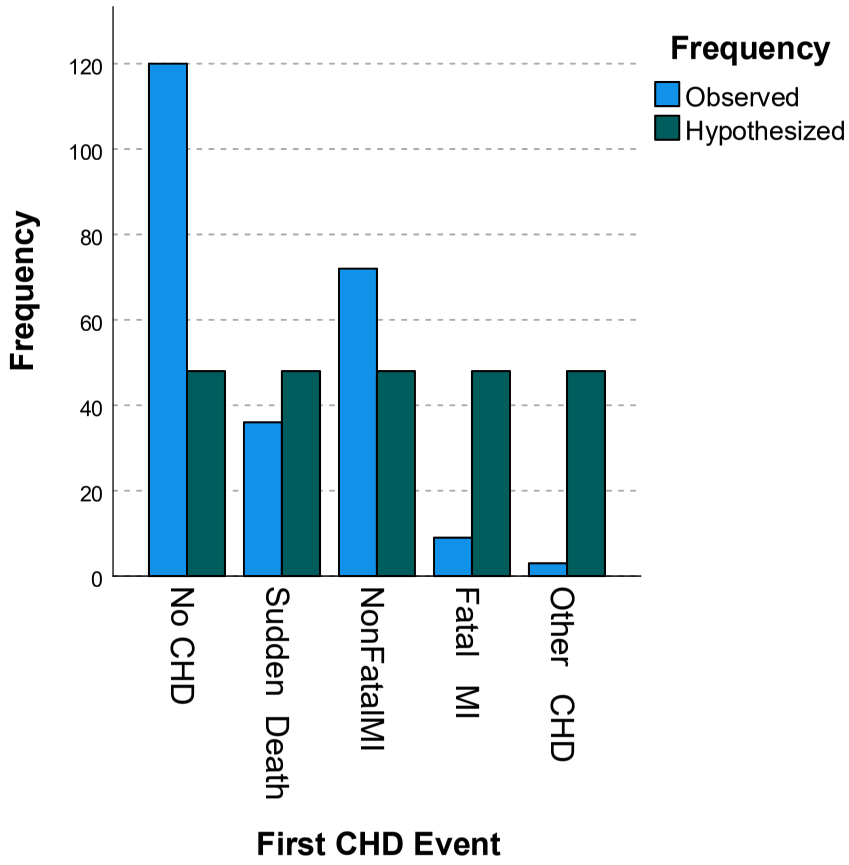


First CHD Event

One-Sample Chi-Square Test Summary

Total N	**240**
Test Statistic	**196.875**[a]
Degree Of Freedom	**4**
Asymptotic Sig.(2-sided test)	**.000**

a. There are 0 cells (0%) with expected values less than 5. The minimum expected value is 48.

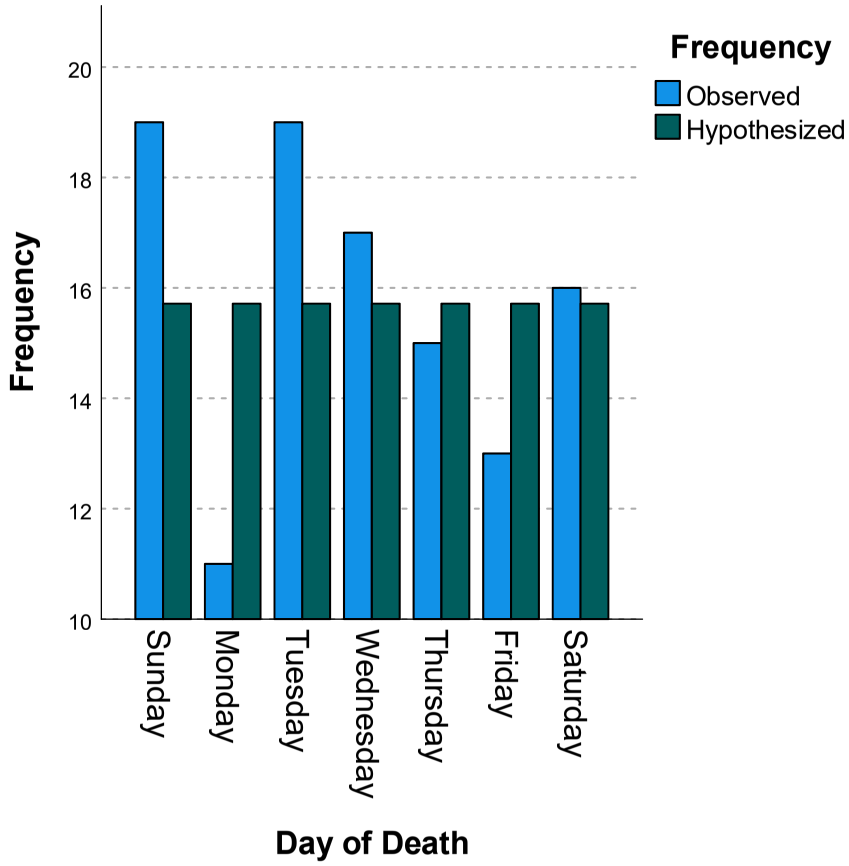

Frequency
Observed
Hypothesized
120
100
80
60
40
20
0
Frequency
No CHD
Sudden Death
NonFatalMI
Fatal MI
Other CHD
First CHD Event

Day of Death

One-Sample Chi-Square Test Summary

Total N	**110**
Test Statistic	**3.400**[a]
Degree Of Freedom	**6**
Asymptotic Sig.(2-sided test)	**.757**

a. There are 0 cells (0%) with expected values less than 5. The minimum expected value is 15.714.

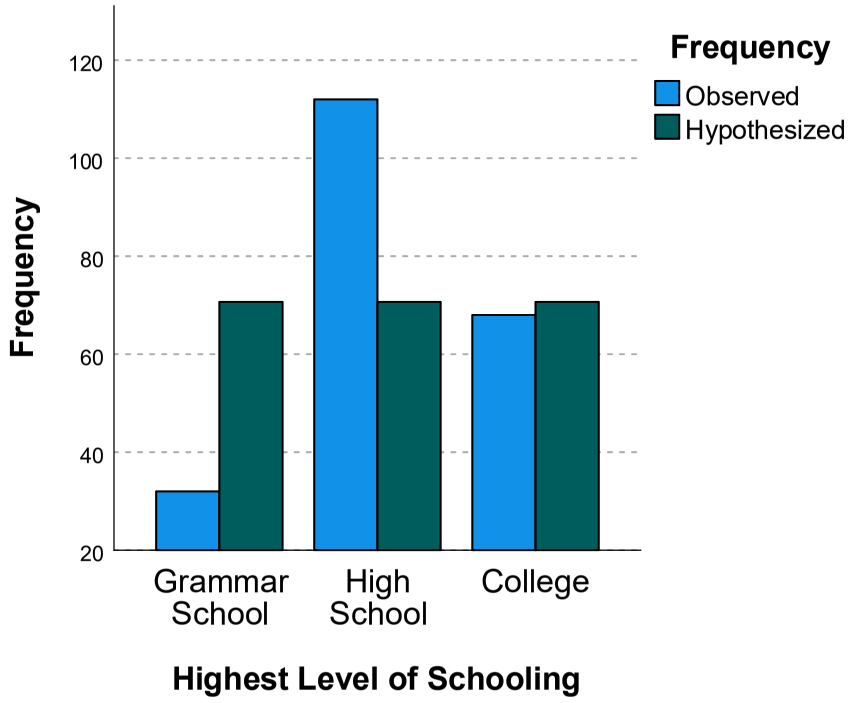


Highest Level of Schooling

One-Sample Chi-Square Test Summary

Total N	**212**
Test Statistic	**45.434**[a]
Degree Of Freedom	**2**
Asymptotic Sig.(2-sided test)	**.000**

a. There are 0 cells (0%) with expected values less than 5. The minimum expected value is 70.667.

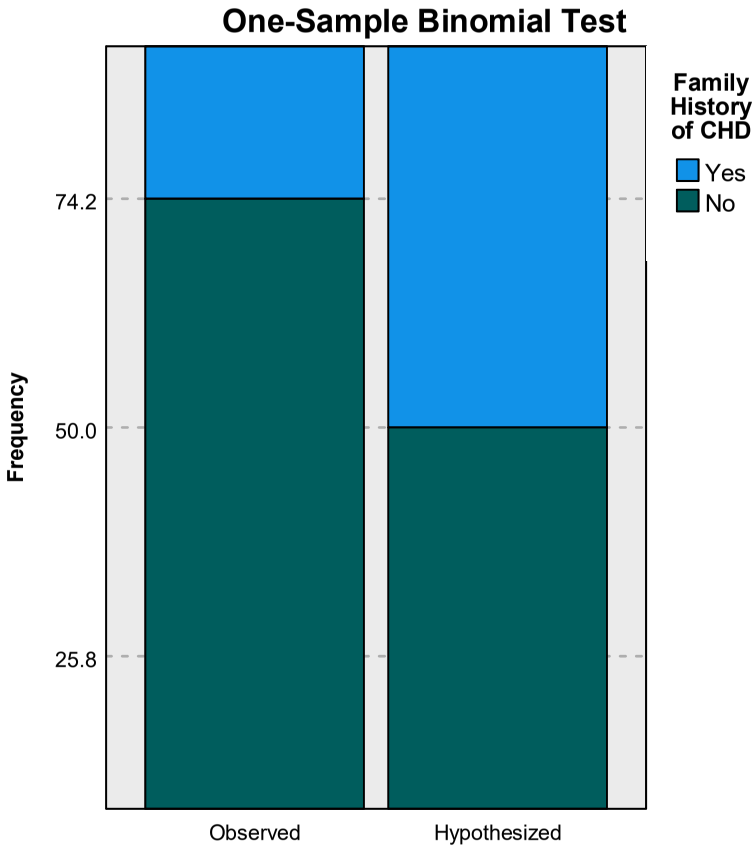


One-Sample Binomial Test

Family History of CHD

One-Sample Binomial Test Summary

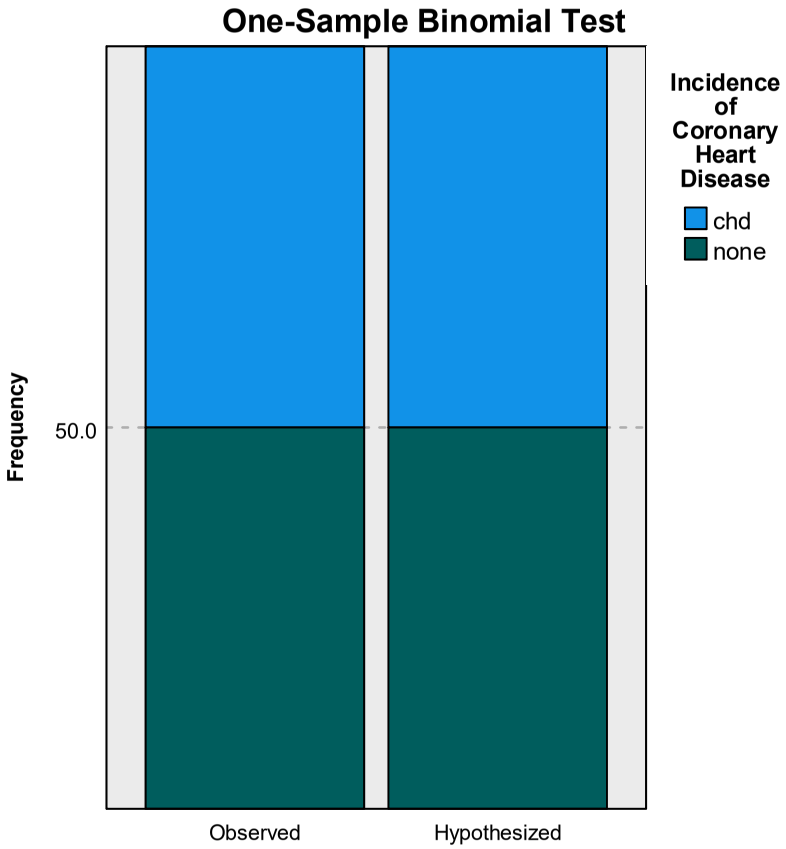
Total N	**240**
Test Statistic	**62.000**
Standard Error	**7.746**
Standardized Test Statistic	**-7.423**
Asymptotic Sig.(2-sided test)	**.000**



Incidence of Coronary Heart Disease

One-Sample Binomial Test Summary

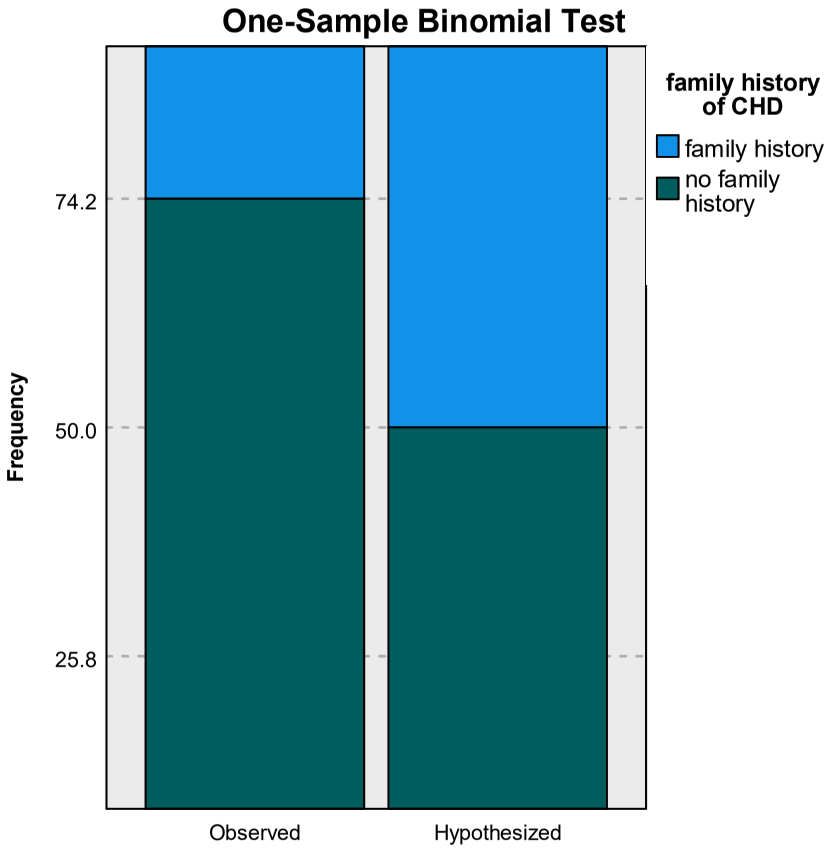
Total N	**240**
Test Statistic	**120.000**
Standard Error	**7.746**
Standardized Test Statistic	**.000**
Asymptotic Sig.(2-sided test)	**1.000**



family history of CHD

One-Sample Binomial Test Summary

Total N	**240**
Test Statistic	**62.000**
Standard Error	**7.746**
Standardized Test Statistic	**-7.423**
Asymptotic Sig.(2-sided test)	**.000**



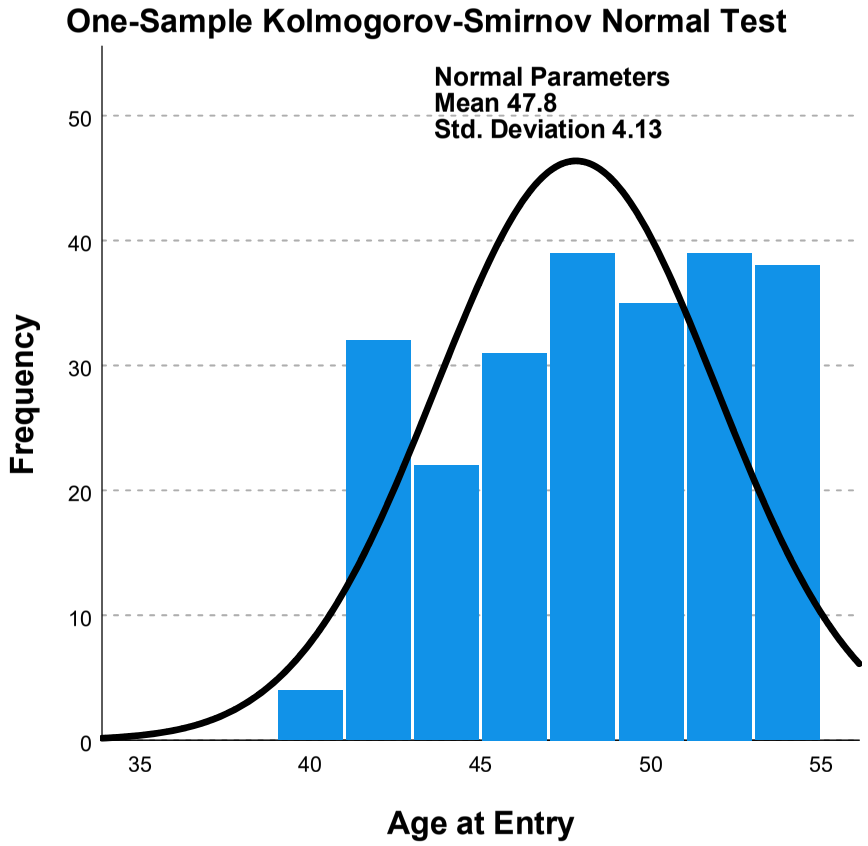
One-Sample Kolmogorov-Smirnov Normal Test

Age at Entry

One-Sample Kolmogorov-Smirnov Normal Test Summary

Total N		**240**
Most Extreme Differences	Absolute	**.102**
	Positive	**.084**
	Negative	**-.102**
Test Statistic		**.102**
Asymptotic Sig.(2-sided test)[a]		**.000**

a. Lilliefors Corrected

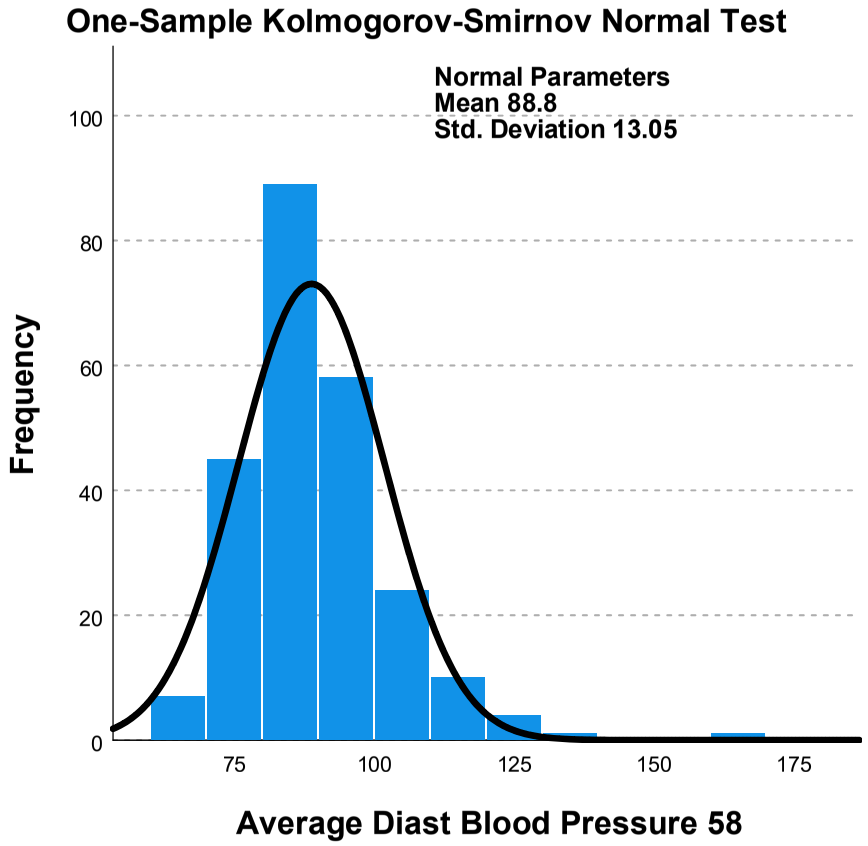


Average Diast Blood Pressure 58

One-Sample Kolmogorov-Smirnov Normal Test Summary

Total N		**239**
Most Extreme Differences	Absolute	**.097**
	Positive	**.097**
	Negative	**-.062**
Test Statistic		**.097**
Asymptotic Sig.(2-sided test)[a]		**.000**

a. Lilliefors Corrected

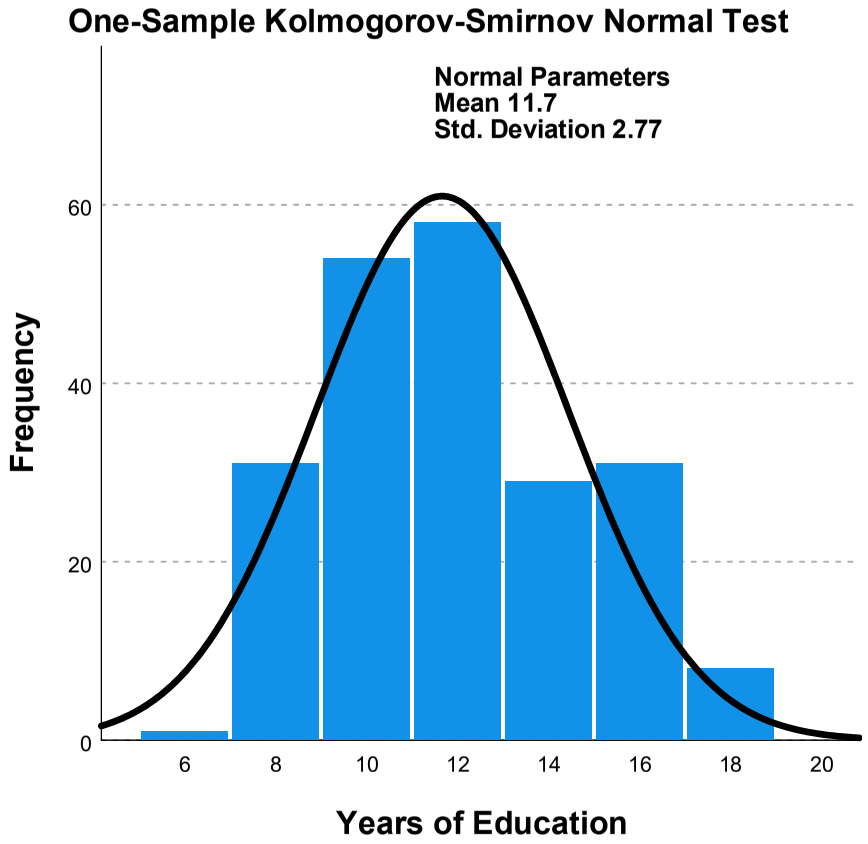


Years of Education

One-Sample Kolmogorov-Smirnov Normal Test Summary

Total N		**212**
Most Extreme Differences	Absolute	**.131**
	Positive	**.131**
	Negative	**-.092**
Test Statistic		**.131**
Asymptotic Sig.(2-sided test)[a]		**.000**

a. Lilliefors Corrected

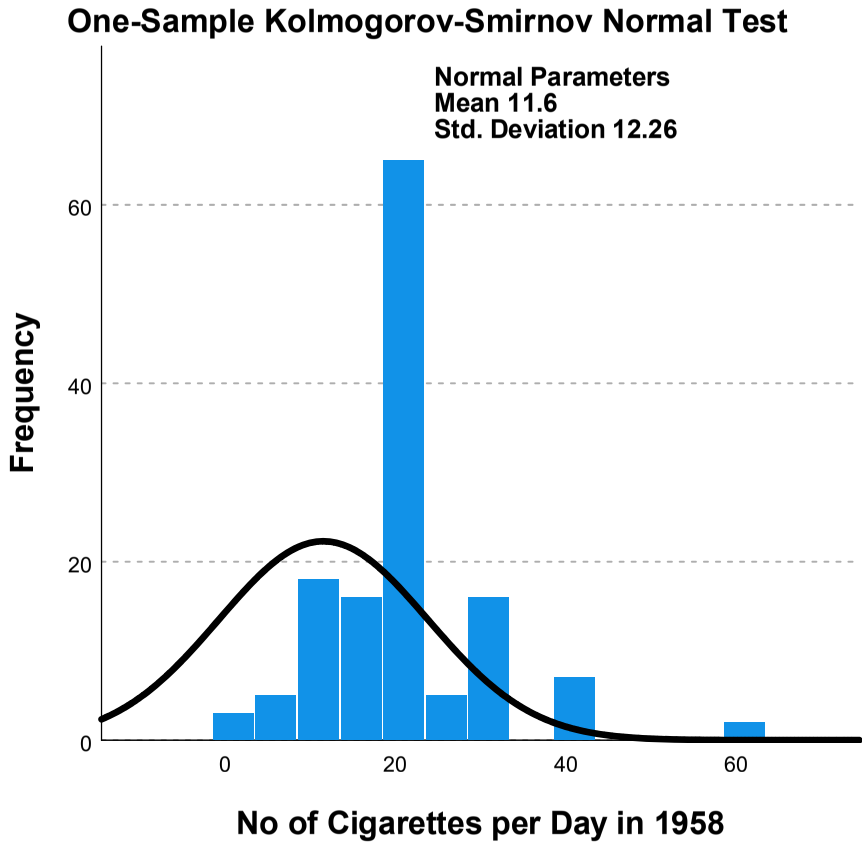


No of Cigarettes per Day in 1958

One-Sample Kolmogorov-Smirnov Normal Test Summary

Total N		**239**
Most Extreme Differences	Absolute	**.254**
	Positive	**.254**
	Negative	**-.172**
Test Statistic		**.254**
Asymptotic Sig.(2-sided test)[a]		**.000**

a. Lilliefors Corrected

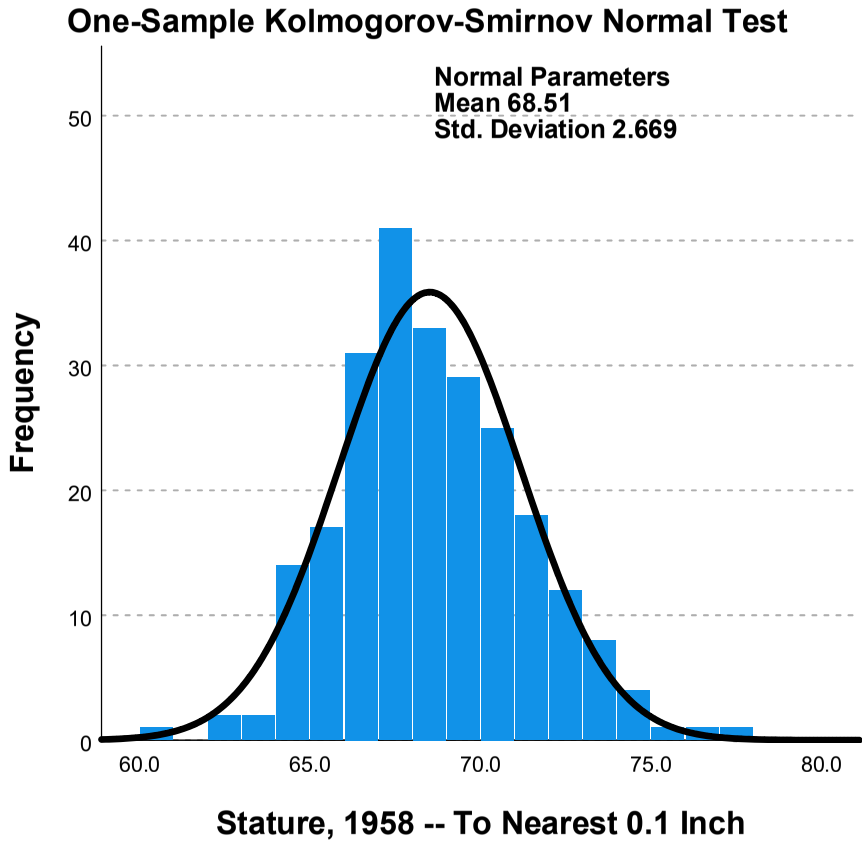


Stature, 1958 -- To Nearest 0.1 Inch

One-Sample Kolmogorov-Smirnov Normal Test Summary

Total N		**240**
Most Extreme Differences	Absolute	**.072**
	Positive	**.072**
	Negative	**-.029**
Test Statistic		**.072**
Asymptotic Sig.(2-sided test)[a]		**.004**

a. Lilliefors Corrected

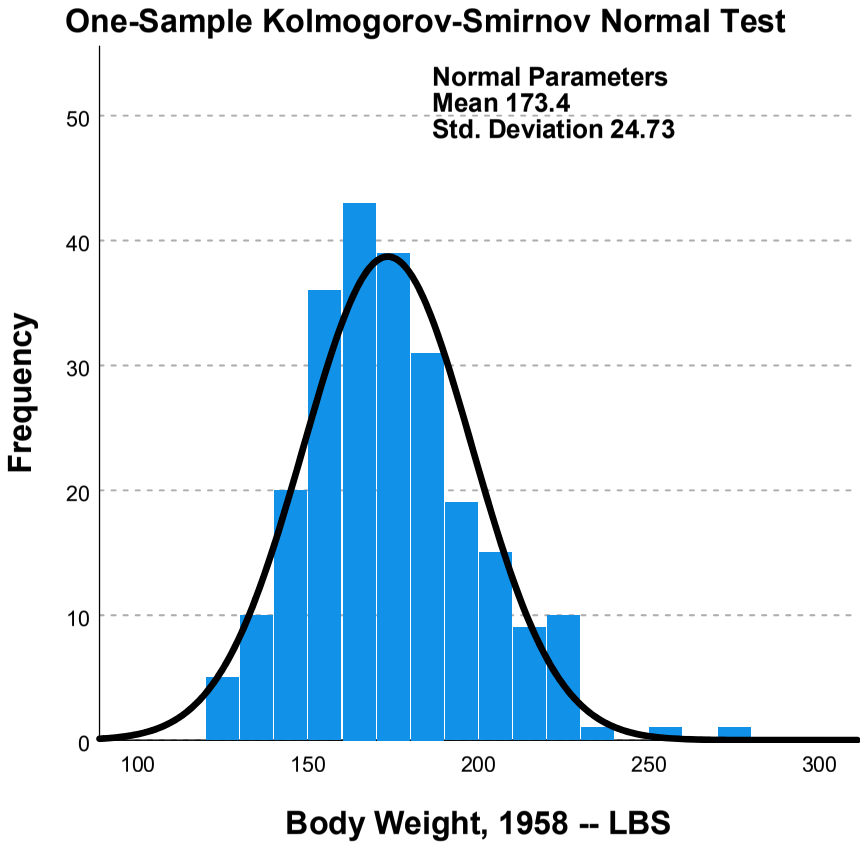


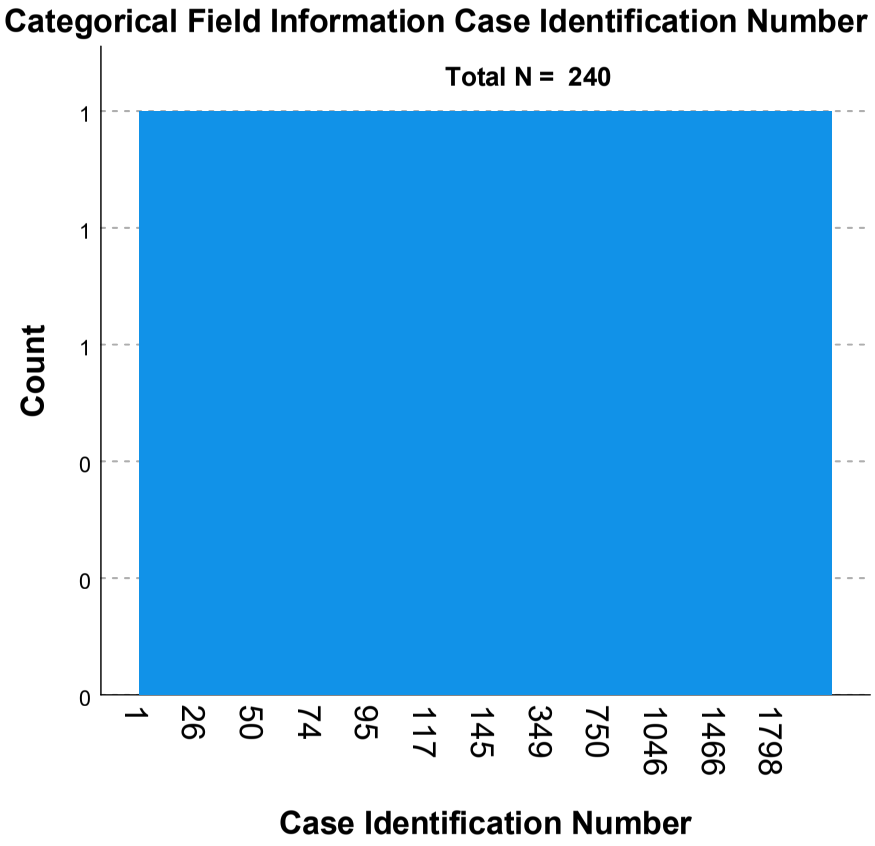
Body Weight, 1958 -- LBS

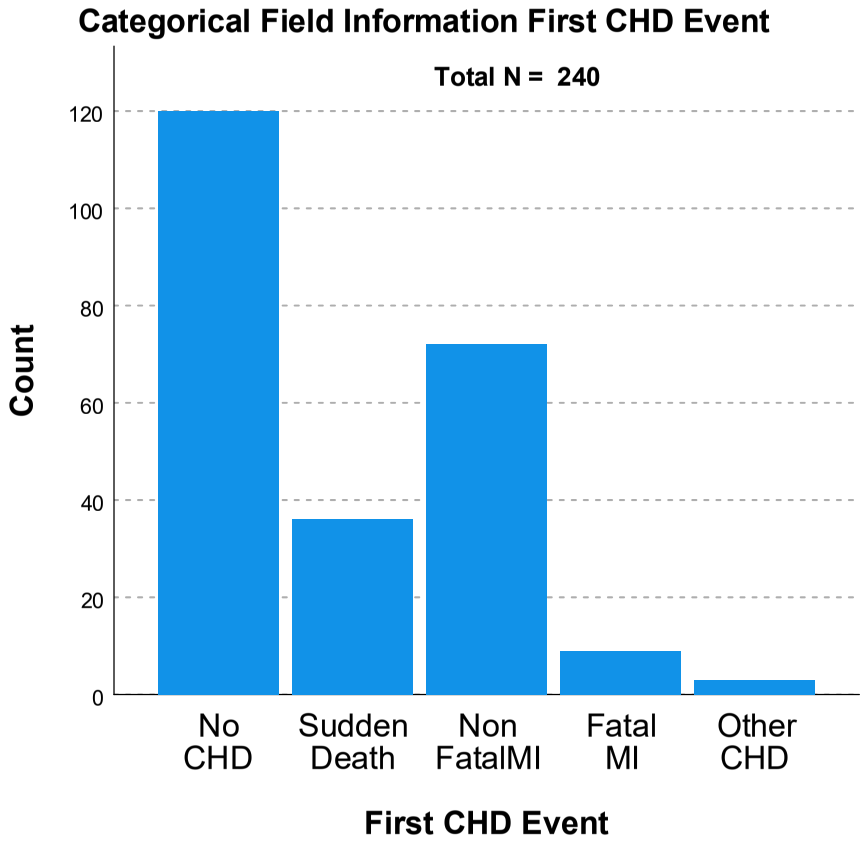
One-Sample Kolmogorov-Smirnov Normal Test Summary

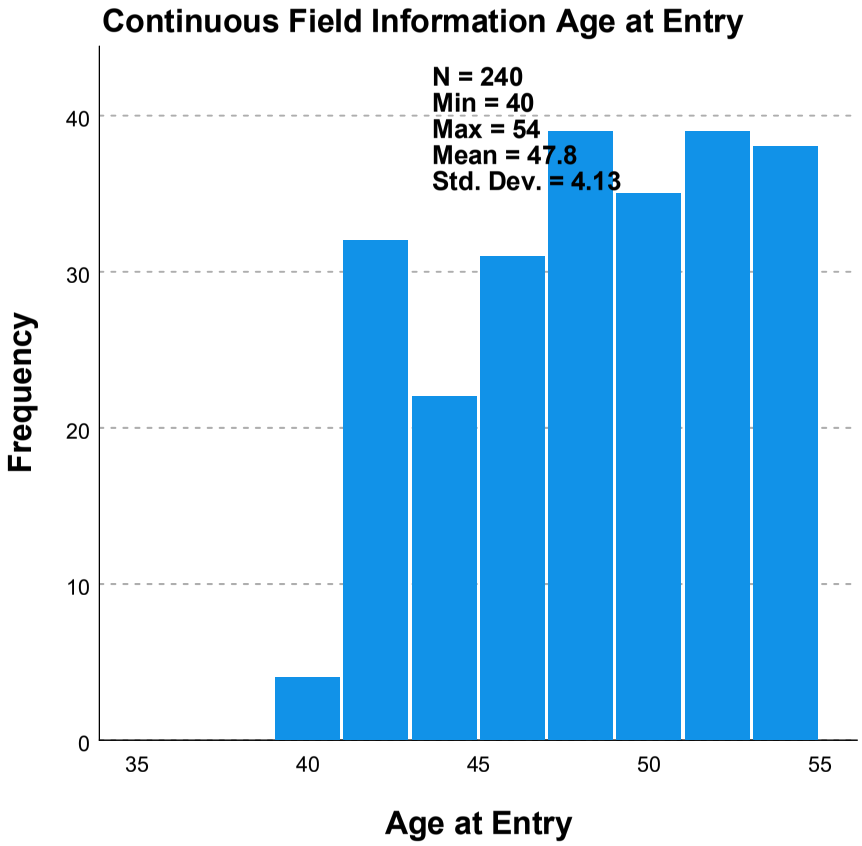
Total N		**240**
Most Extreme Differences	Absolute	**.069**
	Positive	**.069**
	Negative	**-.030**
Test Statistic		**.069**
Asymptotic Sig.(2-sided test)[a]		**.008**

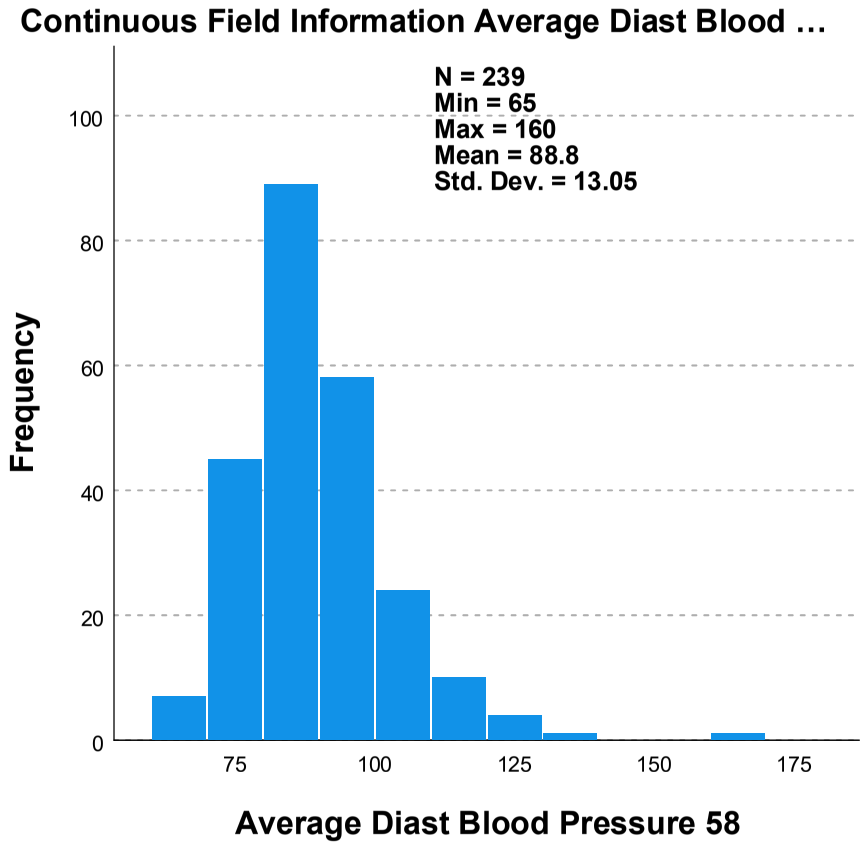
a. Lilliefors Corrected

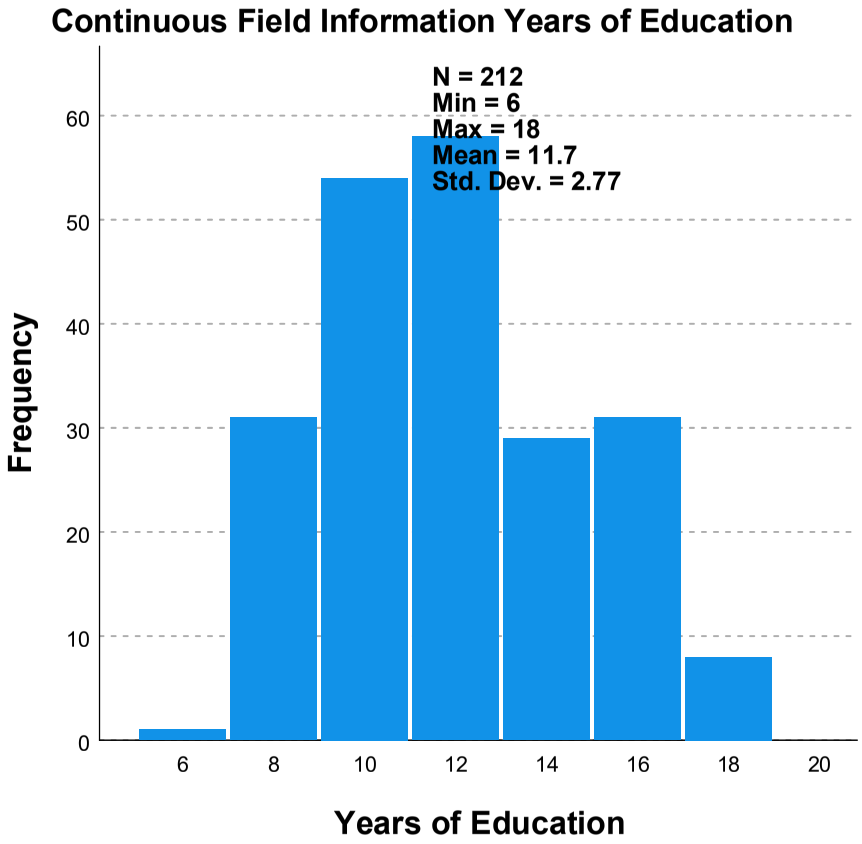

One-Sample Kolmogorov-Smirnov Normal Test
Normal Parameters
Mean 173.4
Std. Deviation 24.73
Frequency
0
10
20
30
40
50
100
150
200
250
300
Body Weight, 1958 -- LBS

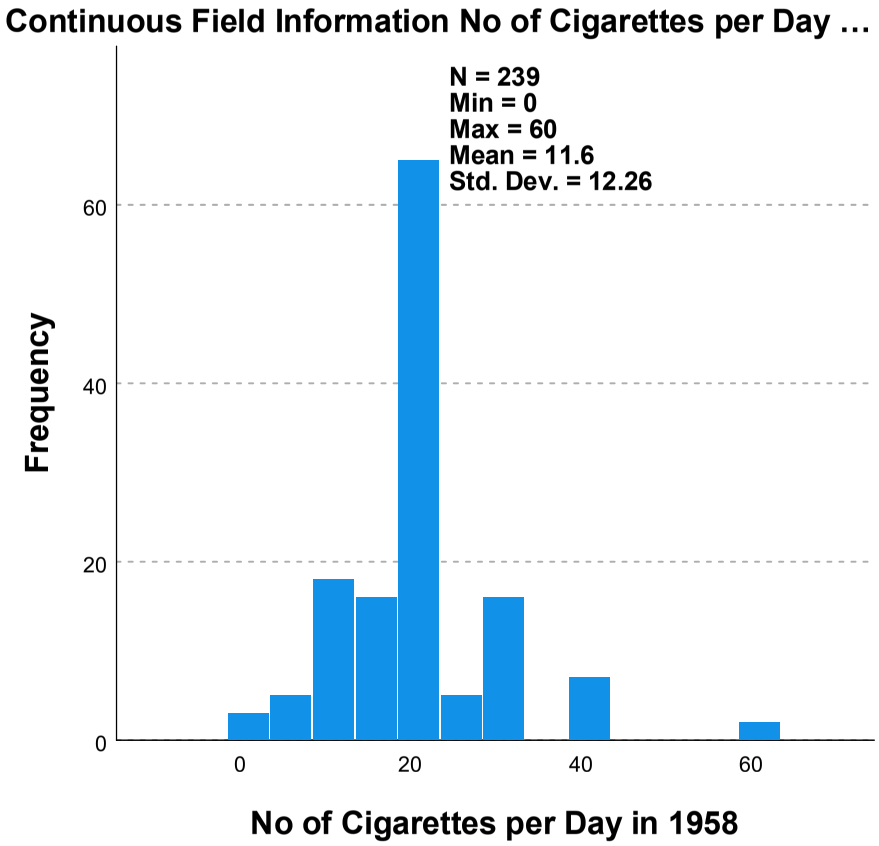

Categorical Field Information Case Identification Number
Total N = 240
Count
1
1
1
0
0
0
1
26
50
74
95
117
145
349
750
1046
1466
1798
Case Identification Number

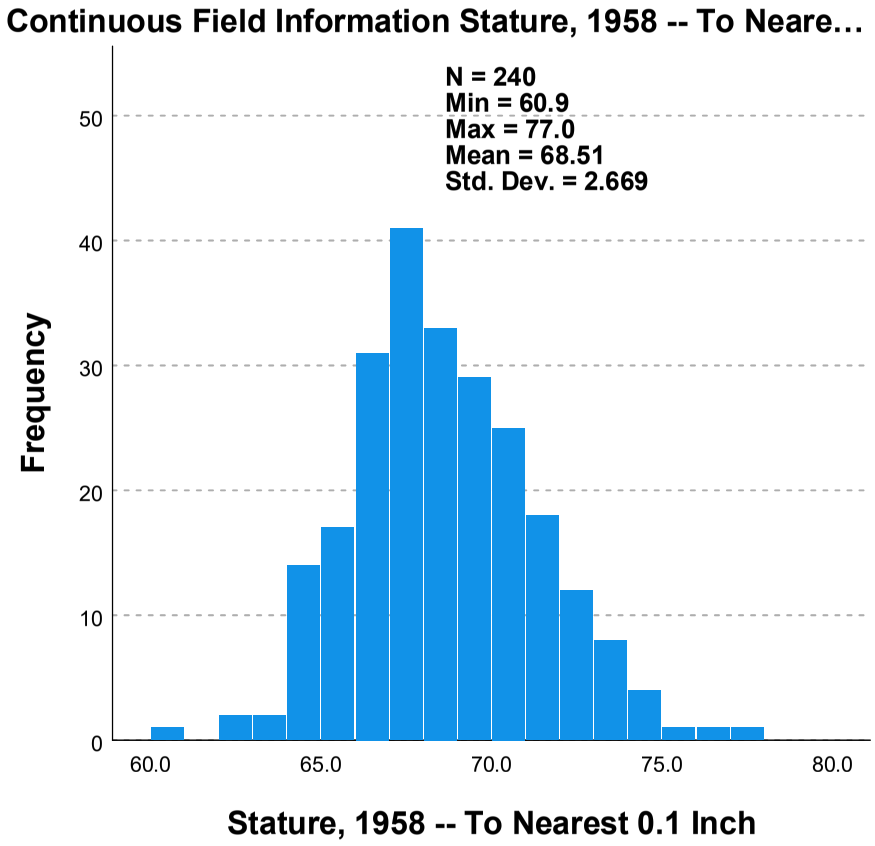

Categorical Field Information First CHD Event
Total N = 240
Count
120
100
80
60
40
20
0
No CHD
Sudden Death
Non FatalMI
Fatal MI
Other CHD
First CHD Event

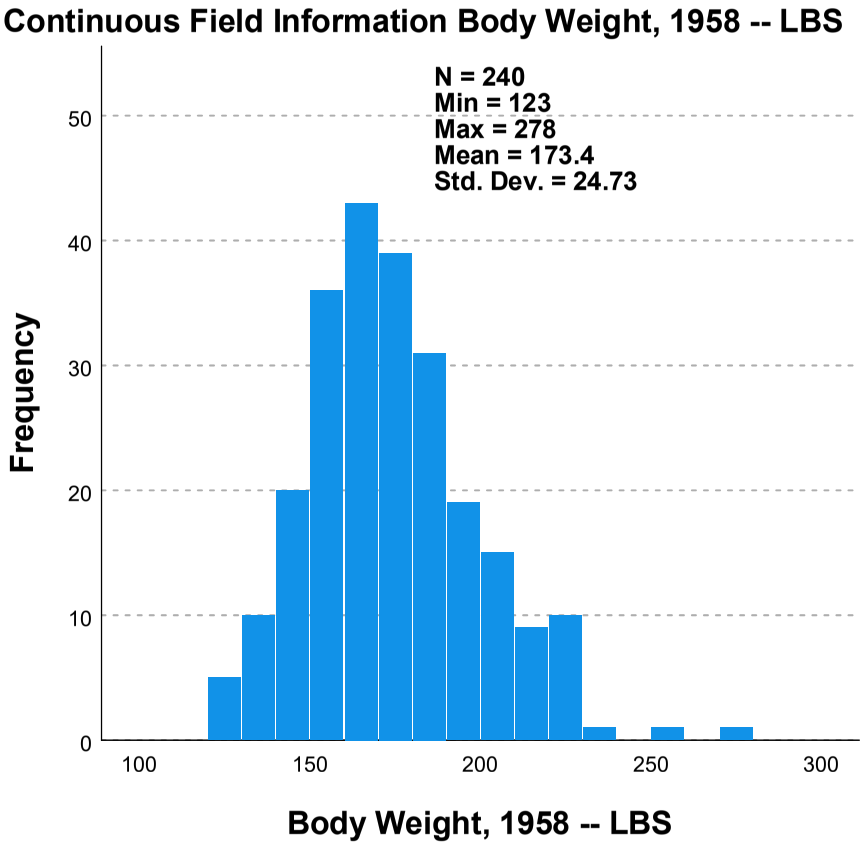

Continuous Field Information Age at Entry
N = 240
Min = 40
Max = 54
Mean = 47.8
Std. Dev. = 4.13
Frequency
0
10
20
30
40
35
40
45
50
55
Age at Entry

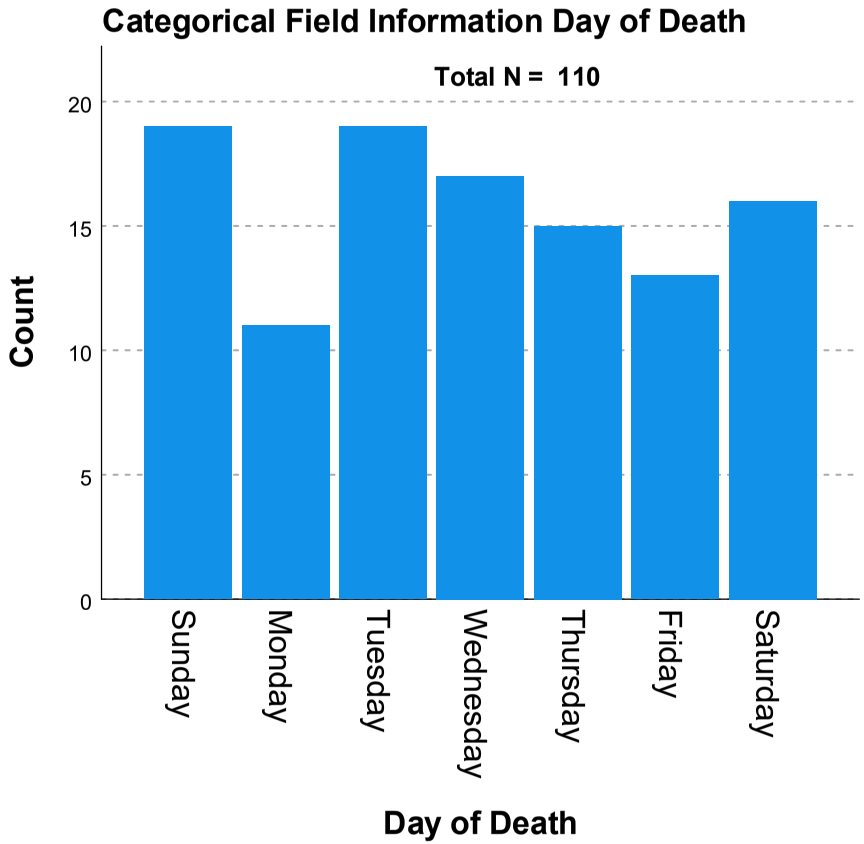

Continuous Field Information Average Diast Blood …
N = 239
Min = 65
Max = 160
Mean = 88.8
Std. Dev. = 13.05
Frequency
100
80
60
40
20
0
75
100
125
150
175
Average Diast Blood Pressure 58

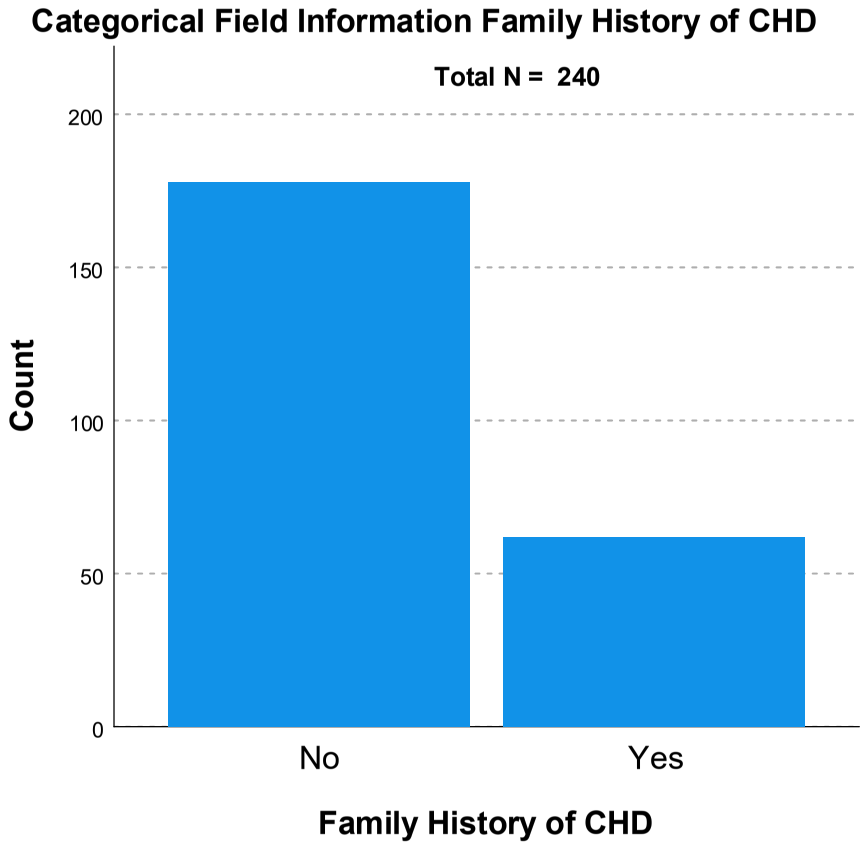

Continuous Field Information Years of Education
N = 212
Min = 6
Max = 18
Mean = 11.7
Std. Dev. = 2.77
Frequency
0
10
20
30
40
50
60
6
8
10
12
14
16
18
20
Years of Education

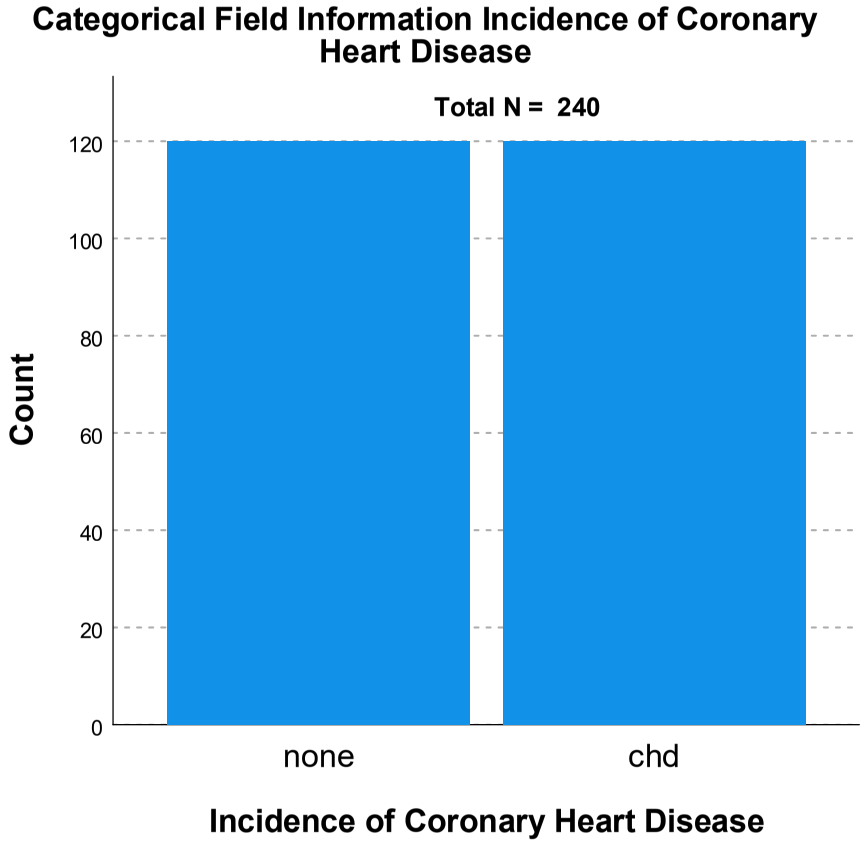

Continuous Field Information No of Cigarettes per Day …
N = 239
Min = 0
Max = 60
Mean = 11.6
Std. Dev. = 12.26
Frequency
60
40
20
0
0
20
40
60
No of Cigarettes per Day in 1958

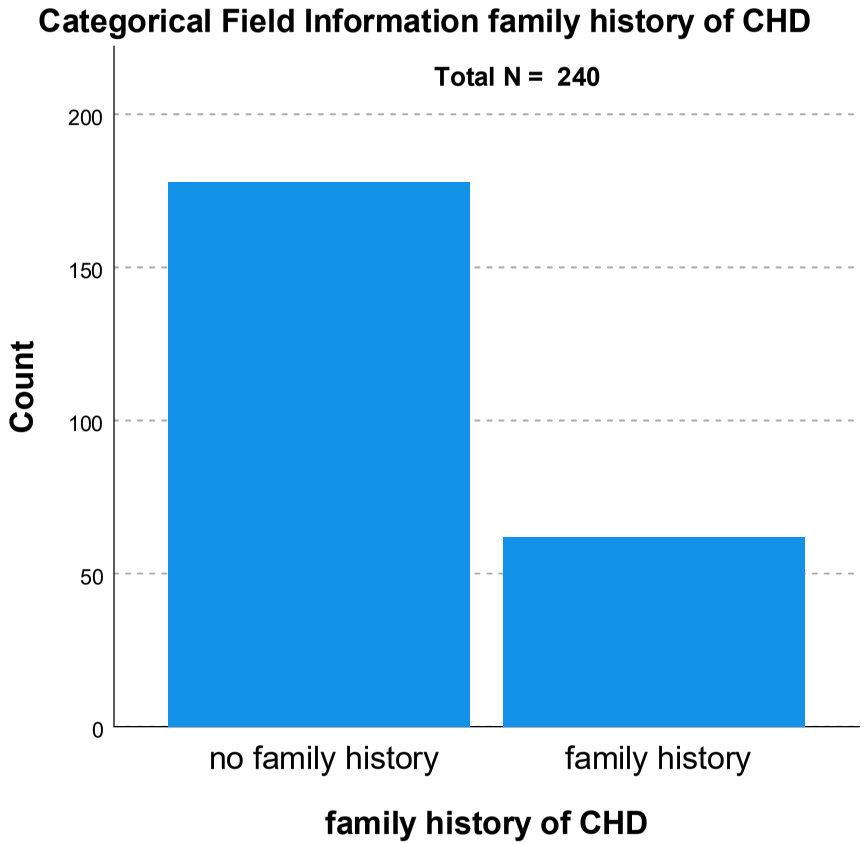

Continuous Field Information Stature, 1958 -- To Neare…
N = 240
Min = 60.9
Max = 77.0
Mean = 68.51
Std. Dev. = 2.669
Frequency
0
10
20
30
40
50
60.0
65.0
70.0
75.0
80.0
Stature, 1958 -- To Nearest 0.1 Inch

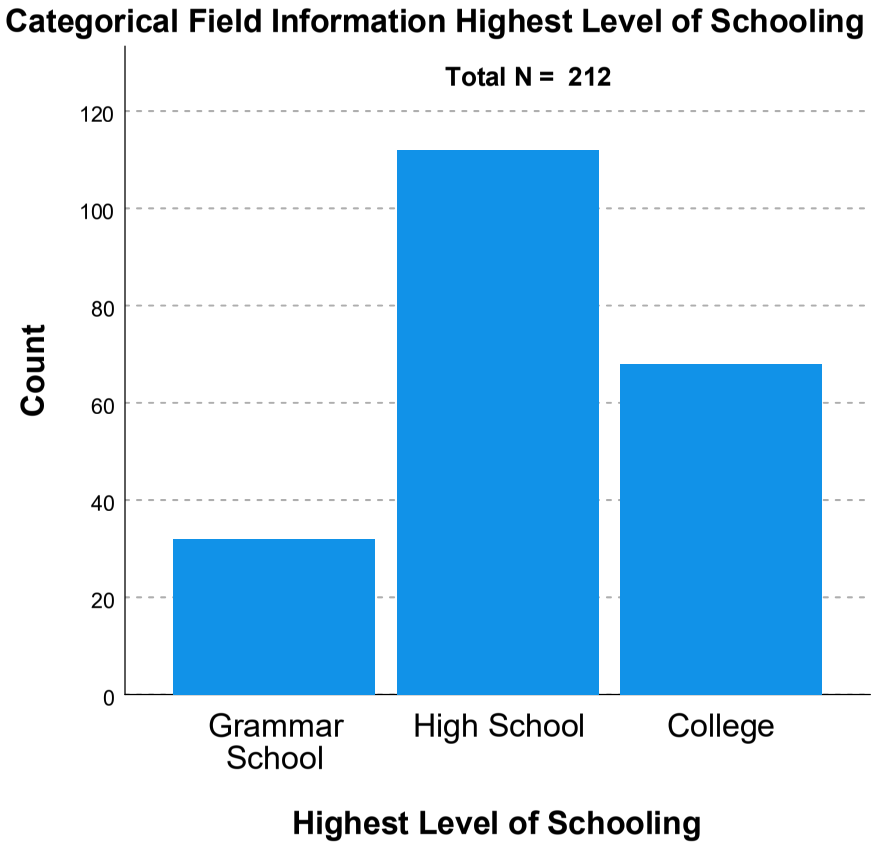

Continuous Field Information Body Weight, 1958 -- LBS
N = 240
Min = 123
Max = 278
Mean = 173.4
Std. Dev. = 24.73
Frequency
0
10
20
30
40
50
100
150
200
250
300
Body Weight, 1958 -- LBS


Categorical Field Information Day of Death
Total N = 110
Count
20
15
10
5
0
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Day of Death


Categorical Field Information Family History of CHD
Total N = 240
200
150
100
50
0
Count
No
Yes
Family History of CHD


Categorical Field Information Incidence of Coronary Heart Disease
Total N = 240
Count
120
100
80
60
40
20
0
none
chd
Incidence of Coronary Heart Disease


Categorical Field Information family history of CHD
Total N = 240
200
150
100
50
0
Count
no family history
family history
family history of CHD




```
STATS PACKAGE INSTALL
    PYTHON=python essentials "*".
```

SHOW

```
*** Installing Python package python into C:\ProgramData\IBM\SPSS\Statistics\2
7\extensions for spss270 ***
Collecting python

*** Installing Python package essentials into C:\ProgramData\IBM\SPSS\Statisti
cs\27\extensions for spss270 ***
Collecting essentials
  Downloading https://files.pythonhosted.org/packages/c4/aa/194b6b99b4689ac699
98585d8d70aa5e0dab7c5dbf1d8e948fa9cd54dfb4/essentials-1.1.5-py3-none-any.whl
Installing collected packages: essentials
Successfully installed essentials-1.1.5

T-TEST GROUPS=vital10(0 1)
  /MISSING=ANALYSIS
  /VARIABLES=chol58
  /ES DISPLAY(FALSE)
  /CRITERIA=CI(.95).
```

T-Test

Group Statistics

	Status at Ten Years	N	Mean	Std. Deviation	Std. Error Mean
Serum Cholesterol 58 -- Mg per DL	Alive	**179**	**264.87**	**52.981**	**3.960**
	Dead	**61**	**261.80**	**51.807**	**6.633**

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the .. Lower
Serum Cholesterol 58 -- Mg per DL	Equal variances assumed	**.054**	**.817**	**.392**	**238**	**.695**	**3.063**	**7.811**	**-12.325**
	Equal variances not assumed			**.396**	**105.858**	**.693**	**3.063**	**7.725**	**-12.254**

Independent Samples Test

		t-test for Equality of Means 95% Confidence Interval of the ... Upper
Serum Cholesterol 58 -- Mg per DL	Equal variances assumed	**18.451**
	Equal variances not assumed	**18.379**

```
T-TEST GROUPS=vital10(0 1)
  /MISSING=LISTWISE
  /VARIABLES=chol58
  /ES DISPLAY(FALSE)
  /CRITERIA=CI(.95).
```

T-Test

Group Statistics

	Status at Ten Years	N	Mean	Std. Deviation	Std. Error Mean
Serum Cholesterol 58 -- Mg per DL	Alive	**179**	**264.87**	**52.981**	**3.960**
	Dead	**61**	**261.80**	**51.807**	**6.633**

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the .. Lower
Serum Cholesterol 58 -- Mg per DL	Equal variances assumed	**.054**	**.817**	**.392**	**238**	**.695**	**3.063**	**7.811**	**-12.325**
	Equal variances not assumed			**.396**	**105.858**	**.693**	**3.063**	**7.725**	**-12.254**

Independent Samples Test

		t-test for Equality of Means 95% Confidence Interval of the ... Upper
Serum Cholesterol 58 -- Mg per DL	Equal variances assumed	**18.451**
	Equal variances not assumed	**18.379**